

BJT
DIODE
MOSFET
IGBT
IC

2024 SEMICONDUCTOR PRODUCT GUIDE BOOK

KEC

KEC CORPORATION

Headquarters :
Tae-Suk B/D, 5, Mabang-ro 10gil,
Sechoo-gu, 06775, Seoul,
SOUTH KOREA

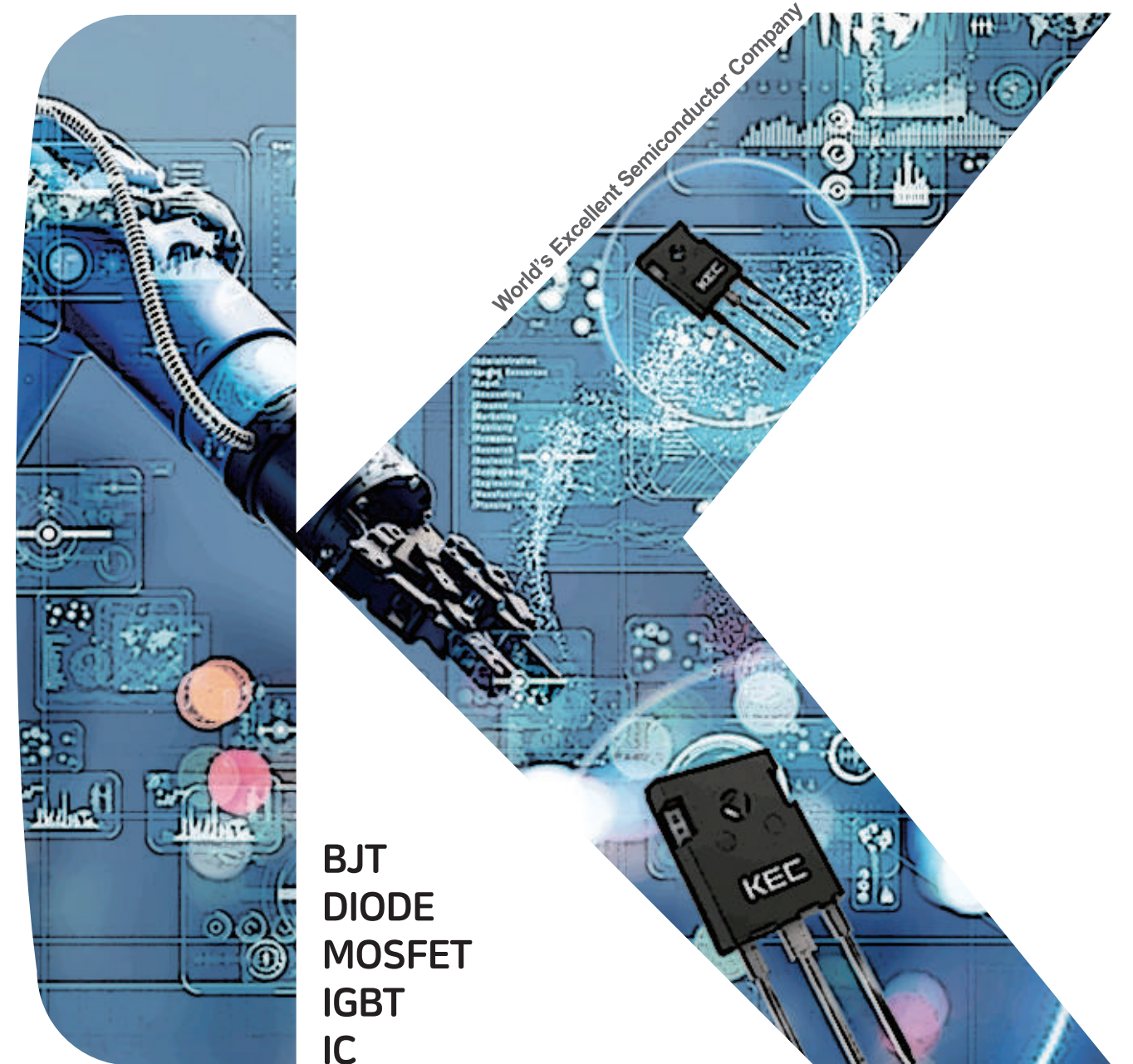
www.keccorp.com

Factory :
41 Export Road Gumi,
Gyeongsangbuk-do, 39256,
SOUTH KOREA

2024 SEMICONDUCTOR PRODUCT GUIDE BOOK

KEC

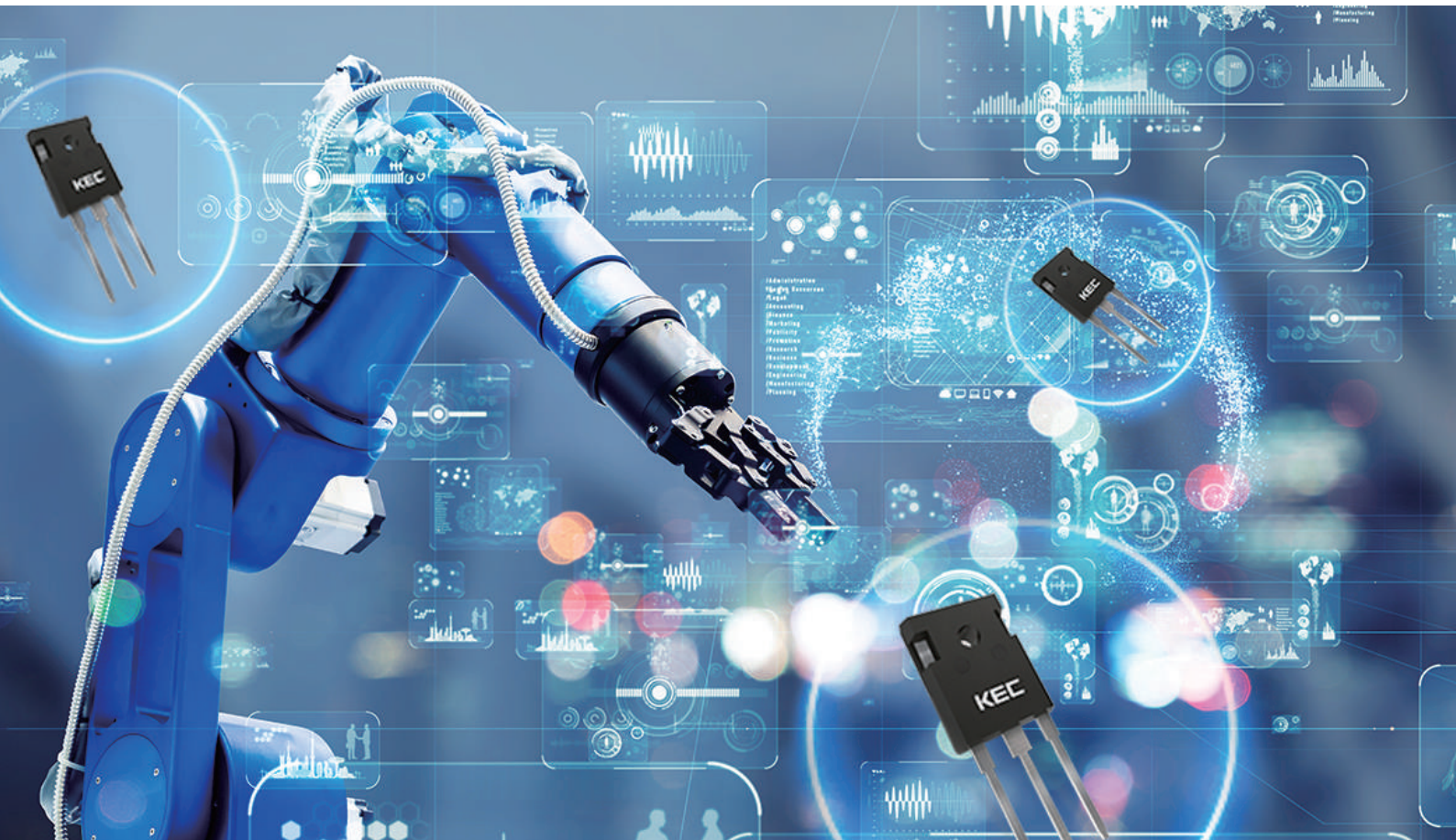
2024 SEMICONDUCTOR PRODUCT GUIDE BOOK



KEC

※ Caution ※

1. The products described in this data are intended to be used in general purpose electronic equipment (Office equipment, telecommunication equipment, measuring equipment, home appliances)
2. When you intend to use these products with equipment or device which require an extremely high level of reliability and special applications (such as air travel, aerospace, transportation equipment, life support system and safety devices) in which special quality and reliability and the failure or malfunction of products may directly jeopardize or harm the human body or damage to property and any application other than the standard applications intended, please be sure to consult with our sales representative in advance.
3. On designing your application, Please use product within the ranges guaranteed by KEC for maximum rating, operating supply voltage range, heat radiation characteristics and other characteristics. User shall be responsible for failure or damage when used beyond the guaranteed ranges.
4. The technical information described in this data is limited to showing representative characteristics and applied circuit examples of the products and it does not constitute the warranting of industrial property, the granting of relative rights, or the granting of any license.
5. What are described in the data may be changed without any prior notice to reflect new technical development. Please confirm that you have received the latest product standards or specification before final design, purchase or use.



KECC

Table of Contents

BJT	4~51
Bipolar Junction Transistor	4~28
Transistor Line-up (PNP Transistor)	4~9
Transistor Line-up (NPN Transistor)	10~13
General Purpose Transistor	14~20
Audio Power Transistor	20
Complex General Purpose Transistor	21~22
Audio Muting Transistor	23
High h_{FE} Transistor	24
Darlington Transistor	25
Strobo Flash Transistor	26
Switching Transistor	26~27
Low $V_{CE(sat)}$ Transistor	28
Junction Field Effect Transistor	29
Junction Field Effect Transistor for IR Sensor	29
Complex Device	30
General Purpose Transistor + Switching Diode	30
General Purpose Transistor + BRT	30
Current Regulating Device	30
Transistor with Built-in Bias Resistor (BRT)	31~43
BRT Line-up	31~33
General Purpose BRT	34~35
Complex BRT	36~41
High Current BRT	42
Complex High Current BRT	42
Audio Muting BRT	43
USA/European specification models type	44~47
General Purpose Transistor	44~46
Darlington Transistor	46
Switching Transistor	47
List of Equivalent Product	48~51
DIODE	52~95
Switching Diode	54
Small Signal Switching Diode	54
RF Diode	55
Small Signal Band Switching Diode	55
Zener Diode	56~69
Zener Diode Line-up	56~58
100mW Zener Diode	59~60
150mW Zener Diode	61
200mW Zener Diode	62~63
300mW Zener Diode	64
500mW Zener Diode	65~67
1W Zener Diode	68
High Voltage Zener Diode	69
Series Type Zener Diode	69
TVS Diode	70~78
TVS Diode Line-up	70~73
General Purpose (Single Type)	74~76
General Purpose (Array Type)	77
Low Cap TVS (Single / Array Type)	78
Automotive Diode	79
Power TVS	79
Schottky Barrier Diode	80~83
Small Signal Schottky Barrier Diode	80~81
Power Schottky Barrier Diode	81~82
Power Schottky Barrier Diode (Low W_F Type)	83
Fast Recovery Rectifier	84
Ultra Fast Recovery Rectifier	84
SiC Schottky Barrier Diode	85
SiC Schottky Barrier Diode	85
List of Equivalent Product	86~95

Table of Contents

MOSFET	96~110
MOSFET Line-up	98~101
S-MOSFET	102
Low Voltage MOSFET	103~104
High Voltage MOSFET (Planar)	105~106
High Voltage MOSFET (Super Junction)	107
List of Equivalent Product	108~110
IGBT	111~114
IGBT	113
List of Equivalent Product	114
IC	115~133
Amplifiers & Comparators	117
OP Amp.	117
Comparator	117
Power Management	118~131
Detector & Reset IC	118
1) Bipolar Voltage Detector IC (Active Low, Open Collector Output Type)	119
2) CMOS Detector IC (Active Low, CMOS/Open-drain Output Type)	119
3) CMOS External Delay Reset IC (Active Low, CMOS/Open-drain Output Type)	119
4) CMOS Internal Delay Reset IC (Active Low, CMOS/Open-drain Output Type)	119
5) CMOS Internal Delay Reset + Manual Reset IC (Active Low, CMOS/Open-drain Output Type)	119
Gate Driver	120
1) Low Voltage Gate Driver	120
2) High Voltage Gate Driver	120
Shunt Regulator	121
1) 1.24V Shunt Regulator	121
2) 2.495V Shunt Regulator	121
Regulator	121~129
1) General Purpose	122~123
1-1) 0.15A General Purpose Voltage Regulator	122
1-2) 0.5A General Purpose Voltage Regulator	123
1-2) 1A General Purpose Voltage Regulator	123
2) Negative	124~125
2-1) 0.15A Negative General Purpose Voltage Regulator	124
2-2) 1A Negative General Purpose Voltage Regulator	125
3) Bipolar LDO	126~128
3-1) 0.25A LDO Voltage Regulator	126
3-2) 1A LDO Voltage Regulator	126
3-3) 1A LDO Voltage Regulator (On/Off Controllable)	127
3-4) 2A LDO Voltage Regulator (On/Off Controllable)	127
3.5) 3A LDO Voltage Regulator (On/Off Controllable)	128
4) CMOS LDO	129
4-1) 0.25A CMOS LDO Voltage Regulator	129
4-2) 0.3A CMOS LDO Voltage Regulator (On/Off Controllable)	129
4-3) 1A CMOS LDO Adjustable Voltage Regulator (On/Off Controllable)	129
4-4) 2A CMOS LDO Adjustable Voltage Regulator (On/Off Controllable)	129
Transistor Array & Interface Driver IC	130
1) Single Driver	130
2) Darlington Driver	130
3) High Voltage Source Driver	130
Switching Regulator IC (DC/DC Converter)	131
Power Supply Controller	131
AC/DC Control IC	131
LED Driver IC	131
Audio Amplifier	131
List of Equivalent Product	132~133
INDEX	134~141
PACKAGE DIMENSION	142~146
KEC ADDRESS	147~148












BJT









BJT	4~51
Bipolar Junction Transistor	4~28
Transistor Line-up (PNP Transistor)	4~9
Transistor Line-up (NPN Transistor)	10~13
General Purpose Transistor	14~20
Audio Power Transistor	20
Complex General Purpose Transistor	21~22
Audio Muting Transistor	23
High h_{FE} Transistor	24
Darlington Transistor	25
Strobo Flash Transistor	26
Switching Transistor	26~27
Low $V_{CE(sat)}$ Transistor	28
Junction Field Effect Transistor	29
Junction Field Effect Transistor for IR Sensor	29
Complex Device	30
General Purpose Transistor + Switching Diode	30
General Purpose Transistor + BRT	30
Current Regulating Device	30
Transistor with Built-in Bias Resistor (BRT)	31~43
BRT Line-up	31~33
General Purpose BRT	34~35
Complex BRT	36~41
High Current BRT	42
Complex High Current BRT	42
Audio Muting BRT	43
USA/European specification models type	44~47
General Purpose Transistor	44~46
Darlington Transistor	46
Switching Transistor	47
List of Equivalent Product	48~51

Bipolar Junction Transistor







PNP Transistor($V_{CEO} : -12V \sim -65V$)

V_{CEO}	I_C [A]	ULP-3	VSM	ESM	TES6	USM	USV	US6	TSM	TS6
		(Unit: mm)  (1.0X0.6)	 (1.2X0.8)	 (1.6X0.85)	 (1.6X1.2)	 (2.0X1.25)	 (2.0X1.25)	 (2.0X1.25)	 (2.9X1.6)	 (2.9X1.6)
-12V	-500mA			KTA2012E				KTX213U		
	-1.5A					KTA1532U				
-20V	-1								KTA1531T	
	-1.5A								KTA1532T	
	-3A								KTA1535T	
	-5A								KTA1536T	
-25V	-1.5A									
-30V	-100mA									
	-500mA					KTA2015				KTX111T
	-800mA									
	-1.5A									
	-2A								KTA1544T	
	-3A								KTA1542T	
-40V	-200mA					2N3906U				
	-600mA									
	-5A									
-45V	-100mA					BC857W				
	-200mA									
	-800mA									
-50V	-150mA	KTA1504UL	KTA2014V	KTA2014E	KTX101E KTA701E	KTA2014	KTA501U	KTA701U KTX101U		
	-500mA									
	-1A								KTA1551T	
	-2A									
	-3A								KTA1552T	
-60V	-600mA					KTN2907AU				
	-1A									
	-3A									
	-5A									
-65V	-100mA									







PNP Transistor($V_{CE0} : -12V \sim -65V$)

SOT-23	SOT-89	SOT-223(1)	DPAK	TO-92	TO-92L	TO-126	TO-220IS
 (2.93X1.3)	 (4.7X2.5)	 (6.4X3.5)	 (6.0X6.1)				
	KTA1001						
			KTA1242D	KTA1243	KTA1241		
MPS8550S							
				BC558			
KTA1505S KTC9012S MMBTA63				KTA1270			
KTA1298 KTC8550S	KTA1664			KTA1271			
	KTA1663						
				KTA1282	KTA1273		
						KTB772	KTA1658
KN3906S 2N3906S				2N3906			
KN4403S				KN4403			
		KTA1545W					
BC857 BC860				BC557			
				KTA539			
BC807				BC327			
KTA1504S KTC9015S				KTA1266 KTA733 KTA733B KTA1015			
				KTA200			
					KTB764		
	KTA1666		KTA1718D		KTA1281	KTA1715	
	KTB1124				KTB985		
KTN2097AS KN2907AS MMBTA55 KTX304S				KN2907A KTN2907A			
	KTA1668			MPS751 KTA708			
			KTA1040D				KTA1046 KTB1366 KTB1424
			KTA1385D			KTB1151	
BC856				BC556			





PNP Transistor($V_{CE0} : -80V \sim -600V$)

V_{CE0}	I_c	TS6	SOT-23	SOT-89	DPAK	TO-92	TO-92L
		 (2.9X1.61)	 (2.93X1.3)	 (4.75X2.5)	 (6.6X6.1)		
-80V	-400mA			KTA1662			KTA1274
	-500mA	KTX711T	MMBTA56				
	-1A			KTB1260			KTB1241
	-3A				KTA1041D		
	-4A						
	-6A						
	-7A						
-100V	-1A						KTA1572
	-2A						
	-3A						
	-5A				KTA1042D		
	-6A						
	-25A						
-120V	-100mA					KTA1268	
	-800mA			KTA1661			KTA1023
	-1A				KTA1045D		
	-1.2A						
	-5A						
	-10A						
-140V	-10A						
	-12A						
-150V	-50mA						KTA1024
	-600mA		2N5401S			2N5401C 2N5401	
	-10A						
	-15A						
-160V	-1A				KTA1225D		KTA1275
	-1.5A						
-180V	-1.5A						
	-2A						
-200V	-100mA						KTA1070
-230V	-1A						
	-15A						
-250V	-50mA					BF423	
-300V	-50mA					BF421	
	-100mA						
	-500mA		MMBTA92			MPSA92	
-400V	-100m						
	-300mA					MPSA94	
	-500mA						KTA1277
	-2A				KTA1862D		
-600V	-1A				KTA1807D		








PNP Transistor($V_{CE0} : -80V \sim -600V$)

TO-126	TO-220IS	TO-220IS(1)	TO-3P(H)IS	TO-3P(N)	TO-3P(N)-E	TO-3P(L)
						
	KTB1368					
	KTB1370					
	KTA1725					
	TIP32CF					
	KTA1049 KTB1367	KTA1050				
	TIP42CF					
				TIP36C		
KTB631K						
KTA1704						
	KTB1423					
			KTB778	KTB688		
				KTA1695A		
				KTB817		
KTA1360						
				KTB2630	KTB2630G	
				KTB2640	KTB2640G	
KTA1700	KTA1659					
	KTA1659A					
	KTB1369					
	KTA1837					
				KTA1962A		KTA1943N KTA1943A
			KTA1943			
KTA1381						
KTA1807A						

NPN Transistor (V_{CEO} : 10V ~ 65V)

V _{CEO}	I _C	VSM	ESM	TESV	TES6	USM	US6	TSM	TSV	TS6
		 (1.2X0.8)	 (1.6X0.85)	 (1.6X1.2)	 (1.6X1.2)	 (2.0X1.25)	 (2.0X1.25)	 (2.9X1.6)	 (2.9X1.6)	 (2.9X1.6)
10V	2A									
12V	500mA	KTC4072V	KTC4072E		KTC802E					
20V	100mA	KTC3770V				KTC3770U				
	300mA									KTC812T
	1A							KTC3531T		
	1.5A							KTC3532T		
	2A									
	3A							KTC3535T		
25V	1.5A									
30V	100mA									
	400mA									
	500mA					KTC4076				KTX111T
	800mA									
	1.5A									
	2A								KTC3544T	
3A								KTC3542T		
40V	200mA									
	600mA					KTN2222AU				
	2A									
45V	100mA					BC847W				
	200mA									
	500mA									
	800mA									
50V	150mA	KTC4075V	KTC4075E	KTC601E	KTC801E KTC811E KTC812E KTX101E	KTC4075	KTC801U KTC811U KTC812U KTX101U			
	1A							KTC3551T		
	2A									
	3A							KTC3552T		
60V	500mA									
	1A									
	3A									
	4A									
	5A									
65V	100mA									







NPN Transistor ($V_{CE0} : 10V \sim 65V$)

SOT-23	SOT-89	DPAK	TO-92	TO-92L	TO-126	TO-220IS
 (2.93X1.3)	 (4.7X2.5)	 (6.0X6.1)				
				KTC3226		
KTC3770S						
KTC2875 KTD1304 KTC2875AS			KTC2874 KTD1302			
			KTC3266			
		KTC3072D				
MPS8050S						
BC848			BC548 BC549			
MMBTA517						
KTC3876S KTC9013S MMBTA13			BC517 KTC3202 MPSA13			
KTC3265 KTC8050S	KTC4376		KTC3203			
	KTC4375					
				KTC3205		
					KTD882	KTC4369
KN3904S 2N3904S			KN3904 2N3904			
KTN2222AS KN2222AS KN4401S			KN2222A KN4401 KTN2222A			
				KTC3964		
BC847 BC850			BC547			
			KTC815			
			KTC200			
BC817			BC337			
KTC3295 KTC3875S KTC9014S			KTC3112 KTC3198 KTC945B KTC945 KTC1815		KTC3114	
	KTD1003			KTD1028		
	KTC4379	KTC2815D		KTC3209	KTC2814	
	KTD1624			KTD1347		
MMBTA05						
	KTC4378		MPS651 KTC1008	KTD863		
		KTC2020D KTC2825D KTC2030D				KTC2026 KTD2058 KTC2036
					KTD1411	KTC1003
		KTC5103D			KTD1691	
BC846						

NPN Transistor($V_{CE0} : 80V \sim 400V$)

V_{CE0}	I_C	TSM	TS6	SOT-23	SOT-89	DPAK	TO-92	TO-92L
		 (2.9X1.6)	 (2.9X1.6)	 (2.93X1.3)	 (4.7X2.5)	 (6.6X6.1)		
80V	400mA				KTC4374			KTC3227
	500mA		KTX811T	MMBTA06	KTD1898		MPSA06	
	1A							KTD1863
	3A							KTC1006
	4A							
	5A							
	8A							
100V	1A				KTC3573			KTC3572
	2A					MJD112		KTD2854
	3A							
	5A					KTC2022D		
	6A							
	7A							
	25A							
120V	800mA				KTC4373			KTC1027
	1A					KTC2025D		
	1.2A							
	10A							
140V	10A							
	12A							
150V	50mA							KTC3206
	10A							
	15A							
160V	600mA			2N5551S			2N5551 2N5551C	
	1A				KTC4380			KTC3228
	1.5A					KTC2983D		
180V	1.5A							
	2A							
230V	1A							
	15A							
250V	50mA					BF422		
300V	50mA						BF420	
	100mA	KTC3207T						KTC3207
	200mA							
	500mA			MMBTA42			MPSA42	
400V	300mA			MMBTA44	PXTA44		MPSA44	
	1.5A						KTC3003	
	5A							
	8A							

NPN Transistor($V_{CE0} : 80V \sim 400V$)

TO-126	TO-220IS	TO-3P(H)IS	TO-3P(N)	TO-3P(N)-E	TO-3P(L)
					
	KTD2092				
	KTD1414 KTD2060 KTC2027				
	KTD2066				
	KTD1937				
	TIP31CF				
	KTC2028 KTD1413 KTD2059				
	TIP41CF				
	KTD1415				
			TIP35C		
KTD600K					
KTC2803					
		KTD998	KTD718		
			KTC4468A		
			KTD1047		
KTC3423					
			KTD1630	KTD1630G	
			KTD1640	KTD1640G	
KTC2800	KTC4370				
	KTC4370A				
	KTD2061				
	KTC4793				
			KTC5242A KTC5200N		KTC5200 KTC5200A
KTC3503	KTC3229				
KTC4217					
MJE13003	MJE13005DF				
	MJE13007F				

Bipolar Junction Transistor

■ General Purpose Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				PKG
					V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
KTA1504UL	SG	●	-	-	-50	-0.15	0.15	70	400	-6	-2	-0.3	-0.1	-10	80	-	-10	-1	ULP-3
KTA2014V	S□	○	KTC4075V	L□	-50	-0.15	0.1	70	400	-6	-2	-0.3	-0.1	-10	80	-	-10	-1	VSM
KTC4072V	LZ	●	KTA2012V	SZ	12	0.5	0.1	270	680	2	10	0.25	0.2	10	-	320	2	10	
KTC3770V	R□	●	-	-	20	0.1	0.1	50	250	10	20	-	-	-	5G	7G	10	20	
KTC4075V	L□	○	KTA2014V	S□	50	0.15	0.1	70	700	10	1	0.25	0.1	10	80	-	10	1	
KTA2012E	SZ	○	KTC4072E	LZ	-12	-0.5	0.1	270	680	-2	-10	-0.25	-0.2	-10	-	260	-2	-10	ESM
KTA2014E	S□	○	KTC4075E	L□	-50	-0.15	0.1	70	400	-6	-2	-0.3	-0.1	-10	80	-	-10	-1	
KTC4072E	LZ	○	KTA2012E	SZ	12	0.5	0.1	270	680	2	10	0.25	0.2	10	-	320	2	10	
KTC4075E	L□	○	KTA2014E	S□	50	0.15	0.1	70	700	6	2	0.25	0.1	10	80	-	10	1	
KTA2015	Z□	○	KTC4076	W□	-30	-0.5	0.1	70	240	-1	-100	-0.25	-0.1	-10	-	200	-6	-20	USM
2N3906U	ZA	●	-	-	-40	-0.2	0.1	100	300	-1	-10	-0.4	-0.05	-5	250	-	-20	-10	
BC857W	3□	○	BC847W	1□	-45	-0.1	0.1	125	800	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	
KTA2014	S□	○	KTC4075	L□	-50	-0.15	0.1	70	400	-6	-2	-0.3	-0.1	-10	80	-	-10	-1	
KTC3770U	R□	●	-	-	20	0.1	0.1	50	250	10	20	-	-	-	5G	7G	10	20	
KTC4076	W□	○	KTA2015	Z□	30	0.5	0.1	70	240	1	100	0.25	0.1	10	-	300	6	20	
BC847W	1□	○	BC857W	3□	45	0.1	0.1	110	800	5	2	0.6	0.1	5	-	300	5	10	
KTC4075	L□	○	KTA2014	S□	50	0.15	0.1	70	700	6	2	0.25	0.1	10	80	-	10	1	
MPS8550S	BJ□	○	MPS8050S	BH□	-25	-1.5	※ 0.35	85	300	-1	-100	-0.5	-0.8	-80	100	200	-10	-50	SOT-23
KTC9012S	BB□	○	KTC9013S	BC□	-30	-0.5	※ 0.35	96	246	-1	-50	-0.25	-0.1	-10	150	-	-6	-20	
KTA1505S	AZ□	○	KTC3876S	W□	-30	-0.5	0.15	70	400	-1	-100	-0.25	-0.1	-10	-	200	-6	-20	
KTC8550S	BL□	○	KTC8050S	BK□	-30	-0.8	※ 0.35	100	300	-1	-50	-0.5	-0.5	-50	-	120	-5	-10	
KTA1298	I□	○	KTC3265	E□	-30	-0.8	0.2	100	320	-1	-100	-0.4	-0.5	-20	-	120	-5	-10	
KN3906S	ZAA	○	KN3904S	ZCA	-40	-0.2	※ 0.35	60	-	-1	-0.1	-0.4	-0.05	-5	-	250	-20	-10	
KN4403S	ZWA	○	KN4401S	ZUA	-40	-0.6	※ 0.35	30	-	-1	-0.1	-0.75	-0.5	-50	200	-	-10	-20	
BC860	4□	○	BC850	2□	-45	-0.1	※ 0.35	125	475	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	
BC857	3□	○	BC847	1□	-45	-0.1	※ 0.35	125	800	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	
BC807	5□	○	BC817	6□	-45	-0.8	※ 0.35	100	630	-1	-100	-0.7	-0.5	-50	80	-	-5	-10	
KTC9015S	BE□	○	KTC9014S	BD□	-50	-0.15	※ 0.35	100	600	-5	-1	-0.3	-0.1	-10	60	-	-10	-1	
KTA1504S	AS□	○	KTC3875S	AL□	-50	-0.15	0.15	70	400	-6	-2	-0.3	-0.1	-10	80	-	-10	-1	
MMBTA55	AMX	○	MMBTA05	ACX	-60	-0.5	※ 0.35	100	-	-1	-100	-0.25	-0.1	-10	50	-	-1	-100	

Note) ※: Package Mounted on 99.5% Alumina 10x8x0.6mm, □: hFE Grade

Note) ○: AEC-Q Qualified, ●: Preparing for qualification of AEC-Q

■ General Purpose Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings							V _{CE(sat)} (V)			f _T (MHz)				PKG	
					V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)		
KN2907AS	ZHC	●	KN2222AS	ZGA	-60	-0.6	※0.35	100	300	-10	-50	-1.0	-0.5	-50	200	-	-20	-50	SOT-23	
BC856	3□	○	BC846	1□	-65	-0.1	※0.35	125	475	-5	-2	-0.65	-0.1	-5	-	150	-5	-10		
MMBTA56	ANX	○	MMBTA06	ADX	-80	-0.5	※0.35	100	-	-1	-10	-0.25	-0.1	-10	50	-	-1	-100		
2N5401S	ZE	○	-	-	-150	-0.6	※0.35	60	240	-5	-10	-0.5	-0.05	-5	100	-	-10	-10		
MMBTA92	YV	○	MMBTA42	AAX	-300	-0.5	※0.35	40	-	-10	-10	-0.5	-0.02	-2	50	-	-20	-10		
KTC3770S	R□	●	-	-	20	0.1	0.15	50	250	10	20	-	-	-	5G	7G	10	20		
MPS8050S	BH□	○	MPS8550S	BJ□	25	1.5	※0.35	85	300	1	100	0.5	0.8	80	100	190	10	50		
BC848	1□	○	-	3□	30	0.1	※0.35	110	800	5	2	0.6	0.1	5	-	300	5	10		
KTC3876S	W□	●	KTA1505S	AZ□	30	0.5	0.15	70	400	1	100	0.25	0.1	10	-	300	6	20		
KTC9013S	BC□	○	KTC9012S	BB□	30	0.5	※0.35	96	246	1	50	0.25	0.1	10	140	-	6	20		
KTC3265	E□	○	KTA1298	I□	30	0.8	0.2	100	320	1	100	0.5	0.5	20	-	120	5	10		
KTC8050S	BK□	○	KTC8550S	BL□	30	0.8	※0.35	100	300	1	50	0.5	0.5	20	-	120	5	10		
KN3904S	ZCA	○	KN3906S	ZAA	40	0.2	※0.35	40	-	1	0.1	0.3	0.05	5	-	300	20	10		
KN4401S	ZUA	○	KN4403S	ZWA	40	0.6	※0.35	20	-	1	0.1	0.75	0.5	50	250	-	10	20		
KN2222AS	ZGA	○	KN2907AS	ZHA	40	0.6	※0.35	100	300	10	150	1	0.5	50	300	-	20	20		
BC847	1□	○	BC857	3□	45	0.1	※0.35	110	800	5	2	0.6	0.1	5	-	300	5	10		
BC850	2□	○	BC860	4□	45	0.1	※0.35	200	800	5	2	0.6	0.1	5	-	300	5	10		
BC817	6□	○	BC807	5□	45	0.8	※0.35	100	630	1	100	0.7	0.5	50	100	-	5	10		
KTC3875S	AL□	○	KTA1504S	AS□	50	0.15	※0.35	70	700	6	2	0.25	0.1	10	80	-	10	1		
KTC9014S	BD□	○	KTC9015S	BE□	50	0.15	※0.35	100	1000	5	1	0.25	0.1	10	60	-	10	1		
MMBTA05	ACX	○	MMBTA55	AMX	60	0.5	※0.35	100	-	1	100	0.35	0.1	10	80	-	1	10		
BC846	1□	○	BC856	3□	65	0.1	※0.35	110	450	5	2	0.6	0.1	5	-	300	5	10		
MMBTA06	ADX	○	MMBTA56	ANX	80	0.5	※0.35	100	-	1	10	0.25	0.1	10	100	-	2	10		
2N5551S	ZF	○	-	-	160	0.6	※0.35	80	250	5	10	0.2	0.05	5	100	-	10	10		
MMBTA42	AAX	○	MMBTA92	YV	300	0.5	※0.35	40	-	10	10	0.5	0.02	2	50	-	20	10		
MMBTA44	APX	●	-	-	400	0.3	※0.35	50	200	10	10	0.5	0.01	1	20	-	10	10		
KTC3207T	LX□	○	KTA1073T	SX□	300	0.1	0.9	50	150	10	20	1	0.01	1	50	-	10	20		TSM

Note) ※ : Package Mounted on Ceramic Substrate (250mm2x0.8t), □ : hFE Grade

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Bipolar Junction Transistor

■ General Purpose Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				PKG
					V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
KTA1664	R□	○	KTC4376	P□	-30	-0.8	▼1	100	320	-1	-100	-0.7	-0.5	-20	-	120	-5	-10	SOT-89
KTA1663	H□	○	KTC4375	G□	-30	-1.5	▼1	100	320	-2	-500	-2	-1.5	-30	-	120	-2	-500	
KTA1668	J□	○	KTC4378	T□	-60	-1	▼1	60	200	-2	-50	-0.7	-0.5	-50	-	150	-10	-50	
KTA1662	F□	○	KTC4374	E□	-80	-0.4	▼1	70	240	-2	-50	-0.4	-0.2	-20	-	120	-10	-10	
KTB1260	Q□	○	KTD1898	Z□	-80	-1	▼1	70	400	-3	-100	-0.4	-0.5	-50	-	100	-5	-50	
KTA1661	D□	○	KTC4373	C□	-120	-0.8	▼1	80	240	-5	-100	-1	-0.5	-50	-	120	-5	-100	
KTC4376	P□	○	KTA1664	R□	30	0.8	▼1	100	320	1	100	0.5	0.5	20	-	120	5	10	
KTC4375	G□	○	KTA1663	H□	30	1.5	▼1	100	320	2	500	2	1.5	30	-	120	2	500	
KTC4378	T□	○	KTA1668	J□	60	1	▼1	100	320	2	50	0.5	0.5	50	-	150	10	50	
KTC4374	E□	○	KTA1662	F□	80	0.4	▼1	70	240	2	50	0.4	0.2	20	-	100	10	10	
KTD1898	Z□	○	KTB1260	Q□	80	1	▼1	70	400	3	500	0.4	0.5	20	-	100	10	50	
KTC4373	C□	○	KTA1661	D□	120	0.8	▼1	80	240	5	100	1	0.5	50	-	120	5	100	
KTC4380	G2	●	-	-	160	1	▼1	160	320	5	200	1.5	0.5	50	-	100	5	200	
PXTA44	AP	●	-	-	400	0.3	▼1	50	200	10	10	0.5	0.01	1	-	-	-	-	
KTA1242D	-	○	-	-	-20	-5	1	100	320	-2	-500	-0.5	-3	-75	-	170	-2	-500	
KTA1040D	-	○	KTC2020D	-	-60	-3	1	100	300	-5	-500	-1	-2	-200	-	30	-5	-500	
KTA1041D	-	●	-	-	-80	-4	1	120	300	-5	-500	-1	-2	-200	-	30	-5	-500	
KTA1042D	-	○	KTC2022D	-	-100	-5	-	70	240	-5	-1000	-2	-4	-400	-	30	-5	-1A	
KTA1045D	-	●	KTC2025D	-	-120	-1	1	100	320	-5	-50	-0.4	-0.5	-50	-	110	-10	-50	
KTA1225D	-	●	KTC2983D	-	-160	-1.5	1	70	240	-5	-100	-1.5	-0.5	-50	-	100	-10	-100	
KTC3072D	-	○	-	-	20	5	1	120	700	2	500	0.4	3	60	-	100	6	50	
KTC2020D	-	○	KTA1040D	-	60	3	1	100	300	5	500	1	2	200	-	30	5	500	
KTC2030D	-	○	-	-	60	3	1	150	250	5	500	1	2	200	-	30	5	500	
KTC2825D	-	○	-	-	60	3	1	200	400	2	100	0.5	2	100	-	150	10	50	
KTC2022D	-	●	KTA1042D	-	100	5	-	70	240	5	1000	2	4	400	-	30	5	1A	
KTC2025D	-	●	KTA1045D	-	120	1	1	100	320	5	50	0.4	0.5	50	-	130	10	50	
KTC2983D	-	●	KTA1225D	-	160	1.5	1	70	240	5	100	1.5	0.5	50	-	100	10	100	

Note) ▼ : Package Mounted on Ceramic Substrate (250mm2x0.8t), □ : hFE Grade

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

■ General Purpose Transistor

Type No.	AEC-Q	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				PKG
			V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
KTA1243	●	-	-20	-5	0.625	100	320	-2	-500	-0.5	-3	-75	-	170	-2	-500	TO-92
BC558	●	BC548	-30	-0.1	0.625	110	800	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	
KTA1270	●	KTC3202	-30	-0.5	0.625	70	240	-1	-100	-0.25	-0.1	-10	-	200	-6	-20	
KTA1271	●	KTC3203	-30	-0.8	0.625	100	320	-1	-100	-0.7	-0.5	-20	-	120	-5	-10	
KTA1282	●	-	-30	-2	0.625	100	320	-2	-500	-2	-1.5	-30	-	120	-2	-500	
KN4403	●	KN4401	-40	-0.6	0.625	30	-	-1	-0.1	-0.4	-0.15	-15	200	-	-10	-20	
BC557	●	BC547	-45	-0.1	0.625	110	800	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	
KTA539	●	KTC815	-45	-0.2	0.625	70	240	-1	-50	-0.5	-0.15	-15	100	-	-10	-10	
BC327	●	BC337	-45	-0.8	0.625	110	630	-1	-100	-0.7	-0.5	-50	-	100	-5	-10	
KTA1266	●	KTC3198	-50	-0.15	0.625	70	240	-6	-2	-0.3	-0.1	-10	80	-	-10	-1	
KTA733B	●	KTC945B	-50	-0.15	0.625	70	400	-6	-2	-0.3	-0.1	-10	-	300	-10	-10	
KTA733	●	KTC945	-50	-0.15	0.625	90	600	-6	-2	-0.3	-0.1	-10	-	300	-10	-10	
KTA200	●	KTC200	-50	-0.5	0.625	70	240	-2	-50	-0.25	-0.1	-10	-	200	-6	-20	
KN2907A	●	KN2222A	-60	-0.6	0.625	75	-	-10	-0.1	-0.4	-0.15	-15	200	-	-20	-50	
KTA708	●	KTC1008	-60	-1	0.625	60	200	-2	-50	-0.7	-0.5	-50	150	-	-10	-50	
MPS751	●	MPS651	-60	-1	0.625	60	200	-2	-50	-0.7	-0.5	-50	-	150	-10	-50	
BC556	●	BC546	-65	-0.1	0.625	110	450	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	
2N5401	●	-	-150	-0.6	0.625	60	240	-5	-10	-0.5	-0.05	-5	100	-	-10	-10	
BF423	●	BF422	-250	-0.05	0.625	50	-	-20	-25	-0.6	-0.03	-5	60	-	-10	-10	
BF421	●	BF420	-300	-0.05	0.625	50	-	-20	-25	-0.6	-0.03	-5	60	-	-10	-10	
MPSA94	●	MPSA44	-400	-0.3	0.625	50	300	-10	-10	-0.5	-0.01	-1	-	-	-	-	
KTC3266	●	KTA1296	20	2	0.625	120	400	2	100	0.5	0.02	0.1	-	120	2	5	
BC548	●	BC558	30	0.1	0.625	110	800	5	2	0.6	0.1	5	-	150	5	10	
BC549	●	-	30	0.1	0.625	110	800	5	2	0.6	0.1	5	-	300	5	10	
KTC3202	●	KTA1270	30	0.5	0.625	70	400	1	100	0.25	0.1	10	-	300	6	20	
KTC3203	●	KTA1271	30	0.8	0.625	100	320	1	100	0.5	0.5	20	-	120	5	10	

Note) ● : Preparing for qualification of AEC-Q

Bipolar Junction Transistor

General Purpose Transistor

Type No.	AEC-Q	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _r (MHz)				PKG
			V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
KN3904	●	-	40	0.2	0.625	40	-	1	0.1	0.2	0.01	1	-	300	20	10	TO-92
KN2222A	●	KN2907A	40	0.6	0.625	35	-	10	0.1	0.3	0.15	15	300	-	20	20	
KN4401	●	KN4403	40	0.6	0.625	20	-	1	0.1	0.4	0.15	15	250	-	10	20	
BC547	●	BC557	45	0.1	0.625	110	800	5	2	0.6	0.1	5	-	150	5	10	
KTC815	●	KTA539	45	0.2	0.625	70	240	1	50	0.4	0.15	15	100	-	10	10	
KTC200	●	KTA200	45	0.5	0.625	70	240	2	50	0.25	0.1	10	-	300	6	20	
BC337	●	BC327	45	0.8	0.625	100	630	1	100	0.7	0.5	50	-	100	5	10	
KTC3198	●	KTA1266	50	0.15	0.625	70	700	6	2	0.25	0.1	10	80	-	10	1	
KTC945B	●	KTA733B	50	0.15	0.625	70	700	-6	-2	0.25	0.1	10	-	300	10	10	
KTC1815	●	KTA1015	50	0.15	0.625	70	700	6	2	0.25	0.1	10	80	-	10	1	
KTC945	●	KTA733	50	0.15	0.625	90	600	6	2	0.25	0.1	10	80	300	10	10	
KTC1008	●	-	60	1	0.625	100	320	2	50	0.5	0.5	50	-	150	10	50	
MPS651	●	MPS751	60	1	0.625	100	320	2	50	0.5	0.5	50	-	150	10	50	
BC546	●	BC556	65	0.1	0.625	110	450	5	2	0.6	0.1	5	-	150	5	10	
MPSA06	●	MPSA56	80	0.5	0.625	100	-	1	100	0.25	0.1	10	-	-	1	100	
2N5551	●	-	160	0.6	0.625	80	250	5	10	0.2	0.05	5	100	-	10	10	
BF422	●	BF423	250	0.05	0.625	50	-	20	25	0.6	0.03	5	60	-	10	10	
BF420	●	BF421	300	0.05	0.625	50	-	20	25	0.6	0.03	5	60	-	10	10	
MPSA42	●	MPSA92	300	0.5	0.625	40	-	10	10	0.5	0.02	2	50	-	20	10	
MPSA44	●	MPSA94	400	0.3	0.625	50	200	10	10	0.5	0.01	1	-	-	-	-	
KTA1273	●	KTC3205	-30	-2	1	100	320	-2	-500	-2	-1.5	-30	-	120	-2	-500	TO-92L
KTB764	●	KTD863	-50	-1	1	60	320	-2	-50	-0.7	-0.5	-50	-	150	-10	-50	
KTA1274	●	KTC3227	-80	-0.4	1	70	240	-2	-50	-0.4	-0.2	-20	-	100	-10	-10	
KTB1241	●	KTD1863	-80	-1	1	70	400	-3	-100	-0.4	-0.5	-50	-	100	-5	-50	
KTA1572	●	KTC3572	-100	-1	1	150	450	-5	-500	-0.18	-0.5	-50	-	100	-10	-50	
KTA1023	●	KTC1027	-120	-0.8	1	80	240	-5	-100	-1	-0.5	-50	-	120	-5	-100	
KTA1024	●	KTC3206	-150	-0.05	1	70	240	-5	-10	-0.8	-0.01	-1	-	120	-30	-10	
KTA1275	●	KTC3228	-160	-1	1	60	320	-5	-200	-1.5	-0.5	-50	15	50	-5	-200	
KTA1070	●	-	-200	-0.1	1	70	240	-5	-10	-0.6	-0.02	-2	-	150	-30	-10	
KTA1277	●	-	-400	-0.5	1	60	200	-5	-100	-1	-0.1	-10	-	-	-	-	
KTC3226	●	-	10	2	1	140	600	1	500	0.5	2	50	-	150	1	500	
KTC3205	●	KTA1273	30	2	1	100	320	2	500	2	1.5	30	-	120	2	500	
KTD863	●	KTB764	60	1	1	60	320	2	50	0.5	0.5	50	-	150	10	50	
KTC3227	●	KTA1274	80	0.4	1	70	240	2	50	0.4	0.2	20	-	100	10	10	
KTC1006	●	-	80	0.8	1	100	-	2	150	0.7	0.5	20	-	150	10	100	
KTD1863	●	KTB1241	80	1	1	70	400	3	500	0.4	0.5	20	-	100	10	50	
KTC3572	●	KTA1572	100	1	1	150	500	10	250	0.12	0.5	50	-	100	10	50	
KTC1027	●	KTA1023	120	0.8	1	80	240	5	100	1	0.5	50	-	120	5	100	
KTC3206	●	KTA1024	150	0.05	1	70	240	5	10	0.5	0.01	1	-	120	30	10	
KTC3228	●	KTA1275	160	1	1	60	320	5	200	1.5	0.5	50	20	100	5	200	
KTC3207	●	-	300	0.1	1	30	150	10	20	1	0.01	1	50	-	10	20	

Note) ●: Preparing for qualification of AEC-Q

■ General Purpose Transistor

Type No.	AEC-Q	Complementary	Max. Ratings				h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				PKG
			V _{CEO} (V)	I _C (A)	P _C [★] (W)	P _C [☆] (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
KTB772	○	KTD882	-30	-3	1.5	10	100	400	-2	-1A	-0.5	-2	-200	-	80	-5	-100	TO-126
KTB1151	●	KTD1691	-60	-5	1.5	20	160	400	-1	-2A	-0.3	-2	-200	-	-	-	-	
KTB631K	●	KTD600K	-120	-1	1.5	8	100	320	-5	-50	-0.4	-0.5	-50	-	110	-10	-50	
KTA1704	●	KTC2803	-120	-1.2	1.5	20	100	320	-5	-50	-0.4	-0.5	-50	-	110	-10	-50	
KTA1360	●	KTC3423	-150	-0.5	1.5	-	70	240	-5	-10	-0.8	-0.01	-1	-	120	-30	-10	
KTA1700	●	KTC2800	-160	-1.5	1.5	10	70	240	-5	-100	-1.5	-0.5	-50	-	100	-10	-100	
KTA1381	●	KTC3503	-300	-0.1	1.5	7	60	200	-10	-10	-0.6	-0.02	-2	-	150	-30	-10	
KTD882	○	KTB772	30	3	1.5	10	100	400	2	1A	0.5	2	200	-	90	5	100	
KTD1691	○	KTB1151	60	5	1.5	20	160	400	1	2A	0.3	2	200	-	-	-	-	
KTD600K	●	KTB631K	120	1	1.5	8	100	320	5	50	0.4	0.5	50	-	130	10	50	
KTC2803	●	KTA1704	120	1.2	1.5	20	100	320	5	50	0.4	0.5	50	-	110	10	50	
KTC3423	●	KTA1360	150	0.5	1.5	5	70	240	5	10	0.5	0.01	1	-	120	30	10	
KTC2800	●	KTA1700	160	1.5	1.5	10	70	240	5	100	1.5	0.05	50	-	100	10	100	
KTC3503	●	KTA1381	300	0.1	1.5	7	60	200	10	10	0.6	0.02	2	-	150	30	10	
KTC4217	●	-	300	0.2	1.5	10	60	200	10	10	0.6	0.02	2	-	70	10	10	
KTA1658	○	KTC4369	-30	-3	-	15	70	240	-2	-500	-0.8	-2	-200	-	100	-2	-500	TO-220IS
KTA1046	○	KTC2026	-60	-3	2	25	100	300	-5	-500	-1	-2	-200	-	30	-5	-500	
KTB1366	○	KTD2058	-60	-3	2	25	60	200	-5	-500	-1	-2	-200	-	9	-5	-500	
KTB1368	○	KTD2060	-80	-4	-	25	40	240	-5	-500	-1.7	-3	-300	-	9	-5	-500	
KTA1725	○	KTC4511	-80	-6	-	30	55	160	-4	-2A	-0.5	-2	-200	-	20	-12	-500	
KTB1370	○	-	-80	-7	-	30	70	240	-1	-1A	-0.5	-4	-400	-	10	-4	-1A	
TIP32CF	○	-	-100	-3	2	25	10	50	-4	-3A	-1.2	-3	-375	3	-	-10	-500	
KTB1367	○	KTD2059	-100	-5	-	30	40	240	-5	-1A	-2	-4	-400	-	5	-5	-1A	
KTA1049	○	KTC2028	-100	-5	-	30	70	240	-5	-1A	-2	-4	-400	-	30	-5	-1A	
TIP42CF	○	TIP41CF	-100	-6	2	25	15	75	-4	-3A	-1.5	-6	-600	3	-	-10	-100	
KTA1659	●	KTC4370	-160	-1.5	-	20	70	240	-5	-100	-1.5	-0.5	-50	-	100	-10	-100	
KTA1659A	●	KTC4370A	-180	-1.5	-	20	70	240	-5	-100	-1.5	-0.5	-50	-	100	-10	-100	
KTB1369	●	KTD2061	-180	-2	-	20	70	240	-10	-400	-1	-0.5	-50	-	100	-10	-400	
KTA1837	●	KTC4793	-230	-1	2	20	100	320	-5	-100	-1.5	-0.5	-50	-	70	-10	-100	

Note) ★ : Ta=25°C, ☆ : Tc=25°C

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Bipolar Junction Transistor

■ General Purpose Transistor

Type No.	AEC-Q	Complementary	Max. Ratings				h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				PKG
			V _{CEO} (V)	I _C (A)	P _C [★] (W)	P _C [☆] (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
KTC4369	●	KTA1658	30	3	-	15	70	240	2	500	0.8	2	200	-	100	2	500	TO-220IS
KTC2026	○	KTA1046	60	3	2	25	100	300	5	500	1	2	200	-	30	5	500	
KTC2036	○	-	60	3	2	20	150	250	5	500	1	2	200	-	30	5	500	
KTD2058	○	KTB1366	60	3	2	25	60	200	5	500	1	2	200	-	3	5	500	
KTC1003	○	-	60	4	-	30	30	150	5	1A	1	4	400	-	8	5	500	
KTC2027	○	-	80	4	-	25	40	240	5	500	1.5	3	300	-	30	5	500	
KTD2060	○	KTB1368	80	4	-	25	40	240	5	500	1.5	3	300	-	8	5	500	
KTC2028	●	KTA1049	100	5	-	30	120	240	5	1A	2	4	400	-	30	5	1A	
KTD2059	○	KTB1367	100	5	-	30	40	240	5	1A	2	4	400	-	12	5	1A	
TIP41CF	○	TIP42CF	100	6	2	25	15	75	4	3A	1.5	6	600	3	-	10	500	
KTC3229	●	-	300	0.1	2	-	30	200	10	20	1	0.01	1	75	95	20	20	

Note) ★ : Ta=25°C, ☆ : Ta=25°C

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

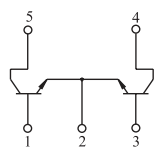
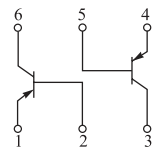
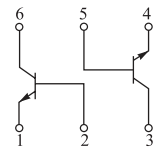
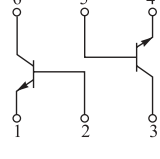
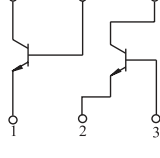
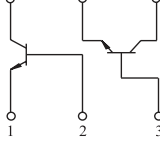
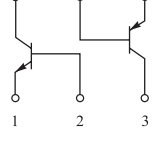
■ Audio Power Transistor

Type No.	AEC-Q	Complementary	Max. Ratings				h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				PKG
			V _{CEO} (V)	I _C (A)	P _C [★] (W)	P _C [☆] (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
KTA1700	●	KTC2800	-160	-1.5	1.5	10	70	240	-5	-100	-1.5	-0.5	-50	-	100	-10	-100	TO-126
KTC3964	○	-	40	2	1.5	-	500	-	1	400	0.5	0.3	1	-	220	2	100	
KTC3114	●	-	50	0.15	1.5	-	600	3600	6	2	0.25	0.1	10	100	250	10	10	
KTC2800	●	KTA1700	160	1.5	1.5	10	70	240	5	100	1.5	0.5	50	-	100	10	100	TO-220IS
KTC4370	●	KTA1659	160	1.5	-	20	70	240	5	100	1.5	0.5	50	-	100	10	100	
KTC4370A	●	KTA1659A	180	1.5	-	20	70	240	5	100	1.5	0.5	50	-	100	10	100	
KTD2061	●	KTB1369	180	2	-	20	70	240	10	400	1	0.5	50	-	100	10	400	TO-3P(H)IS
KTC4793	●	KTA1837	230	1	2	20	100	320	5	100	1.5	0.5	50	-	70	10	100	
KTB778	●	KTD998	-120	-10	-	80	55	160	-5	-1000	-2.5	-5	-500	-	10	-5	-1000	
KTD998	●	KTB778	120	10	-	80	55	160	5	1000	2.5	5	500	-	12	5	1000	TO-3P(N)
TIP36C	○	TIP35C	-100	-25	-	125	55	160	-5	-1.5	-1.8	15	-1500	3	3	-5	-1000	
KTB688	●	KTD718	-120	-10	-	80	55	160	-5	-1000	-2.5	-5	-500	-	10	-5	-1000	
KTA1695A	●	KTC4468	-140	-10	-	100	55	-	-4	-3000	-0.5	-5	-500	-	20	-12	-500	
KTB817	●	KTD1047	-140	-12	-	100	60	200	-5	-1000	-2.5	-5	-500	-	15	-5	-1000	
KTB2630	●	KTD1630	-150	-10	-	100	15K	30000	-4	7000	-2.5	-7	-7	-	50	-12	2000	
KTB2640	●	KTD1640	-150	-15	-	130	15K	30000	-4	10000	-2.5	-10	-10	-	45	-12	2000	
KTA1943N	●	KTC5200N	-230	-15	-	150	55	160	-5	-1000	-3	-8	-800	-	30	-5	-1000	
KTA1962A	●	KTC5242A	-230	-15	-	130	55	160	-5	-1000	-3	-8	-800	-	30	-5	-1000	
TIP35C	○	TIP36C	100	25	-	125	55	160	5	1500	1.8	15	1500	3	3	5	1000	
KTD718	●	KTB688	120	10	-	80	55	160	5	1000	2.5	5	500	-	12	5	1000	
KTC4468A	●	KTA1695A	140	10	-	100	55	-	4	3000	0.5	5	500	-	20	12	500	
KTD1047	●	KTB817	140	12	-	100	60	200	5	1000	2.5	50.1	500	-	15	5	1000	
KTD1630	●	KTB2630	150	10	-	100	15K	30000	4	7000	2.5	7	7	-	55	12	2000	
KTD1640	●	KTB2640	150	15	-	130	15K	30000	4	10000	2.5	10	10	-	70	12	2000	
KTC5200N	●	KTA1943N	230	15	-	150	55	160	5	1000	3	8	800	-	30	5	1000	
KTC5242A	●	KTA1962A	230	15	-	130	55	160	5	1000	3	8	800	-	30	5	1000	
KTB2630G	●	KTD1630G	-150	-10	-	100	15K	30000	-4	7000	-2.5	-7	-7	-	50	-12	2000	
KTB2640G	●	KTD1640G	-150	-15	-	130	15K	30000	-4	10000	-2.5	-10	-10	-	45	-12	2000	
KTD1630G	●	KTB2630G	150	10	-	100	15K	30000	4	7000	2.5	7	7	-	55	12	2000	
KTD1640G	●	KTB2640G	150	15	-	130	15K	30000	4	10000	2.5	10	10	-	70	12	2000	
KTA1943	●	KTC5200	-230	-15	-	150	55	160	-5	-1000	-3	-8	-800	-	30	-5	-1000	
KTC5200	●	KTA1943	230	15	-	150	55	160	5	1000	3	8	800	-	30	5	1000	
KTA1943A	●	KTC5200A	-230	-15	-	150	55	160	-5	-1000	-3	-8	-800	-	30	-5	-1	
KTC5200A	●	KTA1943A	230	15	-	150	55	160	5	1000	3	8	800	-	30	5	1	

Note) ★ : Ta=25°C, ☆ : Tc=25°C

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

■ Complex General Purpose Transistor

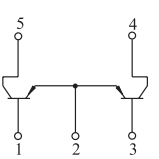
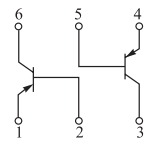
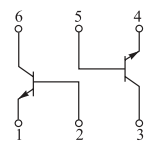
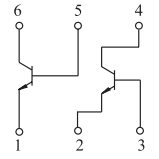
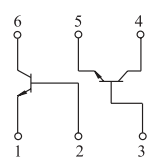
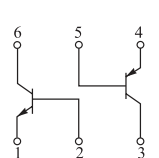
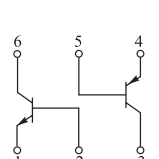
Type No.	Mark	AEC-Q	Internal Circuit (Top View)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				PKG
				V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
KTC601E	L□	○		50	150	0.2	120	400	6	2	0.25	0.1	10	80	-	10	1	TESV
KTA701E	S□	○		-50	-150	0.2	120	400	-6	-2	-0.3	-0.1	-10	80	-	-10	-1	TES6
KTC802E	LZ	○		12	500	0.2	270	680	2	10	0.25	0.2	10	-	320	2	10	
KTC801E	L□	○		50	150	0.2	120	400	6	2	0.3	0.1	10	80	-	10	1	
KTC811E	V□	○		50	150	0.2	120	400	6	2	0.25	0.1	10	80	-	10	1	
KTC812E	W□	○		50	150	0.2	120	400	6	2	0.25	0.1	10	80	-	10	1	
KTX101E	B□	○		±50	±150	0.2	120	400	±6	±2	+0.25 -0.3	±0.1	±10	80	-	±10	±1	

Note) □ : hFE Grade

Note) ○ : AEC-Q Qualified

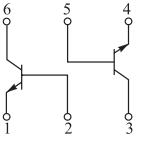
Bipolar Junction Transistor

■ Complex General Purpose Transistor

Type No.	Mark	AEC-Q	Internal Circuit (Top View)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _r (MHz)				PKG
				V _{CEO} (V)	I _C (mA)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
KTA501U	S□	●		-50	-150	0.2	120	400	-6	-2	-0.3	-0.1	-10	80	-	-10	-1	USV
KTC701U	S□	○		-50	-150	0.2	120	400	-6	-2	-0.3	-0.1	-10	80	-	-10	-1	US6
KTC801U	L□	○		50	150	0.2	120	400	6	2	0.25	0.1	10	80	-	10	1	
KTC811U	V□	○		50	150	0.2	120	400	-	2	0.3	0.1	10	80	-	10	1	
KTC812U	W□	○		50	150	0.2	120	400	6	2	0.3	0.1	10	80	-	10	1	
KTX101U	B□	○		±50	±150	0.12	400	-	±6	±2	±0.25	±0.1	±10	-	-	-	-	
KTX111T	B□	○		±30	±500	▲0.9	70	240	±1	±100	±0.25	±0.1	±10	-	300	±6	±20	

Note) ▲ : Package Mounted on Ceramic Board (600mm²×0.8mm), □ : h_{FE} Grade
 Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q.

■ Audio Muting Transistor

Type No.	Mark	AEC-Q	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)			R _{ON} (Ω)			PKG	
				V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Typ.	@V _{CE} (V)	@I _C (mA)	Typ.	@f (KHz)	@I _B (mA)		@V _{IN} (V)
KTC2875	M□	●	-	20	0.3	0.15	350	1200	2	4	0.3	0.03	3	30	6	4	-	-	-	-	SOT-23
KTC2875AS	MK	●	-	20	0.3	0.2	820	2700	2	4	0.1	0.03	3	30	6	4	0.65	1	5	0.1	
KTD1304	MAX	●	-	20	0.3	0.2	200	800	2	4	0.25	0.1	10	60	10	1	0.6	1	1	0.3	
KTC812T	M□	●		20	0.3	▲0.9	350	1200	2	4	0.3	0.03	3	30	6	4	-	-	-	-	TS6
KTC2874	-	●	-	20	0.3	0.625	200	1200	2	4	0.3	0.03	3	30	6	4	-	-	-	-	TO-92
KTD1302	-	●	-	20	0.3	0.625	200	800	2	4	0.25	0.1	10	60	10	1	0.6	1	1	0.3	

Note) ▲: Package Mounted on Ceramic Board (600mm²×0.8mm), □: h_{FE} Grade

Note) ●: Preparing for qualification of AEC-Q

Bipolar Junction Transistor

■ High h_{FE} Transistor

Type No.	Mark	AEC-Q	Max. Ratings			h_{FE}					$V_{CE(sat)}(V)$			$f_T(\text{MHz})$				PKG
			V_{CEO} (V)	I_C (A)	P_C (W)	Min.	Typ.	Max.	@ V_{CE} (V)	@ I_C (mA)	Max.	@ I_C (A)	@ I_B (mA)	Min.	Typ.	@ V_{CE} (V)	@ I_C (mA)	
KTC3295	T□	●	50	0.15	0.15	600	-	3600	6	2	0.25	0.1	10	100	250	10	10	SOT-23
KTD1003	L□	●	50	1	▼1	800	1500	3200	5	300	0.3	0.5	5	150	250	10	500	SOT-89
KTC3112	-	●	50	0.15	0.625	600	-	3600	6	2	0.25	0.1	10	100	250	10	10	SOT-92
KTD1028	-	●	50	1	1	800	1500	3200	5	300	0.3	0.5	5	150	250	10	500	TO-92L
KTD2092	-	●	80	3	☆25	500	-	1500	1	500	0.35	1	10	-	140	5	1A	TO-220IS
KTD2066	-	●	80	5	☆30	500	-	1500	1	1A	0.35	3	30	-	130	5	1A	
KTD1937	-	○	80	10	☆40	500	-	1500	1	1A	0.35	5	50	-	70	5	1A	

Note) ▼ : Mounted on Ceramic Substrate(250mm²x0.8t), □ : h_{FE} Grade, ☆ : $T_c=25^\circ\text{C}$

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Darlington Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)			PKG
					V _{CEO} (V)	I _C (A)	P _C (W)	Min.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	@V _{CE} (V)	@I _C (mA)	
MMBTA63	AGX	●	-	-	-30	-0.5	0.35	5,000	-5	-10	-1.5	-0.1	-0.1	125	-5	-10	SOT-23
MMBTA517	UA	●	-	-	△30	0.4	0.35	30,000	2	100	1	0.1	1	220	2	100	
MMBTA13	AIX	●	-	-	△30	0.5	0.35	5,000	5	10	1.5	0.1	0.1	125	5	10	
MJD112	-	●	-	-	100	2	☆20	1,000	3	2A	2	2	8	25	10	750	DPAK
BC517	-	●	-	-	30	0.5	0.625	30,000	2	100	1	0.1	1	◇220	5	10	TO-92
MPSA13	-	●	-	-	30	0.5	0.625	10,000	5	100	1.5	0.1	0.1	125	5	10	
KTD2854	-	●	-	-	100	2	1	2,000	2	1A	1.5	1	1	◇50	2	500	TO-92L
KTD1411	-	●	-	-	60	4	☆15	3,000	2	1A	1.5	3	30	-	-	-	TO-126
KTB1424	-	●	-	-	-60	-3	☆25	3,000	-2	-1A	-1.5	-3	-30	-	-	-	TO-220IS
KTD1423	-	●	-	-	-120	-5	☆30	1,000	-3	-500	-2	-3	-12	-	-	-	
KTB1414	-	●	-	-	80	4	☆25	2,000	2	1A	1.5	3	6	-	-	-	
KTD1413	-	●	-	-	100	5	☆25	2,000	2	3A	1.5	3	3	-	-	-	
KTD1415	-	●	-	-	100	7	☆30	2,000	3	3A	1.5	3	6	-	-	-	

Note) △: V_{CE(s)}, ◇: Typ, ☆: T_C=25°C

Note) ●: Preparing for qualification of AEC-Q

Bipolar Junction Transistor

■ Strobe Flash Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)			PKG
					V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Typ.	@V _{CE} (V)	@I _C (mA)	
KTA1001	K□	○	-	-	-20	-3	▼1	100	320	-2	-500	-0.5	-3	-75	170	-2	-500	SOT-89
KTA1241	-	●	-	-	-20	-5	▼1	100	320	-2	-500	-0.5	-3	-75	170	-2	-500	TO-92L

Note) @ : Mounted on Ceramic Substrate (250mm²x0.8t), □ : h_{FE} Grade

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q.

■ Switching Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)	t _{on} (ns)	t _{off} (ns)	t _d (ns)	t _r (ns)	t _{stg} (ns)	t _f (ns)	PKG
					V _{CEO} (V)	I _C (A)	P _C (W)	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	MIN.	Max.	Max.	Max.	Max.	Max.	Max.	
KTN2907AU	ZH	●	KTN2222AU	ZG	-60	-0.6	0.1	300	-10	-150	-1.6	-0.5	-50	200	45	100	10	40	80	30	USM
KTN2222AU	ZG	●	KTN2907AU	ZH	40	0.6	0.1	300	10	150	1.0	0.5	50	250	-	-	10	25	225	60	
2N3906S	ZA	●	2N3904S	ZC	-40	-0.2	※ 0.35	300	-1	-10	-0.4	-0.05	-5	250	-	-	35	35	225	75	SOT-23
KTN2907AS	ZH	●	KTN2222AS	ZG	-60	-0.6	※ 0.35	300	-10	-150	-1.6	-0.5	-50	200	45	100	10	40	80	30	
2N3904S	ZC	●	2N3906S	ZA	40	0.2	※ 0.35	300	1	10	0.3	0.05	5	300	-	-	35	35	200	50	
KTN2222AS	ZG	●	KTN2907AS	ZH	40	0.6	※ 0.35	300	10	150	1.0	0.5	50	300	-	-	10	25	225	60	
KTA1666	W□	○	KTC4379	U□	-50	-2	▼1	240	-2	-500	-0.5	-1	-50	◇ 120	◇ 100	-	-	-	◇ 1,000	◇ 100	SOT-89
KTB1124	X□	○	KTD1624	Y□	-50	-3	▼1	400	-2	-100	-0.7	-2	-100	◇ 150	◇ 70	-	-	-	◇ 450	◇ 35	
KTC4379	U□	○	KTA1666	W□	50	2	▼1	240	2	500	0.5	1	50	◇ 120	◇ 100	-	-	-	◇ 1,000	◇ 100	
KTD1624	Y□	○	KTB1124	X□	50	3	▼1	400	2	100	0.5	2	100	◇ 150	◇ 70	-	-	-	◇ 650	◇ 35	
KTA1718D	-	○	KTC2815D	-	-50	-2	☆10	240	-2	-500	-0.5	-1	-50	100	◇ 100	-	-	-	◇ 1,000	◇ 100	DPAK
KTA1385D	-	○	KTC5103D	-	-60	-5	☆15	400	-1	-2A	-0.3	-2	-200	-	1,000	-	-	-	2,500	1,000	
KTA1862D	-	●	-	-	-400	-2	☆10	180	-5	-100	-0.5	0.5	-100	18	◇ 200	-	-	-	◇ 1,800	◇ 400	
KTA1807D	-	●	-	-	-600	-1	☆20	120	-5	-100	-1.0	-0.3	-60	28	500	-	-	-	5,000	500	
KTC2815D	-	○	KTA1718D	-	50	2	☆10	240	2	500	0.5	1	50	100	◇ 100	-	-	-	◇ 1,000	◇ 100	
KTC5103D	-	○	KTA1385D	-	60	5	☆15	400	1	2A	0.3	2	200	-	1,000	-	-	-	2,500	1,000	

Note) ◇ : Typ, ☆ : T_c=25°C, ※ : Package Mounted on 99.5% Alumina 10X8X0.6mm, ▼ : Mounted on Ceramic Substrate(250mm²x0.8t), □ : h_{FE} Grade

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Switching Transistor

Type No.	Mark	AEC-Q	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _r (MHz)	t _{on} (μs)	t _{off} (μs)	t _r (μs)	t _{stg} (μs)	T _f (μs)	PKG
				V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Max.	Max.	Max.	Max.	Max.	
2N3906	-	●	2N3904	-40	-0.2	0.625	100	300	-1	-10	-0.4	-0.05	-5	250	0.07	0.3	0.035	0.225	0.075	TO-92
KTN2907A	-	●	KTN2222A	-60	-0.6	0.625	100	300	-10	-150	-1.6	-0.5	-50	200	0.045	0.1	0.04	0.08	0.03	
2N3904	-	●	2N3906	40	0.2	0.625	100	300	1	10	0.3	0.05	5	300	0.07	0.25	0.235	0.2	0.05	
KTN2222A	-	●	KTN2907A	40	0.6	0.625	100	300	10	150	1	0.5	50	300	0.035	0.3	0.025	0.025	0.06	
KTC3003	-	●	-	400	1.5	0.625	9	38	2	500	3	1.5	500	4	1.1	4.7	-	4	0.7	
KTA1281	-	●	KTC3209	-50	-2	1	70	240	-2	-500	-0.5	-1	-50	◇100	◇0.1	◇1.1	-	◇1.0	◇0.1	TO-92L
KTB985	-	●	KTD1347	-50	-2	1	100	400	-2	-100	-0.7	-2	-100	◇150	◇0.07	◇0.5	-	◇0.45	◇0.035	
KTC3209	-	●	KTA1281	-50	2	1	70	240	2	500	0.5	1	50	◇100	◇0.1	◇1.1	-	◇1.0	◇0.1	
KTD1347	-	●	KTB985	50	3	1	100	400	2	100	0.5	2	100	◇150	◇0.07	◇0.7	-	◇0.65	◇0.035	
KTA1715	-	○	KTC2814	-50	-2	☆ 10	70	240	-2	-500	-0.5	-1	-50	◇100	◇0.1	◇1.1	-	◇1.0	◇0.1	TO-126
KTA1807A	-	●	-	-600	-1	1.5	30	120	-5	-100	-1	-0.3	-60	◇28	◇0.1	◇3.58	-	◇3.5	◇0.08	
KTC2814	-	○	KTA1715	50	2	☆ 10	70	240	2	500	0.5	1	50	◇100	◇0.1	◇1.1	-	◇1.0	◇0.1	
MJE13003	-	●	-	400	1.5	☆ 20	9	38	2	500	3	1.5	500	4	1.1	4.7	-	4	0.7	TO-220IS
MJE13005DF	-	●	-	400	5	☆ 30	18	35	5	1A	1	4	1A	4	0.15	5.8	-	5	0.8	
MJE13007F	-	●	-	400	8	☆ 40	15	50	5	2A	2	5	1A	4	1.6	3.7	-	3	0.7	

Note) ◇ : Typ, ☆ : T_c=25°C

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

BJT

Bipolar Junction Transistor

Low $V_{CE(sat)}$ Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_r (MHz)			PKG
					V_{CEO} (V)	I_C (A)	P_C (W)	Min.	Max.	@ V_{CE} (V)	@ I_C (mA)	Max.	@ I_C (A)	@ I_B (mA)	Typ.	@ V_{CE} (V)	@ I_C (mA)	
KTA1532U	2A	○	-	-	-12	-1.5	※0.2	270	680	-2	-200	-0.2	-0.5	-25	400	-2	-200	USM
KTA1531T	SA□	○	KTC3531T	HA□	-20	-1	▲0.9	120	400	-2	-50	-0.3	-0.5	-50	180	-10	-50	TSM
KTA1532T	SB	○	KTC3532T	HB	-20	-1.5	▲0.9	200	560	-2	-100	-0.18	-0.75	-15	210	-2	-300	
KTA1535T	SD	●	KTC3535T	HD	-20	-3	▲0.9	200	560	-2	-500	-0.165	-1.5	-30	160	-2	-500	
KTA1536T	SE	○	-	HE	-20	-5	▲0.9	200	560	-2	-500	-0.30	-3	-60	140	-2	-500	
KTA1544T	SN	○	KTC3544T	HN	-30	-2	▲0.9	200	560	-2	-100	-0.6	-1.5	-75	150	-10	-50	
KTA1542T	SH	○	KTC3542T	HH	-30	-3	▲0.9	200	560	-2	-500	-0.23	-1.5	-30	380	-10	-500	
KTA1551T	SK	○	KTC3551T	HK	-50	-1	▲0.9	200	560	-2	-100	-0.43	-0.5	-10	420	-10	-300	
KTA1552T	SL	○	KTC3552T	HL	-50	-3	▲0.9	200	560	-2	-100	-0.2	-1	-50	360	-10	-500	
KTC3531T	HA□	○	KTA1531T	SA□	20	1	▲0.9	120	400	2	50	0.3	0.5	50	180	10	50	
KTC3532T	HB	○	KTA1532T	SB	20	1.5	▲0.9	200	560	2	100	0.2	0.75	15	210	2	300	
KTC3535T	HD	○	KTA1535T	SD	20	3	▲0.9	200	560	2	500	0.15	1.5	30	180	2	500	
KTC3544T	HN	○	KTA1544T	SN	30	2	▲0.9	200	560	2	100	0.4	1.5	75	150	10	50	
KTC3542T	HH	○	KTA1542T	SH	30	3	▲0.9	200	560	2	500	0.18	1.5	30	450	10	500	
KTC3551T	HK	○	KTA1551T	SK	50	1	▲0.9	200	560	2	100	0.19	0.5	10	420	10	300	
KTC3552T	HL	○	KTA1552T	SL	50	3	▲0.9	200	560	2	100	0.12	1	50	380	10	500	
KTC3573	G5	●	-	-	100	1	0.5	200	500	10	250	1.0	0.2	1	100	10	50	SOT-89
KTA1545W	-	●	-	-	-40	-5	1.35	200	300	-2	-1000	-0.17	-2	-200	120	-10	-100	SOT-223

Note) ▲ : Package mounted on a ceramic board (600mm²X0.8mm), □ : h_{FE} Grade, ※ : Package Mounted on 99.5% Alumina 10X8X0.6mm

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q.

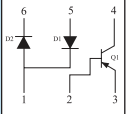
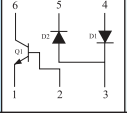
■ Junction Field Effect Transistor for IR Sensor

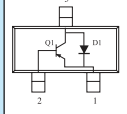
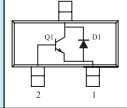
Type No.	Mark	AEC-Q	Max. Ratings			Y _{fs} (mS)			I _{DSS} (μ A)				C _{iss} (pF)			PKG		
			V _{GDO} (V)	I _G (mA)	P _D (mW)	Typ.	@V _{DS} (V)	@V _{GS} (V)	@f (kHz)	Min.	Max.	@V _{DS} (V)	@V _{GS} (V)	Typ.	@V _{DS} (V)		@V _{GS} (V)	@f (kHz)
KTK491V	Z□	●	-20	10	100	2	10	0	1	Typ. 600	-	10	0	2	10	0	1	VSM
KTK491S	Z1□	●	-20	10	200	2	10	0	1	Typ. 600	-	10	0	2	10	0	1	SOT-23

Note) ○ : AEC-Q Qualified, □ : h_{FE} Grade, ● : Preparing for qualification of AEC-Q

Complex Device

General Purpose Transistor + Switching Diode

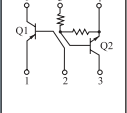
Type No.	Mark	AEC-Q	Internal Circuit	BJT(Q1)						DIODE(D1)						COMMON	PKG	
				Max. Ratings			h _{FE}		V _{CE(sat)} (V)	V _{BE(sat)} (V)	Max. Ratings			V _F (V)	I _R (μA)	C _T (pF)		Max. Rating
				V _{CEO} (V)	V _{EBO} (V)	I _C (A)	Min.	Max.	Max.	Max.	V _R (V)	I _O (mA)	I _{FSM} (A)	Max.	Max.	Max.		P _C (W)
KTX711T	T7	○		-80	-5	-500	100	250	-0.25	-1.2	80	200	4	1.2	0.1	3	▲0.9	TS6
KTX811T	T8	○		80	5	500	100	250	0.25	1.2	80	200	4	1.2	0.1	3	▲0.9	

Type No.	Mark	AEC-Q	Internal Circuit	BJT(Q1)						DIODE(D1)			COMMON			PKG		
				Max. Ratings			h _{FE}		V _{CE(sat)} (V)	V _{BE(sat)} (V)	Max. Ratings		V _F (V)	Max. Ratings			I _R (μA)	C _{ob} (pF)
				V _{CEO} (V)	V _{EBO} (V)	I _C (mA)	Min.	Max.	Max.	Max.	I _O (mA)	I _{FSM} (A)	Max.	V _O (V)	P _C (W)		Max.	Typ.
KTX304S	E8	●		-60	-5	-600	100	300	-0.4	-1.3	150	2	1.2	-60	※0.35	-0.5	8.5	SOT-23
KTX404S	E7	●		75	6	600	100	300	0.3	1.2	100	2	1.2	40	※0.35	0.5	6.5	

Note) ▲ : Package mounted on a ceramic board (600mm²X0.8mm), □ : h_{FE} Grade, ※ : Package Mounted on 99.5% Alumina 10X8X0.6mm

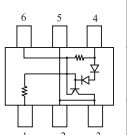
Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

General Purpose Transistor + BRT

Type No.	Mark	AEC-Q	Internal Circuit	GP TR(Q1)						BRT(Q2)						COMMON	PKG	
				Max. Ratings			h _{FE(1)}		V _{CE(sat)} (V)	f _T (V)	Max. Ratings			V _{O(ON)} (V)	V _{I(ON)} (V)	V _{I(OFF)} (V)		Max. Rating
				V _{CEO} (V)	V _{EBO} (V)	I _C (A)	Min.	Max.	Max.	Typ.	V _O (V)	V _I (V)	I _O (mA)	Max.	Max.	Min.		P _C (W)
KTX213U	BH	○		-12	-6	-500	270	680	-0.25	260	50	40, -10	100	0.3	5	1	0.2	US6







Note) ○ : AEC-Q Qualified

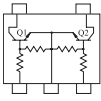
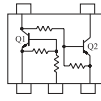
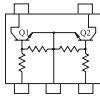
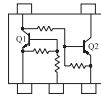
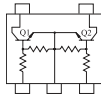
Current Regulating Device

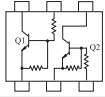
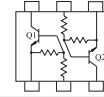
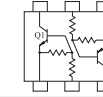
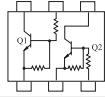
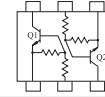
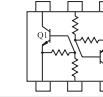
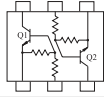
Type No.	Mark	AEC-Q	Internal Circuit	Max. Ratings				Output Current (mA)			Voltage Drop (V)		PKG
				V _S (V)	I _O (mA)	V _O (V)	P _D (V)	Typ.	@V _S (V)	@V _{Out} (V)	Max.	@I _O (mA)	
KCR401T	AC	○		40	65	38	▲0.9	10	10	8.6	1	10	TS6
KCR402T	AA	○		40	65	38	▲0.9	20	10	8.6	0.9	20	
KCR405T	AB	○		40	65	38	▲0.9	50	10	8.6	0.8	50	

Note) ▲ : Package mounted on a ceramic board (600mm²X0.8mm)

Note) ○ : AEC-Q Qualified

Electrical Characteristics			UIP-3	VSM	ESM	USM		SOT-23		TO-92	
			 (1.0X0.6)	 (1.2X0.8)	 (1.6X0.85)	 (2.0X1.25)	 (2.93X1.3)				
Polarity	R1 [kΩ]	R2 [kΩ]	±50V/±0.1A	±50V/±0.1A	±50V/±0.1A	±50V/±0.1A	±12V/±0.5A	±50V/±0.1A	±50V/±0.8A	±50V/±0.1A	±50V/±0.8A
NPN	4.7	4.7		KRC401V	KRC401E	KRC401	KRC453	KRC101S	KRC243S	KRC101	KRC243
	10	10	KTC402UL	KRC402V	KRC402E	KRC402	KRC454	KRC102S	KRC244S	KRC102	KRC244
	22	22		KRC403V	KRC403E	KRC403		KRC103S		KRC103	
	47	47		KRC404V	KRC404E	KRC404		KRC104S		KRC104	
	2.2	47		KRC405V	KRC405E	KRC405		KRC105S		KRC105	
	4.7	47	KRC406UL	KRC406V	KRC406E	KRC406		KRC106S		KRC106	
	10	47		KRC407V	KRC407E	KRC407		KRC107S		KRC107	
	22	47		KRC408V	KRC408E	KRC408		KRC108S		KRC108	
	4.7	-		KRC410V	KRC410E	KRC410		KRC110S		KRC110	
	10	-		KRC411V	KRC411E	KRC411		KRC111S		KRC111	
	22	-		KRC413V	KRC413E	KRC413		KRC113S		KRC113	
	47	-		KRC414V	KRC414E	KRC414		KRC114S		KRC114	
	1	10		KRC416V	KRC416E	KRC416		KRC116S	KRC245S	KRC116	KRC245
	2.2	2.2		KRC417V	KRC417E	KRC417	KRC452	KRC117S	KRC242S	KRC117	KRC242
	2.2	10		KRC418V	KRC418E	KRC418	KRC456	KRC118S	KRC246S	KRC118	KRC246
4.7	10		KRC419V	KRC419E	KRC419		KRC119S		KRC119		
PNP	4.7	4.7		KRA301V	KRA301E	KRA301	KRA353	KRA101S	KRA223S	KRA101	KRA223
	10	10		KRA302V	KRA302E	KRA302	KRA354	KRA102S	KRA224S	KRA102	KRA224
	22	22		KRA303V	KRA303E	KRA303		KRA103S		KRA103	
	47	47		KRA304V	KRA304E	KRA304		KRA104S		KRA104	
	2.2	47		KRA305V	KRA305E	KRA305		KRA105S		KRA105	
	4.7	47		KRA306V	KRA306E	KRA306		KRA106S		KRA106	
	10	47		KRA307V	KRA307E	KRA307		KRA107S		KRA107	
	22	47		KRA308V	KRA308E	KRA308		KRA108S		KRA108	
	4.7	-		KRA310V	KRA310E	KRA310		KRA110S		KRA110	
	10	-		KRA311V	KRA311E	KRA311		KRA111S		KRA111	
	22	-		KRA313V	KRA313E	KRA313		KRA113S		KRA113	
	47	-		KRA314V	KRA314E	KRA314		KRA114S		KRA114	
	1	10		KRA316V	KRA316E	KRA316		KRA116S	KRA225S	KRA116	KRA225
	2.2	2.2		KRA317V	KRA317E	KRA317	KRA352	KRA117S	KRA222S	KRA117	KRA222
	2.2	10		KRA318V	KRA318E	KRA318	KRA356	KRA118S	KRA226S	KRA118	KRA226
4.7	10		KRA319V	KRA319E	KRA319		KRA119S		KRA119		

Electrical Characteristics			TESV		USV		TSV
							
Polarity	R1 [kΩ]	R2 [kΩ]	±50V/±0.1A		±50V/±0.1A		±50V/±0.8A
NPN + NPN	4.7	4.7	KRC651E		KRC651U		KRC643T
	10	10	KRC652E		KRC652U		KRC644T
	22	22	KRC653E		KRC653U		
	47	47	KRC654E		KRC654U		
	2.2	47	KRC655E		KRC655U		
	4.7	47	KRC656E		KRC656U		
	10	47	KRC657E		KRC657U		
	22	47	KRC658E		KRC658U		
	4.7	-	KRC660E		KRC660U		
	10	-	KRC661E		KRC661U		
	22	-	KRC663E		KRC663U		
	47	-	KRC664E		KRC664U		
	1	10	KRC666E		KRC666U		KRC645T
	2.2	2.2	KRC667E		KRC667U		KRC642T
	2.2	10	KRC668E		KRC668U		KRC646T
4.7	10	KRC669E		KRC669U			
NPN + PNP	NPN:10/10	PNP:10/10		KRX101E		KRX101U	
	NPN:47/47	PNP:10/47		KRX102E		KRX102U	
	NPN:22/22	PNP:22/22		KRX103E		KRX103U	
	NPN:47/47	PNP:4.7/10		KRX104E			
PNP + PNP	4.7	4.7	KRA551E		KRA551U		KRA523T
	10	10	KRA552E		KRA552U		KRA524T
	22	22	KRA553E		KRA553U		
	47	47	KRA554E		KRA554U		
	2.2	47	KRA555E		KRA555U		
	4.7	47	KRA556E		KRA556U		
	10	47	KRA557E		KRA557U		
	22	47	KRA558E		KRA558U		
	4.7	-	KRA560E		KRA560U		
	10	-	KRA561E		KRA561U		
	22	-	KRA563E		KRA563U		
	47	-	KRA564E		KRA564U		
	1	10	KRA566E		KRA566U		KRA525T
	2.2	2.2	KRA567E		KRA567U		KRA522T
	2.2	10	KRA568E		KRA568U		KRA526T
4.7	10	KRA569E		KRA569U			

Electrical Characteristics			TES6			US6			TS6
									
Polarity	R1 [kΩ]	R2 [kΩ]	±50V/±0.1A			±50V/±0.1A			±50V/±0.8A
NPN + NPN	4.7	4.7	KRC821E	KRC851E		KRC821U	KRC851U		KRC843T
	10	10	KRC822E	KRC852E		KRC822U	KRC852U		KRC844T
	22	22	KRC823E	KRC853E		KRC823U	KRC853U		
	47	47	KRC824E	KRC854E		KRC824U	KRC854U		
	2.2	47	KRC825E	KRC855E		KRC825U	KRC855U		
	4.7	47	KRC826E	KRC856E		KRC826U	KRC856U		
	10	47	KRC827E	KRC857E		KRC827U	KRC857U		
	22	47	KRC828E	KRC858E		KRC828U	KRC858U		
	4.7	-	KRC830E	KRC860E		KRC830U	KRC860U		
	10	-	KRC831E	KRC861E		KRC831U	KRC861U		
	22	-	KRC833E	KRC863E		KRC833U	KRC863U		
	47	-	KRC834E	KRC864E		KRC834U	KRC864U		
	1	10	KRC836E	KRC866E		KRC836U	KRC866U		KRC845T
	2.2	2.2	KRC837E	KRC867E		KRC837U	KRC867U		KRC842T
	2.2	10	KRC838E	KRC868E		KRC838U	KRC868U		KRC846T
4.7	10	KRC839E	KRC869E		KRC839U	KRC869U			
NPN + PNP	NPN:10/10	PNP:10/10			KRX201E			KRX201U	
	NPN:22/22	PNP:22/22			KRX202E			KRX202U	
	NPN:47/47	PNP:4.7/47			KRX203E			KRX203U	
	NPN:2.2/47	PNP:2.2/47			KRX204E			KRX204U	
	NPN:10/47	PNP:10/47			KRX206E				
	NPN:10/10	PNP:10/47			KRX207E			KRX207U	
	NPN:47/47	PNP:4.7/10			KRX208E				
	NPN:47/47	PNP:10/47			KRX209E			KRX209U	
	NPN:10/10	PNP:1/10			KRX210E				
PNP + PNP	4.7	4.7	KRA721E	KRA751E		KRA721U	KRA751U		KRA723T
	10	10	KRA722E	KRA752E		KRA722U	KRA752U		KRA724T
	22	22	KRA723E	KRA753E		KRA723U	KRA753U		
	47	47	KRA724E	KRA754E		KRA724U	KRA754U		
	2.2	47	KRA725E	KRA755E		KRA725U	KRA755U		
	4.7	47	KRA726E	KRA756E		KRA726U	KRA756U		
	10	47	KRA727E	KRA757E		KRA727U	KRA757U		
	22	47	KRA728E	KRA758E		KRA728U	KRA758U		
	4.7	-	KRA730E	KRA760E		KRA730U	KRA760U		
	10	-	KRA731E	KRA761E		KRA731U	KRA761U		
	22	-	KRA733E	KRA763E		KRA733U	KRA763U		
	47	-	KRA734E	KRA764E		KRA734U	KRA764U		
	1	10	KRA736E	KRA766E		KRA736U	KRA766U		KRA725T
	2.2	2.2	KRA737E	KRA767E		KRA737U	KRA767U		KRA722T
	2.2	10	KRA738E	KRA768E		KRA738U	KRA768U		KRA726T
4.7	10	KRA739E	KRA769E		KRA739U	KRA769U			

Transistors with Built-in Bias Resistor

■ General Purpose BRT

Type No.						Max. Ratings			G _T				V _{O(ON)} (V)			R1 (kΩ)	R2 (kΩ)	PKG	
NPN	Mark	AEC-Q	PNP	Mark	AEC-Q	V _O (V)	I _O (mA)	P _D (mW)	Min.	Max.	@V _O (V)	@I _O (mA)	Max.	@I _O (mA)	@I _T (mA)				
KRC402UL	NB	○	-	-	-	50	100	100	50	80	5	10	0.3	10	0.5	10	10	ULP-3	
KRC406UL	NF	○	-	-	-	50	100	100	80	200	5	10	0.3	10	0.5	4.7	47		
KRC401V	NA	○	KRA301V+	PA	○	50	100	100	30	55	5	10	0.3	10	0.5	4.7	4.7	VSM	
KRC402V	NB	○	KRA302V	PB	○	50	100	100	50	80	5	10	0.3	10	0.5	10	10		
KRC403V	NC	○	KRA303V+	PC	○	50	100	100	70	120	5	10	0.3	10	0.5	22	22		
KRC404V	ND	○	KRA304V	PD	○	50	100	100	80	200	5	10	0.3	10	0.5	47	47		
KRC405V	NE	○	KRA305V+	PE	○	50	100	100	80	200	5	10	0.3	10	0.5	2.2	47		
KRC406V	NF	○	KRA306V	PF	○	50	100	100	80	200	5	10	0.3	10	0.5	4.7	47		
KRC407V	NH	○	KRA307V+	PH	○	50	100	100	80	150	5	10	0.3	10	0.5	10	47		
KRC408V	NI	○	KRA308V+	PI	○	50	100	100	80	150	5	10	0.3	10	0.5	22	47		
KRC410V	NK	○	KRA310V	PK	○	50	100	100	120	-	5	1	0.3	10	0.5	4.7	-		
KRC411V	NM	○	KRA311V	PM	○	50	100	100	120	-	5	1	0.3	10	0.5	10	-		
KRC413V+	NO	○	KRA313V+	PO	○	50	100	100	120	-	5	1	0.3	10	0.5	22	-		
KRC414V	NP	○	KRA314V+	PP	○	50	100	100	120	-	5	1	0.3	10	0.5	47	-		
KRC416V+	N2	○	KRA316V+	P2	○	50	100	100	33	-	5	5	0.3	10	0.5	1	10		
KRC417V+	N4	○	KRA317V+	P4	○	50	100	100	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC418V+	N5	○	KRA318V+	P5	○	50	100	100	33	-	5	10	0.3	10	0.5	2.2	10		
KRC419V+	N6	○	KRA319V+	P6	○	50	100	100	30	-	5	10	0.3	10	0.5	4.7	10		
KRC422V+	N9	●	KRA322V	P9	●	50	100	100	62	-	5	5	0.3	5	0.25	100	100		
KRC401E	NA	○	KRA301E+	PA	○	50	100	100	30	55	5	10	0.3	10	0.5	4.7	4.7		ESM
KRC402E	NB	○	KRA302E	PB	○	50	100	100	50	80	5	10	0.3	10	0.5	10	10		
KRC403E	NC	○	KRA303E	PC	○	50	100	100	70	120	5	10	0.3	10	0.5	22	22		
KRC404E	ND	○	KRA304E	PD	○	50	100	100	80	200	5	10	0.3	10	0.5	47	47		
KRC405E	NE	○	KRA305E	PE	○	50	100	100	80	200	5	10	0.3	10	0.5	2.2	47		
KRC406E	NF	○	KRA306E	PF	○	50	100	100	80	200	5	10	0.3	10	0.5	4.7	47		
KRC407E	NH	○	KRA307E	PH	○	50	100	100	80	150	5	10	0.3	10	0.5	10	47		
KRC408E	NI	○	KRA308E+	PI	○	50	100	100	80	150	5	10	0.3	10	0.5	22	47		
KRC410E	NK	○	KRA310E	PK	○	50	100	100	120	-	5	1	0.3	10	0.5	4.7	-		
KRC411E	NM	○	KRA311E+	PM	○	50	100	100	120	-	5	1	0.3	10	0.5	10	-		
KRC413E+	NO	○	KRA313E+	PO	○	50	100	100	120	-	5	1	0.3	10	0.5	22	-		
KRC414E	NP	○	KRA314E+	PP	○	50	100	100	120	-	5	1	0.3	10	0.5	47	-		
KRC416E+	N2	○	KRA316E	P2	○	50	100	100	33	-	5	5	0.3	10	0.5	1	10		
KRC417E+	N4	○	KRA317E+	P4	○	50	100	100	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC418E+	N5	○	KRA318E	P5	○	50	100	100	33	-	5	10	0.3	10	0.5	2.2	10		
KRC419E+	N6	○	KRA319E+	P6	○	50	100	100	30	-	5	10	0.3	10	0.5	4.7	10		

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q
 Note) + : Irregular Production

General Purpose BRT

Type No.						Max. Ratings			G _I				V _{O(ON)} (V)			R1 (kΩ)	R2 (kΩ)	PKG	
NPN	Mark	AEC-Q	PNP	Mark	AEC-Q	V _O (V)	I _O (mA)	P _D (mW)	Min.	Max.	@V _O (V)	@I _O (mA)	Max.	@I _O (mA)	@I _I (mA)				
KRC401	NA	○	KRA301	PA	○	50	100	100	30	55	5	10	0.3	10	0.5	4.7	4.7	USM	
KRC402	NB	○	KRA302	PB	○	50	100	100	50	80	5	10	0.3	10	0.5	10	10		
KRC403	NC	○	KRA303	PC	○	50	100	100	70	120	5	10	0.3	10	0.5	22	22		
KRC404	ND	○	KRA304	PD	○	50	100	100	80	200	5	10	0.3	10	0.5	47	47		
KRC405	NE	○	KRA305	PE	○	50	100	100	80	200	5	10	0.3	10	0.5	2.2	47		
KRC406	NF	○	KRA306	PF	○	50	100	100	80	200	5	10	0.3	10	0.5	4.7	47		
KRC407	NH	○	KRA307	PE	○	50	100	100	80	150	5	10	0.3	10	0.5	10	47		
KRC408	NI	○	KRA308+	PF	○	50	100	100	80	150	5	10	0.3	10	0.5	22	47		
KRC410	NK	○	KRA310+	PK	○	50	100	100	120	-	5	1	0.3	10	0.5	4.7	-		
KRC411+	NM	○	KRA311	PM	○	50	100	100	120	-	5	1	0.3	10	0.5	10	-		
KRC413+	NO	○	KRA313	PO	○	50	100	100	120	-	5	1	0.5	10	0.5	22	-		
KRC414	NP	○	KRA314+	PP	○	50	100	100	120	-	5	1	0.3	10	0.5	47	-		
KRC416	N2	○	KRA316	P2	○	50	100	100	33	-	5	5	0.3	10	0.5	1	10		
KRC417	N4	○	KRA317+	P4	○	50	100	100	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC418	N5	○	KRA318	P5	○	50	100	100	33	-	5	10	0.3	10	0.5	2.2	10		
KRC419	N6	○	KRA319	P6	○	50	100	100	30	-	5	10	0.3	10	0.5	4.7	10		
KRC101S	NA	○	KRA101S	PA	○	50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7		SOT-23
KRC102S	NB	○	KRA102S	PB	○	50	100	200	50	80	5	10	0.3	10	0.5	10	10		
KRC103S	NC	○	KRA103S	PC	○	50	100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC104S	ND	○	KRA104S	PD	○	50	100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC105S	NE	○	KRA105S	PE	○	50	100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC106S	NF	○	KRA106S	PF	○	50	100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC107S	NH	○	KRA107S	PH	○	50	100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC108S	NI	○	KRA108S	PI	○	50	100	200	80	150	5	10	0.3	10	0.5	22	47		
KRC110S	NK	○	KRA110S	PK	○	50	100	200	120	-	5	1	0.3	10	0.5	4.7	-		
KRC111S	NM	○	KRA111S	PM	○	50	100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC113S+	NO	○	KRA113S+	PO	○	50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC114S	NP	○	KRA114S+	PP	○	50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC116S	N2	○	KRA116S	P2	○	50	100	200	33	-	5	1	0.3	10	0.5	1	10		
KRC117S+	N4	○	KRA117S	P4	○	50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC118S	N5	○	KRA118S	P5	○	50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC119S	N6	○	KRA119S	P6	○	50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		
KRC101	-	●	KRA101	-	●	50	100	625	30	55	5	10	0.3	10	0.5	4.7	4.7	TO-92	
KRC102	-	●	KRA102	-	●	50	100	625	50	80	5	10	0.3	10	0.5	10	10		
KRC103	-	●	KRA103	-	●	50	100	625	70	120	5	10	0.3	10	0.5	22	22		
KRC104	-	●	KRA104	-	●	50	100	625	80	200	5	10	0.3	10	0.5	47	47		
KRC105	-	●	KRA105	-	●	50	100	625	80	200	5	10	0.3	10	0.5	2.2	47		
KRC106	-	●	KRA106	-	●	50	100	625	80	200	5	10	0.3	10	0.5	4.7	47		
KRC107	-	●	KRA107	-	●	50	100	625	80	150	5	10	0.3	10	0.5	10	47		
KRC108+	-	●	KRA108+	-	●	50	100	625	80	150	5	10	0.3	10	0.5	22	47		
KRC110	-	●	KRA110	-	●	50	100	625	120	-	5	1	0.3	10	0.5	4.7	-		
KRC111	-	●	KRA111	-	●	50	100	625	120	-	5	1	0.3	10	0.5	10	-		
KRC113+	-	●	KRA113+	-	●	50	100	625	120	-	5	1	0.3	10	0.5	22	-		
KRC114	-	●	KRA114+	-	●	50	100	625	120	-	5	1	0.3	10	0.5	47	-		
KRC116	-	●	KRA116	-	●	50	100	625	33	-	5	5	0.3	10	0.5	1	10		
KRC117+	-	●	KRA117	-	●	50	100	625	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC118	-	●	KRA118+	-	●	50	100	625	33	-	5	10	0.3	10	0.5	2.2	10		
KRC119	-	●	KRA119	-	●	50	100	625	30	-	5	10	0.3	10	0.5	4.7	10		

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q
 Note) + : Irregular Production

Transistors with Built-in Bias Resistor

■ Complex BRT (NPN+NPN, PNP+PNP)

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings			G _I				V _{O(ON)} (V)			R1 (kΩ)	R2 (kΩ)	PKG
				V _O (V)	I _O (A)	P _D (mW)	Min.	Max.	@V _O (V)	@I _O (mA)	Max.	@I _O (mA)	@I _I (mA)			
KRA551E+	PA	○		-50	-0.1	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	TESV
KRA552E+	PB	○		-50	-0.1	200	50	80	-5	-10	-0.3	-10	-0.5	10	10	
KRA553E+	PC	○		-50	-0.1	200	70	120	-5	-10	-0.3	-10	-0.5	22	22	
KRA554E+	PD	○		-50	-0.1	200	80	200	-5	-10	-0.3	-10	-0.5	47	47	
KRA555E+	PE	○		-50	-0.1	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47	
KRA556E+	PF	○		-50	-0.1	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47	
KRA557E+	PH	○		-50	-0.1	200	80	150	-5	-10	-0.3	-10	-0.5	10	47	
KRA558E+	PI	○		-50	-0.1	200	80	150	-5	-10	-0.3	-10	-0.5	22	47	
KRA560E+	PK	○		-50	-0.1	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-	
KRA561E+	PM	○		-50	-0.1	200	120	-	-5	-1	-0.3	-10	-0.5	10	-	
KRA562E+	PN	○		-50	-0.1	200	120	-	-5	-1	-0.3	-10	-0.5	100	-	
KRA563E+	PO	○		-50	-0.1	200	120	-	-5	-1	-0.3	-10	-0.5	22	-	
KRA564E+	PP	○		-50	-0.1	200	120	-	-5	-1	-0.3	-10	-0.5	47	-	
KRA566E+	P2	○		-50	-0.1	200	33	-	-5	-5	-0.3	-10	-0.5	1	10	
KRA567E+	P4	○		-50	-0.1	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2	
KRA568E+	P5	○		-50	-0.1	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10	
KRA569E+	P6	○		-50	-0.1	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10	
KRC651E+	NA	○			50	0.1	200	30	55	5	10	0.3	10	0.5	4.7	
KRC652E+	NB	○	50		0.1	200	50	80	5	10	0.3	10	0.5	10	10	
KRC653E	NC	○	50		0.1	200	70	120	5	10	0.3	10	0.5	22	22	
KRC654E+	ND	○	50		0.1	200	80	200	5	10	0.3	10	0.5	47	47	
KRC655E+	NE	○	50		0.1	200	80	200	5	10	0.3	10	0.5	2.2	47	
KRC656E	NF	○	50		0.1	200	80	200	5	10	0.3	10	0.5	4.7	47	
KRC657E	NH	○	50		0.1	200	80	150	5	10	0.3	10	0.5	10	47	
KRC658E+	NI	○	50		0.1	200	80	150	5	10	0.3	10	0.5	22	47	
KRC660E+	NK	○	50		0.1	200	120	-	5	1	0.3	10	0.5	4.7	-	
KRC661E+	NM	○	50		0.1	200	120	-	5	1	0.3	10	0.5	10	-	
KRC662E+	NN	○	50	0.1	200	120	-	5	1	0.3	10	0.5	100	-		
KRC663E+	NO	○	50	0.1	200	120	-	5	1	0.3	10	0.5	22	-		
KRC664E+	NP	○	50	0.1	200	120	-	5	1	0.3	10	0.5	47	-		
KRC666E+	N2	○	50	0.1	200	33	-	5	5	0.3	10	0.5	1	10		
KRC667E+	N4	○	50	0.1	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC668E+	N5	○	50	0.1	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC669E+	N6	○	50	0.1	200	30	-	5	10	0.3	10	0.5	4.7	10		

Note) ○ : AEC-Q Qualified
 Note) + : Irregular Production

■ Complex BRT (NPN+NPN, PNP+PNP)

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings			G _I				V _{O(ON)} (V)			R1 (kΩ)	R2 (kΩ)	PKG
				V _O (V)	I _O (A)	P _D (mW)	Min.	Max.	@V _O (V)	@I _O (mA)	Max.	@I _O (mA)	@I _I (mA)			
KRA721E+	JA	○		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	TES6
KRA722E+	JB	○		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10	
KRA723E+	JC	○		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22	
KRA724E+	JD	○		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47	
KRA725E+	JE	○		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47	
KRA726E+	JF	○		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47	
KRA727E+	JH	○		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47	
KRA728E+	JI	○		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47	
KRA730E+	JK	○		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-	
KRA731E+	JM	○	-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-		
KRA732E+	JN	○	-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	100	-		
KRA733E+	JO	○	-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-		
KRA734E+	JP	○	-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-		
KRA736E+	J2	○	-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10		
KRA737E+	J4	○	-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2		
KRA738E+	J5	○	-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10		
KRA739E+	J6	○	-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10		
KRC821E+	YA	○		50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7	
KRC822E+	YB	○		50	100	200	50	80	5	10	0.3	10	0.5	10	10	
KRC823E+	YC	○		50	100	200	70	120	5	10	0.3	10	0.5	22	22	
KRC824E+	YD	○		50	100	200	80	200	5	10	0.3	10	0.5	47	47	
KRC825E+	YE	○		50	100	200	80	200	5	10	0.3	10	0.5	2.2	47	
KRC826E+	YF	○		50	100	200	80	200	5	10	0.3	10	0.5	4.7	47	
KRC827E+	YH	○		50	100	200	80	150	5	10	0.3	10	0.5	10	47	
KRC830E	YK	○		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-	
KRC831E	YM	○		50	100	200	120	-	5	1	0.3	10	0.5	10	-	
KRC833E+	YO	○	50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC834E+	YP	○	50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC836E+	Y2	○	50	100	200	33	-	5	5	0.3	10	0.5	1	10		
KRC837E+	Y4	○	50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC838E+	Y5	○	50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC839E+	Y6	○	50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		

Note) ○ : AEC-Q Qualified
 Note) + : Irregular Production

Transistors with Built-in Bias Resistor

■ Complex BRT (NPN+NPN, PNP+PNP)

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings			G _T				V _{O(ON)} (V)			R1 (kΩ)	R2 (kΩ)	PKG	
				V _O (V)	I _O (A)	P _D (mW)	Min.	Max.	@V _O (V)	@I _O (mA)	Max.	@I _O (mA)	@I _T (mA)				
KRA751E+	PA	○		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	TES6	
KRA752E+	PB	○		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10		
KRA753E+	PC	○		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22		
KRA754E+	PD	○		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47		
KRA755E+	PE	○		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47		
KRA756E+	PF	○		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47		
KRA757E+	PH	○		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47		
KRA760E+	PK	○			-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7		-
KRA761E+	PM	○	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-		
KRA763E+	PO	○	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-		
KRA764E+	PP	○	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-		
KRA766E+	P2	○		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10		
KRA767E+	P4	○		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2		
KRA768E+	P5	○		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10		
KRA769E+	P6	○		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10		
KRC851E+	NA	○			50	100	200	30	55	5	10	0.3	10	0.5	4.7		4.7
KRC852E	NB	○			50	100	200	50	80	5	10	0.3	10	0.5	10		10
KRC853E+	NC	○	50		100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC854E	ND	○	50		100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC855E	NE	○	50		100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC856E+	NF	○	50		100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC857E	NH	○	50		100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC858E+	NI	○	50		100	200	80	150	5	10	0.3	10	0.5	22	47		
KRC860E+	NK	○	50		100	200	120	-	5	1	0.3	10	0.5	4.7	-		
KRC861E	NM	○	50		100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC863E+	NO	○	50	100	200	120	-	5	1	0.3	10	0.5	22	-			
KRC864E+	NP	○	50	100	200	120	-	5	1	0.3	10	0.5	47	-			
KRC866E+	N2	○	50	100	200	33	-	5	5	0.3	10	0.5	1	10			
KRC867E+	N4	○	50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2			
KRC868E+	N5	○	50	100	200	33	-	5	10	0.3	10	0.5	2.2	10			
KRC869E+	N6	○	50	100	200	30	-	5	10	0.3	10	0.5	4.7	10			
KRA551U+	PA	○		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	USV	
KRA552U+	PB	○		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10		
KRA553U+	PC	○		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22		
KRA554U+	PD	○		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47		
KRA555U	PE	○		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47		
KRA556U+	PF	○		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47		
KRA557U+	PH	○		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47		
KRA558U+	PI	○		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47		
KRA560U+	PK	○		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-		
KRA561U+	PM	○		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-		
KRA563U+	PO	○		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-		
KRA564U+	PP	○		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-		
KRA566U+	P2	○		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10		
KRA567U+	P4	○		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2		
KRA568U+	P5	○		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10		
KRA569U+	P6	○		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10		

Note) ○ : AEC-Q Qualified
 Note) + : Irregular Production

■ Complex BRT (NPN+NPN, PNP+PNP)

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings			G _T				V _{O(ON)} (V)			R1 (kΩ)	R2 (kΩ)	PKG		
				V _O (V)	I _O (A)	P _D (mW)	Min.	Max.	@V _O (V)	@I _O (mA)	Max.	@I _O (mA)	@I _I (mA)					
KRC651U+	NA	○		50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7	USV		
KRC652U	NB	○		50	100	200	50	80	5	10	0.3	10	0.5	10	10			
KRC653U+	NC	○		50	100	200	70	120	5	10	0.3	10	0.5	22	22			
KRC654U+	ND	○		50	100	200	80	200	5	10	0.3	10	0.5	47	47			
KRC655U	NE	○		50	100	200	80	200	5	10	0.3	10	0.5	2.2	47			
KRC656U	NF	○		50	100	200	80	200	5	10	0.3	10	0.5	4.7	47			
KRC657U	NH	○		50	100	200	80	150	5	10	0.3	10	0.5	10	47			
KRC658U+	NI	○		50	100	200	80	150	5	10	0.3	10	0.5	22	47			
KRC660U	NK	○			50	100	200	120	-	5	1	0.3	10	0.5	4.7		-	USV
KRC661U+	NM	○	50		100	200	120	-	5	1	0.3	10	0.5	10	-			
KRC663U+	NO	○	50		100	200	120	-	5	1	0.3	10	0.5	22	-			
KRC664U+	NP	○	50		100	200	120	-	5	1	0.3	10	0.5	47	-			
KRC666U+	N2	○		50	100	200	33	-	5	5	0.3	10	0.5	1	10	USV		
KRC667U+	N4	○		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2			
KRC668U+	N5	○		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10			
KRC669U+	N6	○		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10			
KRA721U+	JA	○			-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7		4.7	US6
KRA722U+	JB	○			-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10		10	
KRA723U+	JC	○	-50		-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22			
KRA724U+	JD	○	-50		-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47			
KRA725U+	JE	○	-50		-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47			
KRA726U+	JF	○	-50		-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47			
KRA727U+	JH	○	-50		-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47			
KRA728U+	JI	○	-50		-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47			
KRA730U+	JK	○	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-			
KRA731U+	JM	○	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-			
KRA733U+	JO	○	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-			
KRA734U+	JP	○	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-			
KRA736U+	J2	○	-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10				
KRA737U+	J4	○	-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2				
KRA738U+	J5	○	-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10				
KRA739U+	J6	○	-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10				
KRC821U+	YA	○		50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7	US6		
KRC822U+	YB	○		50	100	200	50	80	5	10	0.3	10	0.5	10	10			
KRC823U+	YC	○		50	100	200	70	120	5	10	0.3	10	0.5	22	22			
KRC824U+	YD	○		50	100	200	80	200	5	10	0.3	10	0.5	47	47			
KRC825U+	YE	○		50	100	200	80	200	5	10	0.3	10	0.5	2.2	47			
KRC826U+	YF	○		50	100	200	80	200	5	10	0.3	10	0.5	4.7	47			
KRC827U+	YH	○		50	100	200	80	150	5	10	0.3	10	0.5	10	47			
KRC828U+	YI	○		50	100	200	80	150	5	10	0.3	10	0.5	22	47			
KRC830U+	YK	○		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-			
KRC831U+	YM	○		50	100	200	120	-	5	1	0.3	10	0.5	10	-			
KRC833U+	YO	○		50	100	200	120	-	5	1	0.3	10	0.5	22	-			
KRC834U+	YP	○		50	100	200	120	-	5	1	0.3	10	0.5	47	-			
KRC836U+	Y2	○	50	100	200	33	-	5	5	0.3	10	0.5	1	10				
KRC837U+	Y4	○	50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2				
KRC838U+	Y5	○	50	100	200	33	-	5	10	0.3	10	0.5	2.2	10				
KRC839U+	Y6	○	50	100	200	30	-	5	10	0.3	10	0.5	4.7	10				

Note) ○ : AEC-Q Qualified
 Note) + : Irregular Production

Transistors with Built-in Bias Resistor

■ Complex BRT (NPN+NPN, PNP+PNP)

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings			G _I				V _{O(ON)} (V)			R1 (kΩ)	R2 (kΩ)	PKG
				V _O (V)	I _O (A)	P _D (mW)	Min.	Max.	@V _O (V)	@I _O (mA)	Max.	@I _O (mA)	@I _I (mA)			
KRA751U+	PA	○		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	US6
KRA752U+	PB	○		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10	
KRA753U+	PC	○		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22	
KRA754U+	PD	○		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47	
KRA755U+	PE	○		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47	
KRA756U+	PF	○		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47	
KRA757U+	PH	○		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47	
KRA758U+	PI	○		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47	
KRA760U+	PK	○			-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	
KRA761U+	PM	○	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-	
KRA763U+	PO	○	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-	
KRA764U+	PP	○	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-	
KRA766U+	P2	○		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10	
KRA767U+	P4	○		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2	
KRA768U+	P5	○		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10	
KRA769U+	P6	○		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10	
KRC851U+	NA	○			50	100	200	30	55	5	10	0.3	10	0.5	4.7	
KRC852U	NB	○	50		100	200	50	80	5	10	0.3	10	0.5	10	10	
KRC853U	NC	○	50		100	200	70	120	5	10	0.3	10	0.5	22	22	
KRC854U	ND	○	50		100	200	80	200	5	10	0.3	10	0.5	47	47	
KRC855U	NE	○	50		100	200	80	200	5	10	0.3	10	0.5	2.2	47	
KRC856U+	NF	○	50		100	200	80	200	5	10	0.3	10	0.5	4.7	47	
KRC857U+	NH	○	50		100	200	80	150	5	10	0.3	10	0.5	10	47	
KRC858U+	NI	○	50		100	200	80	150	5	10	0.3	10	0.5	22	47	
KRC860U	NK	○	50		100	200	120	-	5	1	0.3	10	0.5	4.7	-	
KRC861U+	NM	○	50		100	200	120	-	5	1	0.3	10	0.5	10	-	
KRC863U+	NO	○	50		100	200	120	-	5	1	0.3	10	0.5	22	-	
KRC864U+	NP	○	50		100	200	120	-	5	1	0.3	10	0.5	47	-	
KRC866U+	N2	○	50		100	200	33	-	5	5	0.3	10	0.5	1	10	
KRC867U+	N4	○	50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC868U	N5	○	50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC869U+	N6	○	50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		

Note) ○ : AEC-Q Qualified
 Note) + : Irregular Production

■ Complex BRT (NPN+PNP)

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings					G _I								V _{O(ON)} (V)						R1 (kΩ)		R2 (kΩ)		PKG
				V _O (V)		I _O (A)		P _O (mW)	Min.		Typ.		@V _O (V)		@I _O (V)		Max.		@I _O (mA)		@I _I (mA)		Q1		Q2		
				Q1	Q2	Q1	Q2		Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	
KRX101E	BA	○		50	-50	100	-100	200	50	50	80	80	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	10	TESV
KRX102E	BM	○		50	-50	100	-100	200	80	80	200	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	10	47	47	
KRX103E	BB	○		50	-50	100	-100	200	70	70	120	120	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	22	22	22	22	
KRX104E	BN	○		50	-50	100	-100	200	30	80	-	-	-	-	-	-	-	-	-	-	-	-	47	-	4.7	10	
KRX201E	BA	○		50	-50	100	-100	200	50	50	80	80	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	10	TES6
KRX202E	BB	○		50	-50	100	-100	200	70	70	120	120	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	22	22	22	22	
KRX203E	BC	○		50	-50	100	-100	200	80	80	200	200	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	47	47	47	
KRX204E	BD	○		50	-50	100	-100	200	80	80	200	200	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	2.2	2.2	47	47	
KRX206E	BK	○		50	-50	100	-100	200	80	80	150	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	47	47	
KRX207E+	BT	○		50	-50	100	-100	200	50	80	80	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	47	
KRX208E	BW	○		50	-50	100	-100	200	80	30	200	-	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	47	4.7	10	
KRX209E	BM	○		50	-50	100	-100	200	80	80	200	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	10	47	47	
KRX210E	MN	○		-30	50	-500	100	200	140	50	-	80	-5	5	-100	10	-0.3	0.3	-50	10	-2.5	0.5	1	10	10	10	
KRX101U	BA	○			50	-50	100	-100	200	50	50	80	80	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	
KRX102U	BM	○	50		-50	100	-100	200	80	80	200	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	47	4.7	10	
KRX103U	BB	○	50		-50	100	-100	200	70	70	120	120	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	22	22	22	22	
KRX201U	BA	○		50	-50	100	-100	200	50	50	80	80	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	10	US6
KRX202U	BB	○		50	-50	100	-100	200	70	70	120	120	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	22	22	22	22	
KRX203U	BC	○		50	-50	100	-100	200	80	80	200	200	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	47	47	47	
KRX204U	BD	○		50	-50	100	-100	200	80	80	200	200	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	2.2	2.2	47	47	
KRX207U+	BT	○		50	-50	100	-100	200	50	80	80	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	47	
KRX208U+	BU	○		50	-50	100	-100	200	80	30	200	-	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	47	4.7	2.2	
KRX209U+	BM	○		50	-50	100	-100	200	80	80	200	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	47	10	47	

Note) ○ : AEC-Q Qualified
 Note) + : Irregular Production

Transistors with Built-in Bias Resistor

High Current BRT

Type No.						Max. Ratings			G _I			V _{O(ON)} (V)			R1 (kΩ)	R2 (kΩ)	PKG
NPN	Mark	AEC-Q	PNP	Mark	AEC-Q	V _O (V)	I _O (A)	P _D (mW)	Min.	@V _O (V)	@I _O (mA)	Max.	@I _O (mA)	@I _I (mA)			
KRC452+	CB	●	KRA352+	AB	●	12	500	100	39	5	50	0.3	50	2.5	2.2	2.2	USM
KRC453+	CC	●	KRA353+	AC	●	12	500	100	47	5	50	0.3	50	2.5	4.7	4.7	
KRC454+	CD	●	KRA354+	AD	●	12	500	100	56	5	50	0.3	50	2.5	10	10	
KRC456+	CF	●	KRA356+	AF	●	12	500	100	56	5	50	0.3	50	2.5	1	10	
KRC457+	CG	●	KRA357+	AG	●	12	500	100	56	5	50	0.3	50	2.5	2.2	10	
KRC242S+	NR	○	KRA222S	PR	○	50	800	200	39	5	50	0.3	50	2.5	2.2	2.2	SOT-23
KRC243S	NS	○	KRA223S	PS	○	50	800	200	47	5	50	0.3	50	2.5	4.7	4.7	
KRC244S	NT	○	KRA224S	PT	○	50	800	200	56	5	50	0.3	50	2.5	10	10	
KRC245S	NU	○	KRA225S	PU	○	50	800	200	56	5	50	0.3	50	2.5	1	10	
KRC246S	NV	○	KRA226S	PV	○	50	800	200	56	5	50	0.3	50	2.5	2.2	10	
KRC242+	-	●	KRA222	-	●	50	800	625	39	5	50	0.3	50	2.5	2.2	2.2	TO-92
KRC243	-	●	KRA223	-	●	50	800	625	47	5	50	0.3	50	2.5	4.7	4.7	
KRC244	-	●	KRA224	-	●	50	800	625	56	5	50	0.3	50	2.5	10	10	
KRC245	-	●	KRA225	-	●	50	800	625	56	5	50	0.3	50	2.5	1	10	
KRC246	-	●	KRA226	-	●	50	800	625	56	5	50	0.3	50	2.5	2.2	10	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Note) + : Irregular Production

Complex High Current BRT

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings			G _I			V _{O(ON)} (V)			R1 (kΩ)	R2 (kΩ)	PKG
				V _O (V)	I _O (A)	P _D (mW)	Min.	@V _O (V)	@I _O (mA)	Max.	@I _O (mA)	@I _I (mA)			
KRA522T+	PB	○		-50	-800	▲0.9	39	-5	-50	-0.3	-50	-2.5	2.2	2.2	TSV
KRA523T+	PC	○		-50	-800	▲0.9	47	-5	-50	-0.3	-50	-2.5	4.7	4.7	
KRA524T+	PD	○		-50	-800	▲0.9	56	-5	-50	-0.3	-50	-2.5	10	10	
KRA525T+	PE	○		-50	-800	▲0.9	56	-5	-50	-0.3	-50	-2.5	1	10	
KRA526T+	PF	○		-50	-800	▲0.9	56	-5	-50	-0.3	-50	-2.5	2.2	10	
KRC642T+	NB	○		50	800	▲0.9	39	5	50	0.3	50	2.5	2.2	2.2	TSV
KRC643T+	NC	○		50	800	▲0.9	47	5	50	0.3	50	2.5	4.7	4.7	
KRC644T+	ND	○		50	800	▲0.9	56	5	50	0.3	50	2.5	10	10	
KRC645T+	NE	○		50	800	▲0.9	56	5	50	0.3	50	2.5	1	10	
KRC646T+	NF	○		50	800	▲0.9	56	5	50	0.3	50	2.5	2.2	10	
KRA722T+	PB	○		-50	-800	▲0.9	39	-5	-50	-0.3	-50	-2.5	2.2	2.2	TS6
KRA723T+	PC	○		-50	-800	▲0.9	47	-5	-50	-0.3	-50	-2.5	4.7	4.7	
KRA724T+	PD	○		-50	-800	▲0.9	56	-5	-50	-0.3	-50	-2.5	10	10	
KRA725T+	PE	○		-50	-800	▲0.9	56	-5	-50	-0.3	-50	-2.5	1	10	
KRA726T+	PF	○		-50	-800	▲0.9	56	-5	-50	-0.3	-50	-2.5	2.2	10	
KRC841T+	NA	○		50	800	▲0.9	33	5	50	0.3	50	2.5	1	1	TS6
KRC842T+	NB	○		50	800	▲0.9	39	5	50	0.3	50	2.5	2.2	2.2	
KRC843T+	NC	○		50	800	▲0.9	47	5	50	0.3	50	2.5	4.7	4.7	
KRC844T+	ND	○		50	800	▲0.9	56	5	50	0.3	50	2.5	10	10	
KRC845T+	NE	○		50	800	▲0.9	56	5	50	0.3	50	2.5	1	10	
KRC846T+	NF	○		50	800	▲0.9	56	5	50	0.3	50	2.5	2.2	10	

Note) ▲ : Package mounted on a ceramic board (600mm2X0.8mm),

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q.

Note) + : Irregular Production

■ Audio Muting BRT

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings			G_T				$V_{O(ON)}(V)$			R_1 (k Ω)	R_{ON} (Ω)	PKG
				V_O (V)	I_O (A)	P_D (mW)	Min.	Max.	@ V_O (V)	@ I_O (mA)	Max.	@ I_O (mA)	@ I_T (mA)	Typ.	Typ.	
														Typ.	Typ.	
KRC231S	NW	○		15	600	200	200	800	5	50	0.08	50	2.5	2.2	0.6	SOT-23
KRC232S	NY	○		15	600	200	200	800	5	50	0.08	50	2.5	5.6	0.6	
KRC281S	MQ□	○		20	300	200	200	1200	2	4	0.1	30	3	2.2	1	
KRC231+	-	●		15	600	625	200	800	5	50	0.08	50	2.5	2.2	0.6	TO-92
KRC232+	-	●		15	600	625	200	800	5	50	0.08	50	2.5	5.6	0.6	
KRC281+	-	●		20	300	625	200	1200	2	4	0.1	30	3	2.2	1	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q
 Note) + : Irregular Production

USA/European specification models types

■ General Purpose Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				PKG
					V _{CE0} (V)	I _C (mA)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
BC857W	3□	○	BC847W	1□	-45	-100	0.1	125	800	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	USM
BC847W	1□	○	BC857W	3□	45	100	0.1	110	800	5	2	0.6	0.1	5	-	300	5	10	
KN3906S	ZAA	○	KN3904S	ZCA	-40	-200	※0.35	60	-	-1	-0.1	-0.4	-0.05	-5	-	250	-20	-10	SOT-23
KN4403S	ZWA	○	KN4401S	ZUA	-40	-600	※0.35	30	-	-1	-0.1	-0.75	-0.5	-50	200	-	-10	-20	
BC857	3□	○	BC847	1□	-45	-100	※0.35	125	800	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	
BC860	4□	○	BC850	2□	-45	-100	※0.35	125	475	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	
BC807	5□	○	BC817	6□	-45	-800	※0.35	100	630	-1	-100	-0.7	-0.5	-50	80	-	5	10	
BC856	3□	○	BC846	1□	-65	-100	※0.35	125	475	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	
MMBTA56	ANX	○	MMBTA06	ADX	-80	-500	※0.35	100	-	-1	-10	-0.25	-0.1	-10	50	-	1	100	
2N5401S	ZE	○	-	-	-150	-600	※0.35	60	240	-5	-10	-0.5	-0.5	-5	100	300	-10	-10	
MMBTA92	YV	○	MMBTA42	AAX	-300	-500	※0.35	40	-	-10	-10	-0.5	-0.02	-2	50	-	-20	-10	
BC848	1□	○	-	3□	30	100	※0.35	110	800	5	2	0.6	0.1	5	-	300	5	10	
KN3904S	ZCA	○	KN3906S	ZAA	40	200	※0.35	40	-	1	0.1	0.3	0.05	5	-	300	20	10	
KN4401S	ZUA	○	KN4403S	ZWA	40	600	※0.35	20	-	1	0.1	0.75	0.5	50	250	-	10	20	
BC847	1□	○	BC857	3□	45	100	※0.35	110	800	5	2	0.6	0.1	5	-	300	5	10	
BC850	2□	○	BC860	4□	45	100	※0.35	200	800	5	2	0.6	0.1	5	-	300	5	10	
BC817	6□	○	BC807	5□	45	800	※0.35	100	630	1	100	0.7	0.5	50	100	-	5	10	
BC846	1□	○	BC856	3□	65	100	※0.35	110	450	5	2	0.6	0.1	5	-	300	5	10	
MMBTA06	ADX	○	MMBTA56	ANX	80	500	※0.35	100	-	1	10	0.25	0.1	10	100	-	2	10	
2N5551S	ZF	○	-	-	160	600	※0.35	80	250	5	10	0.2	0.05	5	100	300	10	10	
MMBTA42	AAX	○	MMBTA92	YV	300	500	※0.35	40	-	10	10	0.5	0.02	2	50	-	20	10	
MMBTA44	APX	●	-	-	400	300	※0.35	50	200	10	10	0.5	0.01	1	20	-	10	10	

Note) ※ : Package Mounted on 99.5% Alumina 10x8x0.6mm, □ : h_{FE} Grade
 Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

■ General Purpose Transistor

BJT

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				PKG
					V _{CEO} (V)	I _C (mA)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
PXTA44	AP	●	-	-	400	300	▼1	50	200	10	10	0.5	0.1	1	-	-	-	-	SOT-89
BC558	-	●	BC548	-	-30	-100	0.625	110	800	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	TO-92
BC557	-	●	BC547	-	-45	-100	0.625	110	800	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	
BC327	-	●	BC337	-	-45	-800	0.625	100	630	-1	-100	-0.7	-0.5	-50	-	100	-5	-10	
MPS751	-	●	MPS651	-	-60	-1A	0.625	60	200	-2	-50	-0.7	-0.5	-50	-	150	-10	-50	
BC556	-	●	BC546	-	-65	-100	0.625	110	450	-5	-2	-0.65	-0.1	-5	-	150	-5	-10	
2N5401C	-	●	-	-	-150	-600	0.625	60	240	-5	-10	-0.5	-0.05	-5	100	300	-10	-10	
BF423	-	●	BF422	-	-250	-50	0.625	50	-	-20	-25	-0.6	-0.03	-5	60	-	-10	-10	
BF421	-	●	BF420	-	-300	-50	0.625	50	-	-20	-25	-0.6	-0.03	-5	60	-	-10	-10	
MPSA92	-	●	MPSA42	-	-300	-500	0.625	40	-	-10	-10	-0.5	-0.02	-2	50	-	-20	-10	
KN4403	-	●	KN4401	-	-40	-600	0.625	30	-	-1	-0.1	-0.75	-0.5	-50	200	-	-10	-20	
KN2907A	-	●	KN2222A	-	-60	-600	0.625	75	-	-10	-0.1	-1.6	-0.5	-50	200	-	-20	-50	
BC548	-	●	BC558	-	30	100	0.625	110	800	5	2	0.6	0.1	5	-	150	5	10	
BC549	-	●	-	-	30	100	0.625	110	800	5	2	0.6	0.1	5	-	300	5	10	
BC547	-	●	BC557	-	45	100	0.625	110	800	5	2	0.6	0.1	5	-	150	5	10	
BC337	-	●	BC327	-	45	800	0.625	100	630	1	100	0.7	0.5	50	-	100	5	10	
KN3904	-	●	-	-	40	200	0.625	40	-	1	0.1	0.3	0.05	5	-	300	20	10	
KN2222A	-	●	KN2907A	-	40	600	0.625	35	-	10	0.1	1	0.05	50	300	-	20	20	
KN4401	-	●	KN4403	-	40	600	0.625	20	-	1	0.1	0.75	0.05	50	250	-	10	20	
MPS651	-	●	MPS751	-	60	1A	0.625	100	320	2	50	0.5	0.05	50	-	150	10	50	
BC546	-	●	BC556	-	65	100	0.625	110	450	5	2	0.6	0.1	5	-	150	5	10	
2N5551	-	●	-	-	160	600	0.625	80	250	5	10	0.2	0.05	5	100	300	10	10	
BF422	-	●	BF423	-	250	50	0.625	50	-	20	25	0.6	0.03	5	60	-	10	10	
BF420	-	●	BF421	-	300	50	0.625	50	-	20	25	0.6	0.03	5	60	-	10	10	
MPSA42	-	●	MPSA92	-	300	500	0.625	40	-	10	10	0.5	0.02	2	50	-	20	10	
MPSA44	-	●	-	-	400	300	0.625	50	200	10	10	0.5	0.01	1	-	-	-	-	

Note) ▼ : Package Mounted on Ceramic Substrate (250mm²X0.8t)

Note) ● : Preparing for qualification of AEC-Q

USA/European specification models types

General Purpose Transistor

Type No.	AEC-Q	Complementary	Max. Ratings				h _{FE}				V _{CE(sat)} (V)			f _r (MHz)				PKG
			V _{CEO} (V)	I _C (A)	P _C * (W)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
TIP36C	○	TIP35C	-100	-25	-	☆ 125	55	160	-5	-1.5A	-4	-25	-5A	3	-	-5	-1A	TO-3P(N)
TIP35C	○	TIP36C	100	25	-	☆ 125	55	160	5	1.5A	4	25	5A	3	-	5	1A	

Note) ★: Ta=25°C, ☆: Tc=25°C

Note) ○: AEC-Q Qualified

Darlington Transistor

Type No.	Mark	AEC-Q	Complementary	Max. Ratings			Hfe			V _{CE(sat)} (V)			f _r (MHz)			PKG
				V _{CE(s)} (V)	I _C (A)	P _C (W)	Min.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	@V _{CE} (V)	@I _C (mA)	
MMBTA63	AGX	●	-	-30	-500	※0.35	5000	-5	-10	-1.5	-0.1	-0.1	125	-5	-10	SOT-23
MMBTA517	UA	●	-	△30	400	※0.35	30000	2	100	1	0.1	1	◇220	2	100	
MMBTA13	AIX	●	-	30	500	※0.35	5000	5	10	1.5	0.1	0.1	125	5	10	
BC517	-	●	-	△30	500	0.625	30000	2	100	1	0.1	1	◇220	2	100	TO-92
MJD112	-	●	MJD117	100	2A	☆20	1000	3	2A	2	2	8	25	10	750	DKAK

Note) ※: Package Mounted on 99.5% Alumina 10x8x0.6mm, △: V_{CEO}, ◇: Typ

Note) ●: Preparing for qualification of AEC-Q

■ Switching Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)	t _{on} (ns)	t _{off} (ns)	t _r (ns)	t _{stg} (ns)	T _f (ns)	PKG
					V _{CEO} (V)	I _C (A)	P _C (W)	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Max.	Max.	Max.	Max.	Max.	
KTN2907AU	ZH	●	KTN2222AU	ZG	-60	-600	0.1	300	-10	-150	-1.6	-0.5	-50	200	45	100	40	80	30	USM
KTN2222AU	ZG	●	KTN2907AU	ZH	40	600	0.1	300	10	150	1.0	0.5	50	250	-	-	25	225	60	
2N3906S	ZA	●	2N3904S	ZC	-40	-200	※ 0.35	300	-1	-0.1	-0.4	-0.05	-5	250	-	-	35	225	75	SOT-23
KTN2907AS	ZH	●	KTN2222AS	ZG	-60	-600	※ 0.35	300	-10	-150	-1.6	-0.5	-50	200	45	100	40	80	30	
2N3904S	ZC	●	2N3906S	ZA	40	200	※ 0.35	300	1	10	0.3	0.05	5	300	-	-	35	200	50	
KTN2222AS	ZG	●	KTN2907AS	ZH	40	600	※ 0.35	300	10	150	1.0	0.5	50	300	-	-	25	225	60	
KN3904	-	●	-	-	40	200	0.625	300	1	10	0.3	0.05	5	300	-	-	35	200	50	
KTN2907A	-	●	KTN2222A	-	-60	-600	0.625	300	-10	-150	-1.6	-0.5	-50	200	45	100	40	80	30	TO-92
KTN2222A	-	●	KTN2907A	-	40	600	0.625	300	10	150	1.0	0.5	50	300	-	-	25	225	60	
MJE13003	-	●	-	-	400	1.5A	★ 20	38	2	500	3.0	1.5	500	4	-	1.1us	4us	-	700	TO-126
MJE13005DF	-	●	-	-	400	5A	★ 30	35	5	1A	1.0	4	1A	4	-	150	5us	-	800	TO-220IS
MJE13007F	-	●	-	-	400	8A	★ 40	50	5	1A	2.0	5	1A	4	-	1.6us	3us	-	700	
MJE13005D	-	●	-	-	400	5A	★ 75	35	5	1A	1.0	4	1A	4	-	150	5us	-	800	

Note) ※ : Package Mounted on 99.5% Alumina 10x8x0.6mm, ★ : Tc=25°C

Note) ● : Preparing for qualification of AEC-Q.

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
2PD601ASL	NEXPERIA	KTC3875S	2SC2712	TOSHIBA	KTC3875S	BC807	SEMTECH	BC807
2SA1015	TOSHIBA	KTA1266	2SC2712	NEXPERIA	KTC3875S	BC817	NEXPERIA	BC817
2SA1020	TOSHIBA	KTA1281	2SC2712	ROHM	KTC3875S	BC817	SEMTECH	BC817
2SA1036K	ROHM	KTA1505S	2SC2859	TOSHIBA	KTC3876S	BC817	ONSEMI	BC817
2SA1037AK	ROHM	KTA1504S	2SC2873	TOSHIBA	KTC4379	BC817	PANJIT	BC817
2SA1162	TOSHIBA	KTA1504S	2SC2881	TOSHIBA	KTC4373	BC846	NEXPERIA	BC846
2SA1182	TOSHIBA	KTA1505S	2SC3112	TOSHIBA	KTC3112	BC846A	PANJIT	BC846
2SA1201	TOSHIBA	KTA1661	2SC3265	TOSHIBA	KTC3265	BC846ALT1G	ONSEMI	BC846
2SA1203	TOSHIBA	KTA1663	2SC3326	TOSHIBA	KTC2875	BC846B	SEMTECH	BC846
2SA1213	TOSHIBA	KTA1666	2SC3444	ISAHAYA	KTC4378	BC846B	DIODES	BC846
2SA1225	TOSHIBA	KTA1225D	2SC3646	ONSEMI	KTC3573	BC847	NEXPERIA	BC847
2SA1235A	ISAHAYA	KTC9015S	2SC3648S	ONSEMI	KTC4380	BC847	SEMTECH	BC847
2SA1241	TOSHIBA	KTA1718D	2SC4027S	ONSEMI	KTC2983D	BC847BPDW1T1G	ONSEMI	KTX101U
2SA1244	TOSHIBA	KTA1718D	2SC4061K	ROHM	KTC3207T	BC847BS	NEXPERIA	KTC801U
2SA1298	TOSHIBA	KTA1298	2SC4081	ROHM	KTC4075	BC847BS	PANJIT	KTC801U
2SA1313	TOSHIBA	MMBTA56	2SC4097	ROHM	KTC4076	BC847BW	NEXPERIA	BC847W
2SA1362	TOSHIBA	KTA1298	2SC4116	TOSHIBA	KTC4075	BC847CDW1T1G	ONSEMI	KTC801U
2SA1364	ISAHAYA	KTA1668	2SC4118	TOSHIBA	KTC4076	BC847CWT1G	ONSEMI	BC847W
2SA1365	ISAHAYA	KTA1531T	2SC4155A	ISAHAYA	KTC4075	BC848BLT1G	ONSEMI	BC848
2SA1530A	ISAHAYA	KTA1504S	2SC4541	TOSHIBA	KTD1624	BC850CW	NEXPERIA	BC847W
2SA1576A	ROHM	KTA2014	2SC4541U	SEMTECH	KTD1624	BC856	NEXPERIA	BC856
2SA1577	ROHM	KTA2015	2SC4617	ROHM	KTC4075E	BC856ALT1G	ONSEMI	BC856
2SA1586	TOSHIBA	KTA2014	2SC4672	ROHM	KTD1624	BC856AQ	DIODES	BC856
2SA1588	TOSHIBA	KTA2015	2SC4738	TOSHIBA	KTC4075E	BC856B	NEXPERIA	BC856
2SA1602	ISAHAYA	KTA2014	2SC5084	TOSHIBA	KTC3770S	BC856B	DIODES	BC856
2SA1603A	ISAHAYA	KTA2014	2SC5103	ROHM	KTC5103D	BC856BLT1G	ONSEMI	BC856
2SA1681	TOSHIBA	KTA1666	2SC5198	TOSHIBA	KTC4468	BC857	NEXPERIA	BC857
2SA1774	ROHM	KTA2014E	2SC5200N	TOSHIBA	KTC5200N	BC857B	INFINEON	BC857
2SA1797	ROHM	KTB1124	2SC5209	ISAHAYA	KTD1003	BC857BW	INFINEON	BC857W
2SA1832	TOSHIBA	KTA2014E	2SC5482	ISAHAYA	KTC1008	BC857CDW1T1G	ONSEMI	KTA701U
2SA1952	ROHM	KTA1385D	2SC5620	ISAHAYA	KTC3770U	BC857CW	NEXPERIA	BC857W
2SA2029	ROHM	KTA2014V	2SC5625	ISAHAYA	KTC3207T	BC857CW	PANJIT	BC857W
2SA2034	TOSHIBA	KTA1862D	2SC5658	ROHM	KTC4075V	BC860CW	Nexperia	BC857W
2SA2060	TOSHIBA	KTA1666	2SC5658FHA	ROHM	KTC4075V	BCR133	INFINEON	KRC102S
2SA2096	ROHM	KTA1385D	2SC5663	ROHM	KTC4072V	BCR133S	INFINEON	KRC852U
2SA2113	ROHM	KTA1544T	2SC5810	TOSHIBA	KTD1003	BCR135	INFINEON	KRC107S
2SA2154MFV	TOSHIBA	KTA2014V	2SC5825	ROHM	KTC2825D	BCR183	INFINEON	KRA102S
2SA2166	ISAHAYA	KN2907AS	2SC5881	ROHM	KTC5103D	BCR533	INFINEON	KRC244S
2SA3350U	SEMTECH	KTB1124	2SC5916	ROHM	KTC3544T	BCR555	INFINEON	KRA226S
2SA965	TOSHIBA	KTA1023	2SC6026MFV	TOSHIBA	KTC4075V	BCV27	INFINEON	MMBTA13
2SAR293P5	ROHM	KTA1663	2SC6126	TOSHIBA	KTD1624	BCX17	NEXPERIA	BC807
2SAR512R	ROHM	KTA1544T	2SCR502U3	ROHM	KTC4076	BCX52	NEXPERIA	KTA1668
2SAR513P	ROHM	KTA1668	2SCR512R	ROHM	KTC3544T	BCX53	INFINEON	KTB1260
2SAR513R	ROHM	KTA1551T	2SCR513R	ROHM	KTC3551T	BCX53	NEXPERIA	KTB1260
2SAR523EB	ROHM	KTA2014E	2SCR514P	ROHM	KTD1898	BCX56	NEXPERIA	KTD1898
2SAR523UB	ROHM	KTA2014	2SCR523EB	ROHM	KTC4075E	BCX56	INFINEON	KTD1898
2SAR533P	ROHM	KTB1124	2SCR523M	ROHM	KTC4075V	BCX5616Q	DIODES	KTD1898
2SAR533P	ROHM	KTA1666	2SCR523UB	ROHM	KTC4075	BCX5616TA	DIODES	KTD1898
2SB1124	ONSEMI	KTB1124	2SCR533P	ROHM	KTD1624	BF421	ONSEMI	BF421
2SB1132	ROHM	KTA1663	2SCR543R	ROHM	KTC3552T	CPH3116	ONSEMI	KTA1551T
2SB1182	ROHM	KTA1718D	2SD1207	ONSEMI	KTC3209	CPH3216	ONSEMI	KTC3551T
2SB1188	ROHM	KTA1666	2SD1664	ROHM	KTC4375	DMC561010R	PANASONIC	KRC652U
2SB1197K	ROHM	KTA1298	2SD1760	ROHM	KTC2020D	DMG50401	PANASONIC	KTX101U
2SB1198K	ROHM	MMBTA56	2SD1767	ROHM	KTD1898	DMG5640M0R	PANASONIC	KRX204U
2SB1205S	ONSEMI	KTA1242D	2SD1781K	ROHM	KTC3265	DMG96403	PANASONIC	KRX203E
2SB1218A	PANASONIC	BC857W	2SD1805F	ONSEMI	KTC3072D	DRA2114E0L	PANASONIC	KRA102S
2SB1260	ROHM	KTB1260	2SD1855A	ROHM	KTD2060	DRA4523Y	PANASONIC	KRA226
2SB1335A	ROHM	KTB1368	2SD1898	ROHM	KTD1898	DRA5114E0L	PANASONIC	KRA302
2SB1412	ROHM	KTA1242D	2SD1918	ROHM	KTC2983D	DRA5143E0L	PANASONIC	KRA301
2SB1424	ROHM	KTA1001	2SD2206	TOSHIBA	KTD2854	DRC2124E0L	PANASONIC	KRC103S
2SB1565	ROHM	KTA1046	2SD2351	ROHM	KTC4666	DRC2144E0L	PANASONIC	KRA104S
2SB1689	ROHM	KTA1532U	2SD2394	ROHM	KTC2026	DRC5114E	PANASONIC	KRC402
2SB1708	ROHM	KTA1542T	2SD2396	ROHM	KTC2026	DRC5114E0L	PANASONIC	KRC402
2SB852K	ROHM	MMBTA63	2SD2657K	ROHM	KTC3544T	DRC5143E0L	PANASONIC	KRC401
2SC1815	TOSHIBA	KTC3198	2SD2704K	ROHM	KTC2875AS	DRC5144E0L	PANASONIC	KRC405
2SC1959	TOSHIBA	KTA1270	BC337	ONSEMI	BC337	DRC9114E0L	PANASONIC	KRC402E
2SC2229	TOSHIBA	KTC3206	BC547	ONSEMI	BC547	DSA7004	PANASONIC	KTA1666
2SC2411K	ROHM	KTC3876S	BC807	NEXPERIA	BC807	DSA9001	PANASONIC	KTA2014E
2SC2412K	ROHM	KTC3875S	BC807	DIODES	BC807	DSC9001	PANASONIC	KTC4075E
2SC2655	TOSHIBA	KTC3209	BC807	ONSEMI	BC807	DTA013ZUBTL	ROHM	KRA316

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
DTA014EEB	ROHM	KRA302E	DTB114EK	ROHM	KRA224S	DTC143XUA	ROHM	KRC419
DTA014EUB	ROHM	KRA302	DTB123EK	ROHM	KRA222S	DTC143ZE	ROHM	KRC406E
DTA014TUB	ROHM	KRA311	DTB123YC	ROHM	KRA226S	DTC143ZKA	ROHM	KRC106S
DTA014YEB	ROHM	KRA307E	DTB143EK	ROHM	KRA223S	DTC143ZM	ROHM	KRC406V
DTA014YUB	ROHM	KRA307	DTC013ZUB	ROHM	KRC416	DTC143ZU3	ROHM	KRC406
DTA023JEB	ROHM	KRA305E	DTC014EEB	ROHM	KRC402E	DTC144EE	ROHM	KRC404E
DTA023JUB	ROHM	KRA305	DTC014EM	ROHM	KRC402V	DTC144EKA	ROHM	KRC104S
DTA023YEB	ROHM	KRA318E	DTC014EUB	ROHM	KRC402	DTC144EM	ROHM	KRC404V
DTA023YUB	ROHM	KRA318	DTC014YEB	ROHM	KRC407E	DTC144EU3	ROHM	KRC404
DTA024EUB	ROHM	KRA303	DTC014YUB	ROHM	KRC407	DTC144TKA	ROHM	KRC114S
DTA043EUB	ROHM	KRA301	DTC023EEB	ROHM	KRC417E	DTC323TK	ROHM	KRC231S
DTA043XUB	ROHM	KRA319	DTC023EUB	ROHM	KRC417	DTD113ZC	ROHM	KRC245S
DTA043ZEB	ROHM	KRA306E	DTC023JEB	ROHM	KRC405E	DTD123YK	ROHM	KRC246S
DTA043ZM	ROHM	KRA306V	DTC023JM	ROHM	KRC405V	DTD143EK	ROHM	KRC243S
DTA043ZUB	ROHM	KRA306	DTC023JUB	ROHM	KRC405	EMD12	ROHM	KRX203E
DTA044EM	ROHM	KRA304V	DTC023YUB	ROHM	KRC418	EMD12FHA	ROHM	KRX203E
DTA044EUB	ROHM	KRA304	DTC024EEB	ROHM	KRC403E	EMD3FHA	ROHM	KRX201E
DTA113ZUA	ROHM	KRA316	DTC024EUB	ROHM	KRC403	EMG8	ROHM	KRC656E
DTA114ECA	ROHM	KRA102S	DTC024XM	ROHM	KRC408V	EMH10	ROHM	KRC855E
DTA114EE	ROHM	KRA302E	DTC043EEB	ROHM	KRC401E	EMH11	ROHM	KRC852E
DTA114EE FRA	ROHM	KRA302E	DTC043EM	ROHM	KRC401V	EMH2	ROHM	KRC854E
DTA114EEFRA	ROHM	KRA302E	DTC043EUB	ROHM	KRC401	EMH60	ROHM	KRC855E
DTA114EK	ROHM	KRA102S	DTC043TUB	ROHM	KRC410	EMT1	ROHM	KTA701E
DTA114EKA	ROHM	KRA102S	DTC043XUB	ROHM	KRC419	EMX1	ROHM	KTC801E
DTA114EM	ROHM	KRA302V	DTC043ZEB	ROHM	KRC406E	EMX2	ROHM	KTC811E
DTA114ESA	ROHM	KRA102	DTC043ZM	ROHM	KRC406V	EMZ1	ROHM	KTX101E
DTA114EU3HZG	ROHM	KRA302	DTC043ZUB	ROHM	KRC406	FJE3303	ONSEMI	MJE13003
DTA114EUB	ROHM	KRA302	DTC044EM	ROHM	KRC404V	HN1A01FE	TOSHIBA	KTA701E
DTA114EUBHZG	ROHM	KRA302	DTC044EUB	ROHM	KRC404	HN1A01FU	TOSHIBA	KTA701U
DTA114TKA	ROHM	KRA111S	DTC113ZKA	ROHM	KRC116S	HN1B04FE	TOSHIBA	KTX101E
DTA114TM	ROHM	KRA311V	DTC113ZU3	ROHM	KRC416	HN1C01FU	TOSHIBA	KTC801U
DTA114TUB	ROHM	KRA311	DTC114ECA	ROHM	KRC102S	IMX25	ROHM	KTC812T
DTA114YE	ROHM	KRA307E	DTC114EE	ROHM	KRC402E	INA1001AC1	ISAHAYA	MMBTA56
DTA114YKA	ROHM	KRA107S	DTC114EK	ROHM	KRC102S	INC1001AC1	ISAHAYA	MMBTA06
DTA114YU3	ROHM	KRA307	DTC114EM	ROHM	KRC402V	INC5001AP1	ISAHAYA	KTC4378
DTA114YU3HZG	ROHM	KRA307	DTC114EU3	ROHM	KRC402	ISA1283AS1	ISAHAYA	KTA708
DTA114YUA	ROHM	KRA307	DTC114TE	ROHM	KRC411E	ISA1530AC1	ISAHAYA	KTA1504S
DTA114YUBHZG	ROHM	KRA307	DTC114YE	ROHM	KRC407E	ISA1602AM1	ISAHAYA	KTA2014
DTA123ECA	ROHM	KRA117S	DTC114YKA	ROHM	KRC107S	ISA1603AM1	ISAHAYA	KTA2014
DTA123ESA	ROHM	KRA117	DTC114YM	ROHM	KRC407V	ISA1989AU1	ISAHAYA	KTA2014E
DTA123JCA	ROHM	KRA105S	DTC114YU3	ROHM	KRC407	ISA2166AM1	ISAHAYA	KTN2907AU
DTA123JEFRA	ROHM	KRA305E	DTC123EE	ROHM	KRC417E	KSA708	ONSEMI	KN2907A
DTA123JKA	ROHM	KRA105S	DTC123EU3	ROHM	KRC417	KSB1151	ONSEMI	KTB1151
DTA123JU3	ROHM	KRA305	DTC123JE	ROHM	KRC405E	KSB772	ONSEMI	KTB772
DTA123YE	ROHM	KRA318E	DTC123JKA	ROHM	KRC105S	KSC1815	ONSEMI	KTC3198
DTA123YKA	ROHM	KRA118S	DTC123JM	ROHM	KRC405V	KSC815	ONSEMI	KTC815
DTA123YUA	ROHM	KRA318	DTC123JU3	ROHM	KRC405	KSD1691	ONSEMI	KTD1691
DTA124EE	ROHM	KRA303E	DTC123YCA	ROHM	KRC118S	KSP2222A	ONSEMI	KN2222A
DTA124EKA	ROHM	KRA103S	DTC123YE	ROHM	KRC418E	KSP2907A	ONSEMI	KN2907A
DTA124ESA	ROHM	KRA103	DTC123YKA	ROHM	KRC118S	KST2907A	ONSEMI	KN2907AS
DTA124EU	ROHM	KRA303	DTC123YUA	ROHM	KRC418	KST5401	ONSEMI	2N5401S
DTA124XKA	ROHM	KRA108S	DTC124EE	ROHM	KRC403E	L2SA1037AKRLT1G	LRC	KTA1504S
DTA143ECA	ROHM	KRA101S	DTC124EKA	ROHM	KRC103S	L2SB1197KQLT1G	LRC	KTA1298
DTA143ESA	ROHM	KRA101	DTC124EM	ROHM	KRC403V	L2SC1623QLT1G	LRC	KTC3875S
DTA143EU3	ROHM	KRA301	DTC124EUA	ROHM	KRC403	L2SC2412KQLT1G	LRC	KTC3875S
DTA143TUB	ROHM	KRA310	DTC124XKA	ROHM	KRC108S	L8050HRLT1G	LRC	MPS8050S
DTA143XKA	ROHM	KRA119S	DTC124XUA	ROHM	KRC408	L8550HRLT1G	LRC	MPS8550S
DTA143ZEFRA	ROHM	KRC406E	DTC143EEB	ROHM	KRC401E	LBC846BLT1G	LRC	BC846
DTA143ZKA	ROHM	KRA106S	DTC143EK	ROHM	KRC101S	LBC856BLT1G	LRC	BC856
DTA143ZU3HZG	ROHM	KRA306	DTC143EM	ROHM	KRC401V	LBSS4350SY3T1G	LRC	KTD1624
DTA144EE	ROHM	KRA304E	DTC143EU	ROHM	KRC401	LDTA114YET1G	LRC	KRA307E
DTA144EKA	ROHM	KRA104S	DTC143TKA	ROHM	KRC110S	LDTC114EET1G	LRC	KRC402E
DTA144EM	ROHM	KRA304V	DTC143TM	ROHM	KRC410V	LDTC114YET1G	LRC	KRC407E
DTA144EU3HZG	ROHM	KRA304	DTC143TUA	ROHM	KRC410	LDTC143XLT1G	LRC	KRC119S
DTB113ZK	ROHM	KRA225S	DTC143XK	ROHM	KRC119S	LMBT2222ALT1G	LRC	KTN2222AS

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
LMBT2907ALT1G	LRC	KTN2907AS	NSVDTC143ZET1G	ONSEMI	KRC406E	RN1307	TOSHIBA	KRC407
LMBT3904LT1G	LRC	KN3904S	NSVMMUN2133LT1G	ONSEMI	KRA106S	RN1308	TOSHIBA	KRC408
LMBT3906LT1G	LRC	KN3906S	NSVMMUN2232LT1G	ONSEMI	KRC101S	RN1310	TOSHIBA	KRC410
LMBT4401LT1G	LRC	KN4401S	PBRN113ZT	NEXPERIA	KRC245S	RN1314	TOSHIBA	KRC416
LMBT5401LT1G	LRC	2N5401S	PBSS4021PT	NEXPERIA	KTA1535T	RN1315	TOSHIBA	KRC418
LMBT5551LT1G	LRC	2N5551S	PBSS5140T	NEXPERIA	KTA1551T	RN1316	TOSHIBA	KRC419
LMBTA44LT1G	LRC	MMBTA44	PBSS5540Z	NEXPERIA	KTA1545W	RN1401	TOSHIBA	KRC101S
LMUN2111LT1G	LRC	KRC102S	PDTA113ZT	NEXPERIA	KRA116S	RN1402	TOSHIBA	KRC102S
LMUN2114LT1G	LRC	KRC107S	PDTA114ET	NEXPERIA	KRA102S	RN1403	TOSHIBA	KRC103S
LMUN2132LT1G	LRC	KRA101S	PDTA114EU	NEXPERIA	KRA302	RN1405	TOSHIBA	KRC105S
LMUN2211LT1G	LRC	KRC102S	PDTA114YT	NEXPERIA	KRA107S	RN1407	TOSHIBA	KRC107S
LMUN2213LT1G	LRC	KRC104S	PDTA123ET	NEXPERIA	KRA117S	RN1423	TOSHIBA	KRC243S
LMUN2232LT1G	LRC	KRC101S	PDTA123JT	NEXPERIA	KRC105S	RN1427	TOSHIBA	KRC246S
LMUN2235LT1G	LRC	KRC105S	PDTA143ET	NEXPERIA	KRA101S	RN1702	TOSHIBA	KRC652U
LMUN5232T1G	LRC	KRC401	PDTA143EU	NEXPERIA	KRA301	RN1705	TOSHIBA	KRC655U
MJE13003	ONSEMI	MJE13003	PDTA144EU	NEXPERIA	KRA304	RN1706	TOSHIBA	KRC656U
MJF122G	ONSEMI	KTD1413	PDTB114ET	NEXPERIA	KRA102S	RN1707	TOSHIBA	KRC657U
MMBT2222A	NEXPERIA	KN2222AS	PDTC114ET	NEXPERIA	KRC102S	RN1710	TOSHIBA	KRC660U
MMBT2222A	ONSEMI	KN2222AS	PDTC114EU	NEXPERIA	KRC402	RN1902	TOSHIBA	KRC852U
MMBT2222A	PANJIT	KN2222AS	PDTC114YT	NEXPERIA	KRC107S	RN1902FE	TOSHIBA	KRC852E
MMBT2222A	SEMTECH	KN2222AS	PDTC114YU	NEXPERIA	KRC407	RN1903	TOSHIBA	KRC853U
MMBT2907A	DIODES	KN2907AS	PDTC123JT	NEXPERIA	KRC105S	RN1904	TOSHIBA	KRC854U
MMBT2907A	PANJIT	KN2907AS	PDTC124ET	NEXPERIA	KRC103S	RN1905	TOSHIBA	KRC855U
MMBT2907A	SEMTECH	KN2907AS	PDTC124EU	NEXPERIA	KRC403	RN2102	TOSHIBA	KRA302E
MMBT2907ALT1G	ONSEMI	KTN2907AS	PDTC124XU	NEXPERIA	KRC408	RN2105	TOSHIBA	KRA305E
MMBT3904	DIODES	KN3904S	PDTC143ET	NEXPERIA	KRC101S	RN2106	TOSHIBA	KRA306E
MMBT3904	NEXPERIA	KN3904S	PDTC143EU	NEXPERIA	KRC401	RN2106MFV	TOSHIBA	KRA306V
MMBT3904	ONSEMI	KN3904S	PDTC143TT	NEXPERIA	KRC110S	RN2301	TOSHIBA	KRA301
MMBT3904	SEMTECH	KN3904S	PDTC143ZT	NEXPERIA	KRC106S	RN2302	TOSHIBA	KRA302
MMBT3904Q	DIODES	KN3904S	PDTC143ZU	NEXPERIA	KRC406E	RN2303	TOSHIBA	KRA303
MMBT3906	DIODES	KN3906S	PDTC144EU	NEXPERIA	KRC404	RN2304	TOSHIBA	KRA304
MMBT3906	NEXPERIA	KN3906S	PDTD113ZT	NEXPERIA	KRC245S	RN2305	TOSHIBA	KRA305
MMBT3906LT1G	ONSEMI	KN3906S	PEMD3	NEXPERIA	KRX201E	RN2306	TOSHIBA	KRA306
MMBT3906Q	DIODES	KN3906S	PMBT2222A	NEXPERIA	KTN2222AS	RN2307	TOSHIBA	KRA307
MMBT4401	DIODES	KN4401S	PMBT2907A	NEXPERIA	KTN2907AS	RN2311	TOSHIBA	KRA311
MMBT4401LT3G	ONSEMI	KN4401S	PMBT3904	NEXPERIA	2N3904S	RN2316	TOSHIBA	KRA319
MMBT4403	DIODES	KN4403S	PMBT3906	NEXPERIA	2N3906S	RN2401	TOSHIBA	KRA101S
MMBT5401	ONSEMI	2N5401S	PMBT4401	NEXPERIA	KN4401S	RN2402	TOSHIBA	KRA102S
MMBT5551	ONSEMI	2N5551S	PMBT4403	NEXPERIA	KN4403S	RN2403	TOSHIBA	KRA103S
MMBT8099LT1G	ONSEMI	MMBTA06	PMBTA06	NEXPERIA	MMBTA06	RN2405	TOSHIBA	KRA105S
MMBTA06	DIODES	MMBTA06	PMBTA42	NEXPERIA	MMBTA42	RN2406	TOSHIBA	KRA106S
MMBTA06	SEMTECH	MMBTA06	PMBTA56	NEXPERIA	MMBTA56	RN2422	TOSHIBA	KRA117S
MMBTA06LT1G	ONSEMI	MMBTA06	PMBTA92	NEXPERIA	MMBTA92	RN2423	TOSHIBA	KRA223S
MMBTA42	DIODES	MMBTA42	PMST3904	NEXPERIA	KTN2222AU	RN2427	TOSHIBA	KRA226S
MMBTA42	ONSEMI	MMBTA42	PUMD10	NEXPERIA	KRX204U	RN2705	TOSHIBA	KRA555U
MMBTA44	SEMTECH	MMBTA44	PUMD12	NEXPERIA	KRX203U	RN4982	TOSHIBA	KRX201U
MMBTA56	DIODES	MMBTA56	PUMD2	NEXPERIA	KRX202U	RN4982FE	TOSHIBA	KRX201E
MMBTA56LT1G	ONSEMI	MMBTA56	PUMD3	NEXPERIA	KRX201U	RN4983	TOSHIBA	KRX202U
MMBTA92	DIODES	MMBTA92	PUMH10	NEXPERIA	KRC855U	RN4984	TOSHIBA	KRX203U
MMBTA92	PANJIT	MMBTA92	PUMH11	NEXPERIA	KRC852U	RN4984FE	TOSHIBA	KRX203E
MMBTA92LT1G	ONSEMI	MMBTA92	PUMH2	NEXPERIA	KRC854U	RN4985	TOSHIBA	KRX204U
MMBTRA102SS	SEMTECH	KRA102S	PZT3904T1G	ONSEMI	KN3904S	RN4987FE	TOSHIBA	KRX206E
MMBTRC102SS	SEMTECH	KRC102S	RN1101	TOSHIBA	KRC401E	RT1C3904	ISAHAYA	KN3904S
MMBTRC105SS	SEMTECH	KRC105S	RN1101MFV	TOSHIBA	KRC401V	RT1N136C	ISAHAYA	KRC116S
MMBTSC2412	SEMTECH	KTC3875S	RN1102	TOSHIBA	KRC402E	RT1N140C	ISAHAYA	KRC111S
MMBTSC3875	SEMTECH	KTC3875S	RN1103MFV	TOSHIBA	KRC403V	RT1N140U	ISAHAYA	KRC411E
MMDTX141DE	SEMTECH	KRX201E	RN1104	TOSHIBA	KRC404E	RT1N141C	ISAHAYA	KRC102S
MMST2907A	ROHM	KTN2907AS	RN1105	TOSHIBA	KRC405E	RT1N141M	ISAHAYA	KRC402
MMUN2111LT1G	ONSEMI	KRA102S	RN1106	TOSHIBA	KRC406E	RT1N141S	ISAHAYA	KRC102
MMUN2211LT1G	ONSEMI	KRC102S	RN1106MFV	TOSHIBA	KRC406V	RT1N141U	ISAHAYA	KRC402E
MMUN2213LT1G	ONSEMI	KRC104S	RN1107	TOSHIBA	KRC407E	RT1N144C	ISAHAYA	KRC107S
MPSA13	ONSEMI	MPSA13	RN1108MFV	TOSHIBA	KRC408V	RT1N144M	ISAHAYA	KRC407
MUN5132T1G	ONSEMI	KRC401	RN1110MFV	TOSHIBA	KRC410V	RT1N148M	ISAHAYA	KRC111S
MUN5211T1G	ONSEMI	KRC402	RN1301	TOSHIBA	KRC401	RT1N14HC	ISAHAYA	KRC107S
NJVMJD112T4G	ONSEMI	MJD112	RN1302	TOSHIBA	KRC402	RT1N231M	ISAHAYA	KRC417
NJVMJD210T4G	ONSEMI	KTA1242D	RN1303	TOSHIBA	KRC403	RT1N231U	ISAHAYA	KRC417E
NJVJJD2873T4G	ONSEMI	KTC2815D	RN1304	TOSHIBA	KRC404	RT1N234C	ISAHAYA	KRC118S
NSBC114YDPXV6	ONSEMI	KRX206E	RN1305	TOSHIBA	KRC405	RT1N234M	ISAHAYA	KRC418
NSVDTA143ZET1G	ONSEMI	KRC406E	RN1306	TOSHIBA	KRC406	RT1N234S	ISAHAYA	KRC118

Type No.	Maker	KEC	Type No.	Maker	KEC
RT1N234U	ISAHAYA	KRC418E	SBC846BLT1G	ONSEMI	BC846
RT1N237C	ISAHAYA	KRC105S	SBC847BDW1T1G	ONSEMI	KTC801U
RT1N237M	ISAHAYA	KRC405	SBC847BLT1G	ONSEMI	BC847
RT1N237U	ISAHAYA	KRC405E	SBC847BWT1G	ONSEMI	BC847W
RT1N241C	ISAHAYA	KRC103S	SBC856ALT1G	ONSEMI	BC856
RT1N241M	ISAHAYA	KRC403	SBC856BLT1G	ONSEMI	BC856
RT1N241U	ISAHAYA	KRC403E	SBC857BLT1G	ONSEMI	BC857
RT1N242M	ISAHAYA	KRC408	SBC857BWT1G	ONSEMI	BC857W
RT1N430M	ISAHAYA	KRC410	SDTC114EET1G	ONSEMI	KRC402E
RT1N430U	ISAHAYA	KRC410E	SDTC114YET1G	ONSEMI	KRC407E
RT1N431C	ISAHAYA	KRC101S	SMMBT2222ALT1G	ONSEMI	KTN2222AS
RT1N431M	ISAHAYA	KRC401	SMMBT2222AWT1G	ONSEMI	KTN2222AU
RT1N431U	ISAHAYA	KRC401E	SMMBT2907ALT1G	ONSEMI	KTN2907AS
RT1N432C	ISAHAYA	KRC119S	SMMBT3904LT1G	ONSEMI	KN3904S
RT1N432M	ISAHAYA	KRC419	SMMBT3906LT1G	ONSEMI	KN3906S
RT1N432S	ISAHAYA	KRC119	SMMBT5551LT1G	ONSEMI	2N5551S
RT1N436C	ISAHAYA	KRC106S	SMMBTA06LT1G	ONSEMI	MMBTA06
RT1N436M	ISAHAYA	KRC406	SMMBTA42LT1G	ONSEMI	MMBTA42
RT1N436U	ISAHAYA	KRC406E	SMMBTA56LT1G	ONSEMI	MMBTA56
RT1N440U	ISAHAYA	KRC414E	SMMBTA92LT1G	ONSEMI	MMBTA92
RT1N441C	ISAHAYA	KRC104S	SMMUN2111LT1G	ONSEMI	KRA102S
RT1N441M	ISAHAYA	KRC404	SMMUN2211LT1G	ONSEMI	KRC102S
RT1N441U	ISAHAYA	KRC404E	SMMUN2211LT3G	ONSEMI	KRC102S
RT1N44BM	ISAHAYA	KRC414	SMMUN2214LT1G	ONSEMI	KRC107S
RT1P136C	ISAHAYA	KRA116S	SMMUN2233LT1G	ONSEMI	KRC106S
RT1P136M	ISAHAYA	KRA316	SMUN5111T1G	ONSEMI	KRA302
RT1P136U	ISAHAYA	KRA316E	SMUN5114T1G	ONSEMI	KRA307
RT1P140M	ISAHAYA	KRA311	SMUN5211T1G	ONSEMI	KRC402
RT1P141C	ISAHAYA	KRA102S	SMUN5214T1G	ONSEMI	KRC407
RT1P141M	ISAHAYA	KRA302	SMUN5235DW1T1G	ONSEMI	KRC855U
RT1P141S	ISAHAYA	KRA102	SMUN5311DW1T1G	ONSEMI	KRC852U
RT1P141U	ISAHAYA	KRA302E	SST2907A	ROHM	KTN2907AS
RT1P144M	ISAHAYA	KRA307	SSTA06HZG	ROHM	MMBTA06
RT1P144U	ISAHAYA	KRA307E	SSTA56HZG	ROHM	MMBTA56
RT1P234C	ISAHAYA	KRA118S	TDTC114E	TOSHIBA	KRC102S
RT1P234M	ISAHAYA	KRA318	TDTC143Z	TOSHIBA	KRC106S
RT1P237M	ISAHAYA	KRA305	TMBT3904	TOSHIBA	KN3904S
RT1P241C	ISAHAYA	KRA103S	TMBT3906	TOSHIBA	KN3906S
RT1P241M	ISAHAYA	KRA303	TTA004B	TOSHIBA	KTA1700
RT1P241S	ISAHAYA	KRA103	TTA1943	TOSHIBA	KTA1943A
RT1P241U	ISAHAYA	KRA303E	TTB002	TOSHIBA	KTA1040D
RT1P431C	ISAHAYA	KRA101S	TTC004B	TOSHIBA	KTC2800
RT1P431M	ISAHAYA	KRA301	TTC5200	TOSHIBA	KTC5200A
RT1P432C	ISAHAYA	KRA119S	UMA5N	ROHM	KRA555U
RT1P432M	ISAHAYA	KRA319	UMB11N	ROHM	KRA752U
RT1P436C	ISAHAYA	KRA106S	UMC5N	ROHM	KRX102U
RT1P436U	ISAHAYA	KRA306E	UMD2N	ROHM	KRX202U
RT1P441M	ISAHAYA	KRA304	UMD3N	ROHM	KRX201U
RT1P441U	ISAHAYA	KRA304E	UMF5N	ROHM	KTX213U
RT2N03M	ISAHAYA	KRC652U	UMG11N	ROHM	KRC655U
RT2N12M	ISAHAYA	KRC656U	UMG3N	ROHM	KRC660U
RT2N14M	ISAHAYA	KRC657U	UMG5N	ROHM	KRC657U
RT2N20M	ISAHAYA	KRC660U	UMG8N	ROHM	KRC656U
RT2P09M	ISAHAYA	KRC655U	UMG9N	ROHM	KRC652U
RT3CLLM	ISAHAYA	KTC801U	UMH10N	ROHM	KRC855U
RT3N11M	ISAHAYA	KRC852U	UMH11NFHA	ROHM	KRC852U
RT3N22M	ISAHAYA	KRC853U	UMH1N	ROHM	KRC853U
RT3N33M	ISAHAYA	KRC854U	UMH2NFHA	ROHM	KRC854U
RT3T11M	ISAHAYA	KRX201U	UMT1N	ROHM	KTA701U
RT5N136C	ISAHAYA	KRC245S	UMT1NFHA	ROHM	KTA701U
RT5N234C	ISAHAYA	KRC246S	UMT2907A	ROHM	KTN2907AU
RT5N431C	ISAHAYA	KRC243S	UMT4401U3HZG	ROHM	KTN2222AU
RT5P136C	ISAHAYA	KRA225S	UMX1N	ROHM	KTC801U
RT5P234C	ISAHAYA	KRA226S	UMX2N	ROHM	KTC811U
RTAN230C	ISAHAYA	KRC281S	UMX3N	ROHM	KTC812U
SBC807	ONSEMI	BC807	UMZ1N	ROHM	KTX101U
SBC817	ONSEMI	BC817			
SBC846ALT1G	ONSEMI	BC846			
SBC846BDW1T1G	ONSEMI	KTC801U			

2



DIODE

DIODE	52~95
Switching Diode	54
Small Signal Switching Diode	54
RF Diode	55
Small Signal Band Switching Diode	55
Zener Diode	56~69
Zener Diode Line-up	56~58
100mW Zener Diode	59~60
150mW Zener Diode	61
200mW Zener Diode	62~63
300mW Zener Diode	64
500mW Zener Diode	65~67
1W Zener Diode	68
High Voltage Zener Diode	69
Series Type Zener Diode	69
TVS Diode	70~78
TVS Diode Line-up	70~73
General Purpose (Single Type)	74~76
General Purpose (Array Type)	77
Low Cap TVS (Single /Array Type)	78
Automotive Diode	79
Power TVS	79
Schottky Barrier Diode	80~83
Small Signal Schottky Barrier Diode	80~81
Power Schottky Barrier Diode	81~82
Power Schottky Barrier Diode (Low V_F Type)	83
Fast Recovery Rectifier	84
Ultra Fast Recovery Rectifier	84
SiC Schottky Barrier Diode	85
SiC Schottky Barrier Diode	85
List of Equivalent Product	86~95






Switching Diode

Small Signal Switching Diode

Type No.	Mark	AEC-Q	Max. Ratings							V _{F1} (V)		V _{F2} (V)		V _{F3} (V)			I _R (μ A)		C _T (pF)			trr(ns)		PKG
			V _{RM} (V)	V _R (V)	I _{FM} (mA)	I _O (mA)	I _{FSM} (A)	P _D (mW)	Typ.	@I _F (mA)	Typ.	@I _F (mA)	Typ.	Max.	@I _F (mA)	Max.	@V _R (V)	Max.	@V _R (V)	@f(MHz)	Max.	@I _F (mA)		
KDS160F		4	○	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	TFSC
KDS160UL		PS	○	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	ULP-2
KDS160V		UF	○	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	VSC
KDS160E		UF	○	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	ESC
KDS4148E		UC	○	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	
KDS160		UF	○	85	80	300	100	2	200	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	USC
KDS4148U		UH	○	100	75	450	150	2	-	0.6	1	0.72	10	0.9	1.2	100	0.5	75	2	0	1	4	10	
KDS135		JA	○	300	250	300	100	2	200	-	-	-	-	1	1.2	100	0.2	250	3	0	1	100	30	
KDS4148W		WU	○	100	75	450	150	2	-	0.6	1	0.72	10	0.9	1.2	100	0.5	75	2	0	1	4	10	SOD-123
KDS221V		DS	○	20	20	200	100	0.3	100	-	-	-	-	-	1.2	100	0.1	15	-	-	-	-	-	VSM
KDS123V		US	●	80	80	300	100	2	100	-	-	-	-	-	1.2	100	0.1	80	3.5	6	1	-	-	
KDS120V		A3	○	85	80	300	100	2	100	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10	
KDS121V		BS	○	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	0.9	3	1	4	10	ESM
KDS221E		DS	○	20	20	200	100	0.3	100	-	-	-	-	-	1	10	0.1	15	-	-	-	-	-	
KDS123E		US	○	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.1	80	3.5	6	1	4	10	
KDS120E		A3	○	85	80	300	100	2	100	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10	USM
KDS121E		B3	○	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	
KDS120		A3	○	85	80	300	100	2	100	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10	
KDS121		B3	○	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	0.9	3	1	4	10	SOT-23
KDS122		US	○	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.1	80	3.5	6	1	4	10	
KDS123U		DS	○	80	80	300	100	2	100	-	-	-	-	-	1.2	100	0.1	80	3.5	6	-	-	-	
KDS181		A3	○	85	80	300	100	2	150	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10	TES6
KDS184		B3	○	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	
KDS187		D3	○	85	80	300	100	2	150	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10	
KDS193		F3	○	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	
KDS196		G3	○	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	
KDS226		C3	○	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	
BAV70		H7	○	85	80	-	250	2	300	0.6	1	0.7	10	-	1.25	150	0.5	80	3	0	1	4	10	
BAV99		H8	○	85	80	-	250	2	225	0.6	1	0.72	10	-	1.25	150	0.5	80	3	0	1	4	10	
BAW56		H6	○	85	80	-	250	2	300	0.6	1	0.7	10	-	1.25	150	0.5	80	4	0	1	4	10	
KDS4148S		PJH	○	100	75	450	150	2	350	0.6	1	0.72	10	0.9	-	100	0.5	75	2	0	1	4	10	
KDS135S		JA	○	300	250	300	100	2	150	-	-	-	-	1	1.2	100	0.2	250	3	0	1	100	30	
KDS127E		US	○	80	80	300	100	2	200	-	-	-	-	-	1.2	100	0.1	80	3.5	6	1	-	-	







Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Small Signal Band Switching Diode

Type No.	Mark	AEC-Q	Max. Ratings		V _F (V)		I _R (μA)		V _R (V)		C _T (pF)				r _s (Ω)				PKG	
			V _R (V)	I _F (mA)	Max.	@I _F (mA)	Max.	@V _R (V)	Min.	@I _R (μA)	Typ.	Max.	@V _R (V)	@f (MHz)	Typ.	Max.	@I _F (mA)	@f (MHz)		
KDS114E		UD	○	35	100	0.85	2	0.1	15	35	1	0.7	1.2	6	1	0.5	0.9	2	100	ESC
KDS114		UD	○	35	100	0.85	2	0.1	15	35	1	0.7	1.2	6	1	0.5	0.9	2	100	USC
KDS112E		BF	○	30	50	0.85	2	0.1	15	30	1	0.8	1.2	6	1	0.6	0.9	2	100	ESM
KDS112		BF	○	30	50	0.85	2	0.1	15	30	1	0.8	1.2	6	1	0.6	0.9	2	100	USM
KDS115		R3	○	30	50	0.85	2	0.1	15	30	1	0.8	1.2	6	1	0.6	0.9	2	100	






Note) ○ : AEC-Q Qualified

Zener Diode

Zener Voltage	ELP-2	TFSC	VSC	ESC	USC	SOT-23	
							
	0.6*0.3mm	0.8*0.6mm	1.0*0.6mm	1.2*0.8mm	1.7*1.25mm	2.93*1.3mm	
	☆P _D =0.1W	☆P _D =0.1W	☆P _D =0.1W	☆P _D =0.15W	☆P _D =0.2W	P _D =0.2W	▽P _D =0.3W
2.0V				KDZ2.0EV	KDZ2.0V	Z02W2.0V	BZX84C2V0
2.2V				KDZ2.2EV	KDZ2.2V	Z02W2.2V	BZX84C2V2
2.4V				KDZ2.4EV	KDZ2.4V	Z02W2.4V	BZX84C2V4
2.7V				KDZ2.7EV	KDZ2.7V	Z02W2.7V	BZX84C2V7
3.0V				KDZ3.0EV	KDZ3.0V	Z02W3.0V	BZX84C3V0
3.3V				KDZ3.3EV	KDZ3.3V	Z02W3.3V	BZX84C3V3
3.6V				KDZ3.6EV	KDZ3.6V	Z02W3.6V	BZX84C3V6
3.9V				KDZ3.9EV	KDZ3.9V	Z02W3.9V	BZX84C3V9
4.3V		KDZ4.3FV	KDZ4.3VV	KDZ4.3EV	KDZ4.3V	Z02W4.3V	BZX84C4V3
4.7V		KDZ4.7FV	KDZ4.7VV	KDZ4.7EV	KDZ4.7V	Z02W4.7V	BZX84C4V7
5.1V	KDZ5.1EL	KDZ5.1FV	KDZ5.1VV	KDZ5.1EV	KDZ5.1V	Z02W5.1V	BZX84C5V1
5.6V	KDZ5.6EL	KDZ5.6FV	KDZ5.6VV	KDZ5.6EV	KDZ5.6V	Z02W5.6V	BZX84C5V6
6.2V		KDZ6.2FV	KDZ6.2VV	KDZ6.2EV	KDZ6.2V	Z02W6.2V	BZX84C6V2
6.8V		KDZ6.8FV	KDZ6.8VV	KDZ6.8EV	KDZ6.8V	Z02W6.8V	BZX84C6V8
7.5V	KDZ7.5EL	KDZ7.5FV	KDZ7.5VV	KDZ7.5EV	KDZ7.5V	Z02W7.5V Z02W7.5VS	BZX84C7V5
8.2V		KDZ8.2FV	KDZ8.2VV	KDZ8.2EV	KDZ8.2V	Z02W8.2V	BZX84C8V2
9.1V		KDZ9.1FV	KDZ9.1VV	KDZ9.1EV	KDZ9.1V	Z02W9.1V Z02W9.1VS	BZX84C9V1
10V		KDZ10FV	KDZ10VV	KDZ10EV	KDZ10V	Z02W10V	BZX84C10
11V		KDZ11FV	KDZ11VV	KDZ11EV	KDZ11V	Z02W11V	BZX84C11
12V		KDZ12FV	KDZ12VV	KDZ12EV	KDZ12V	Z02W12V	BZX84C12
13V		KDZ13FV	KDZ13VV	KDZ13EV	KDZ13V	Z02W13V	BZX84C13
15V		KDZ15FV	KDZ15VV	KDZ15EV	KDZ15V	Z02W15V	BZX84C15
16V		KDZ16FV	KDZ16VV	KDZ16EV	KDZ16V	Z02W16V	BZX84C16
18V		KDZ18FV	KDZ18VV	KDZ18EV	KDZ18V	Z02W18V	BZX84C18
20V		KDZ20FV	KDZ20VV	KDZ20EV	KDZ20V	Z02W20V	BZX84C20
22V		KDZ22FV	KDZ22VV	KDZ22EV	KDZ22V	Z02W22V	BZX84C22
24V		KDZ24FV	KDZ24VV	KDZ24EV	KDZ24V	Z02W24V	BZX84C24
27V		KDZ27FV	KDZ27VV	KDZ27EV	KDZ27V	Z02W27V	BZX84C27
30V		KDZ30FV	KDZ30VV	KDZ30EV	KDZ30V	Z02W30V	BZX84C30
33V		KDZ33FV	KDZ33VV	KDZ33EV	KDZ33V	Z02W33V	BZX84C33
36V		KDZ36FV	KDZ36VV	KDZ36EV	KDZ36V	Z02W36V	BZX84C36

Note) ☆ : Mounted on a glass epoxy circuit board of 20X20mm, pad dimension of 4X4mm

Note) ▽ : Package Mounted on 99.5% alumina 10X8X0.6mm



Zener Voltage	USCF	USF	SOD-123	SMF	SMA
					
	1.7*1.25mm	1.9*1.3mm	2.7*1.6mm	2.6*1.6mm	4.5*2.6mm
	☆ P _D =0.5W	P _D =0.5W	▽ P _D =0.5W	□ P _D =1W	P _D =1W
2.0V	USCFZ2.0V				
2.2V	USCFZ2.2V				
2.4V	USCFZ2.4V				
2.7V	USCFZ2.7V				
3.0V	USCFZ3.0V				
3.3V	USCFZ3.3V				
3.6V	USCFZ3.6V				
3.9V	USCFZ3.9V				
4.3V	USCFZ4.3V	USFZ4.3V	KDZ4.3WV	SMFZ4.3V	SMAZ4.3V
4.7V	USCFZ4.7V	USFZ4.7V	KDZ4.7WV	SMFZ4.7V	SMAZ4.7V
5.1V	USCFZ5.1V	USFZ5.1V	KDZ5.1WV	SMFZ5.1V	SMAZ5.1V
5.6V	USCFZ5.6V	USFZ5.6V	KDZ5.6WV	SMFZ5.6V	SMAZ5.6V
6.2V	USCFZ6.2V	USFZ6.2V	KDZ6.2WV	SMFZ6.2V	SMAZ6.2V
6.8V	USCFZ6.8V	USFZ6.8V	KDZ6.8WV	SMFZ6.8V	SMAZ6.8V
7.5V	USCFZ7.5V	USFZ7.5V	KDZ7.5WV	SMFZ7.5V	SMAZ7.5V
8.2V	USCFZ8.2V	USFZ8.2V	KDZ8.2WV	SMFZ8.2V	SMAZ8.2V
9.1V	USCFZ9.1V	USFZ9.1V	KDZ9.1WV	SMFZ9.1V	SMAZ9.1V
10V	USCFZ10V	USFZ10V	KDZ10WV	SMFZ10V	SMAZ10V
11V	USCFZ11V	USFZ11V	KDZ11WV	SMFZ11V	SMAZ11V
12V	USCFZ12V	USFZ12V	KDZ12WV	SMFZ12V	SMAZ12V
13V	USCFZ13V	USFZ13V	KDZ13WV	SMFZ13V	SMAZ13V
15V	USCFZ15V	USFZ15V	KDZ15WV	SMFZ15V	SMAZ15V
16V	USCFZ16V	USFZ16V	KDZ16WV	SMFZ16V	SMAZ16V
18V	USCFZ18V	USFZ18V	KDZ18WV	SMFZ18V	SMAZ18V
20V	USCFZ20V	USFZ20V	KDZ20WV	SMFZ20V	SMAZ20V
22V	USCFZ22V	USFZ22V	KDZ22WV	SMFZ22V	SMAZ22V
24V	USCFZ24V	USFZ24V	KDZ24WV	SMFZ24V	SMAZ24V
27V	USCFZ27V	USFZ27V	KDZ27WV	SMFZ27V	SMAZ27V
30V	USCFZ30V	USFZ30V	KDZ30WV	SMFZ30V	SMAZ30V
33V	USCFZ33V	USFZ33V	KDZ33WV	SMFZ33V	SMAZ33V
36V	USCFZ36V	USFZ36V	KDZ36WV	SMFZ36V	SMAZ36V

Note) ☆ : Mounted on a glass epoxy circuit board of 1X1 inch

Note) ▽ : Mounted on a glass epoxy circuit board of 4X4cm, pad dimension of 3.8X3.8cm

Note) □ : Mounted on a glass epoxy circuit board of 5X5cm, pad dimension of 2.5X2.5cm

Zener Diode

Zener Voltage	USC	SOT-23	SOD-123
			
	1.7*1.25mm	2.93*1.3mm	2.7*1.6mm
	☆P _D =0.2W	P _D =0.2W	P _D =0.5W
82V	KDZ82V		
95V	KDZ95V		
100V	KDZ100V ★KDZ100VW	Z02W100V	
110V	KDZ110V		KDZ110WV KDZ110WVA
150V	KDZ150V		KDZ150WVA
160V	KDZ160V		KDZ160WVA
200V	KDZ200V		KDZ200WVA

Note) ★ : Bi-directional ZenerDiode

Note) ☆ : Mounted on a glass epoxy circuit board of 20X20mm, pad dimension of 4X4mm

■ 100mW Zener Diode

Type No.	Grade	Mark	AEC-Q	P _D (mW)	V _Z (V)			Z _Z (Ω)		Z _{ZK} (Ω)		I _R (μA)		PKG
					Min.	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@V _R (V)	
KDZ5.1EL	-	3	○	☆100	4.84	5.37	5.0	70	5	1000	0.5	2	1.5	ELP-2
KDZ5.6EL	-	4	○		5.31	5.92		40	5	900		2	1.5	
KDZ7.5EL	-	5	○		7.06	7.84		23	5	120		0.5	4	
KDZ4.3FV+	Y	4P	○	☆100	4.17	4.43	5.0	130	5	1000	0.5	5	1	TFSC
KDZ4.7FV+	Y	5P	○		4.55	4.75		130	5	1000		5	1	
KDZ5.1FV+	Y	6P	○		4.98	5.20		70	5	1000		1	1.5	
KDZ5.6FV+	Y	8P	○		5.49	5.73		40	5	900		1	2.5	
KDZ6.2FV+	Y	9P	○		6.06	6.33		30	5	500		1	3	
KDZ6.8FV+	Y	BP	○		6.65	6.93		25	5	150		0.5	5	
KDZ7.5FV+	Y	PP	○		7.28	7.60		23	5	120		0.5	6	
KDZ8.2FV+	Y	DP	○		8.02	8.30		20	5	120		0.5	6.5	
KDZ9.1FV+	Y	EP	○		8.85	9.23		18	5	120		0.5	7	
KDZ10FV+	Y	UP	○		9.77	10.21		15	5	120		0.5	8	
KDZ11FV+	Y	GP	○		10.76	11.22		15	5	120		0.5	8.5	
KDZ12FV	Y	HP	○		11.74	12.24		15	5	110		0.5	9	
KDZ13FV+	Y	JP	○		12.91	13.49		15	5	110		0.5	10	
KDZ15FV+	Y	KP	○		14.34	14.98		15	5	110		0.5	11	
KDZ16FV+	Y	9	○		15.85	16.51		18	5	150		0.5	12	
KDZ18FV+	Y	LP	○		17.56	18.35		20	5	150		0.5	13	
KDZ20FV	Y	MP	○	19.52	20.39	25	5	200	0.5	15				
KDZ22FV+	Y	NP	○	21.54	22.47	30	5	200	0.5	17				
KDZ24FV+	Y	QP	○	23.72	24.78	40	5	200	0.5	19				
KDZ27FV	-	RF	○	26.19	27.53	2.0	150	2	150	0.1	21			
KDZ30FV+	-	SF	○	29.19	30.69		200	2	200	0.1	23			
KDZ33FV+	-	AP	○	32.15	33.79		250	2	250	0.1	25			
KDZ36FV	-	TF	○	35.07	36.87		300	2	300	0.1	27			

Note) ☆ : Mounted on a glass epoxy circuit board of 20X20mm, pad dimension of 4x4mm

Note) ○ : AEC-Q Qualified

Note) + : Irregular Production

Zener Diode

100mW Zener Diode

Type No.	Grade	Mark	AEC-Q	P _D (mW)	V _Z (V)			Z _Z (Ω)		Z _{Zk} (Ω)		I _R (μA)		PKG
					Min.	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@V _R (V)	
KDZ4.3VV+	Y	JY	○	☆100	4.17	4.43	5.0	130	5	1000	0.5	5	1	VSC
KDZ4.7VV+	Y	KY	○		4.55	4.75		130	5	1000		5	1	
KDZ5.1VV+	Y	LY	○		4.98	5.20		70	5	1000		1	1.5	
KDZ5.6VV	Y	MY	○		5.49	5.73		40	5	900		1	2.5	
KDZ6.2VV+	Y	NY	○		6.06	6.33		30	5	500		1	3	
KDZ6.8VV+	Y	PY	○		6.65	6.93		25	5	150		0.5	5	
KDZ7.5VV+	Y	QY	○		7.28	7.60		23	5	120		0.5	6	
KDZ8.2VV+	Y	RY	○		8.02	8.30		20	5	120		0.5	6.5	
KDZ9.1VV+	Y	SY	○		8.85	9.23		18	5	120		0.5	7	
KDZ10VV+	Y	0Y	○		9.77	10.21		15	5	120		0.5	8	
KDZ11VV+	Y	1Y	○		10.76	11.22		15	5	120		0.5	8.5	
KDZ12VV+	Y	2Y	○		11.74	12.24		15	5	110		0.5	9	
KDZ13VV+	Y	3Y	○		12.91	13.49		15	5	110		0.5	10	
KDZ15VV+	Y	5Y	○		14.34	14.98		15	5	110		0.5	11	
KDZ16VV+	Y	6Y	○		15.85	16.51		18	5	150		0.5	12	
KDZ18VV+	Y	8Y	○		17.56	18.35		20	5	150		0.5	13	
KDZ20VV+	Y	4Y	○		19.52	20.39		25	5	200		0.5	15	
KDZ22VV+	Y	7Y	○		21.54	22.47	30	5	200	0.5	17			
KDZ24VV+	Y	9Y	○		23.72	24.78	40	5	200	0.5	19			
KDZ27VV+	-	27	○		26.19	27.53	2.0	150	2.0	150	0.1	21		
KDZ30VV+	-	30	○	29.19	30.69	200		2.0	200	0.1	23			
KDZ33VV+	-	33	○	32.15	33.79	250		2.0	250	0.1	25			
KDZ36VV+	-	36	○	35.07	36.87	300		2.0	300	0.1	27			

Note) ☆ : Mounted on a glass epoxy circuit board of 20X20mm, pad dimension of 4x4mm

Note) ○ : AEC-Q Qualified

Note) + : Irregular Production

■ 150mW Zener Diode

Type No.	Grade	Mark	AEC-Q	P _D (mW)	V _Z (V)			Z _Z (Ω)		Z _{ZK} (Ω)		I _R (μA)		PKG																																																																																																																																																																																																																																																																																																																																																																																																																																	
					Min.	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@V _R (V)																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ2.0EV	-	2A	○	☆150	1.85	2.15	5	100	5	1000	0.5	120	1.0	ESC																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Y	2A	○		1.95	2.15									KDZ2.2EV	-	2B	○	2.05	2.38	5	100	5	1000	0.5	120	1.0	Y	2B	○	2.16	2.38	KDZ2.4EV	-	2C	○	2.28	2.60	5	100	5	1000	0.5	120	1.0	Y	2C	○	2.40	2.60	KDZ2.7EV	-	2D	○	2.50	2.90	5	110	5	1000	0.5	120	1.0	Y	2D	○	2.65	2.90	KDZ3.0EV	-	30	○	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30	○	2.95	3.20	KDZ3.3EV	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6EV	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.85	KDZ3.9EV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3EV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7EV	Y	47	○	4.55	4.70	5	120	5	1000	0.5	5	1.0	KDZ5.1EV	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6EV	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2EV	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8EV	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5EV	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2EV	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1EV	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10EV+	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11EV+	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12EV	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13EV+	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15EV	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16EV+	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18EV	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20EV	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22EV+	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24EV	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27EV+	-	27	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30EV+	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33EV	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36EV+	-	A4	○	35.07
KDZ2.2EV	-	2B	○		2.05	2.38	5	100	5	1000	0.5	120	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	2B	○		2.16	2.38									KDZ2.4EV	-	2C	○	2.28	2.60	5	100	5	1000	0.5	120	1.0	Y	2C	○	2.40	2.60	KDZ2.7EV	-	2D	○	2.50	2.90	5	110	5	1000	0.5	120	1.0	Y	2D	○	2.65	2.90	KDZ3.0EV	-	30	○	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30	○	2.95	3.20	KDZ3.3EV	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6EV	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.85	KDZ3.9EV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3EV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7EV	Y	47	○	4.55	4.70	5	120	5	1000	0.5	5	1.0	KDZ5.1EV	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6EV	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2EV	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8EV	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5EV	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2EV	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1EV	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10EV+	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11EV+	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12EV	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13EV+	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15EV	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16EV+	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18EV	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20EV	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22EV+	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24EV	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27EV+	-	27	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30EV+	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33EV	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36EV+	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0										
KDZ2.4EV	-	2C	○		2.28	2.60	5	100	5	1000	0.5	120	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	2C	○		2.40	2.60									KDZ2.7EV	-	2D	○	2.50	2.90	5	110	5	1000	0.5	120	1.0	Y	2D	○	2.65	2.90	KDZ3.0EV	-	30	○	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30	○	2.95	3.20	KDZ3.3EV	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6EV	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.85	KDZ3.9EV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3EV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7EV	Y	47	○	4.55	4.70	5	120	5	1000	0.5	5	1.0	KDZ5.1EV	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6EV	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2EV	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8EV	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5EV	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2EV	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1EV	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10EV+	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11EV+	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12EV	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13EV+	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15EV	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16EV+	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18EV	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20EV	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22EV+	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24EV	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27EV+	-	27	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30EV+	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33EV	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36EV+	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																												
KDZ2.7EV	-	2D	○		2.50	2.90	5	110	5	1000	0.5	120	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	2D	○		2.65	2.90									KDZ3.0EV	-	30	○	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30	○	2.95	3.20	KDZ3.3EV	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6EV	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.85	KDZ3.9EV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3EV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7EV	Y	47	○	4.55	4.70	5	120	5	1000	0.5	5	1.0	KDZ5.1EV	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6EV	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2EV	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8EV	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5EV	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2EV	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1EV	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10EV+	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11EV+	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12EV	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13EV+	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15EV	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16EV+	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18EV	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20EV	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22EV+	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24EV	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27EV+	-	27	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30EV+	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33EV	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36EV+	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																																														
KDZ3.0EV	-	30	○		2.80	3.20	5	120	5	1000	0.5	50	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	30	○		2.95	3.20									KDZ3.3EV	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6EV	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.85	KDZ3.9EV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3EV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7EV	Y	47	○	4.55	4.70	5	120	5	1000	0.5	5	1.0	KDZ5.1EV	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6EV	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2EV	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8EV	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5EV	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2EV	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1EV	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10EV+	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11EV+	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12EV	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13EV+	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15EV	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16EV+	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18EV	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20EV	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22EV+	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24EV	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27EV+	-	27	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30EV+	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33EV	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36EV+	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																																																																
KDZ3.3EV	-	33	○		3.10	3.50	5	130	5	1000	0.5	20	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	33	○		3.25	3.50									KDZ3.6EV	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.85	KDZ3.9EV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3EV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7EV	Y	47	○	4.55	4.70	5	120	5	1000	0.5	5	1.0	KDZ5.1EV	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6EV	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2EV	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8EV	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5EV	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2EV	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1EV	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10EV+	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11EV+	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12EV	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13EV+	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15EV	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16EV+	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18EV	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20EV	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22EV+	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24EV	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27EV+	-	27	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30EV+	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33EV	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36EV+	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																																																																																		
KDZ3.6EV	-	36	○		3.40	3.80	5	130	5	1000	0.5	10	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	36	○		3.60	3.85									KDZ3.9EV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3EV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7EV	Y	47	○	4.55	4.70	5	120	5	1000	0.5	5	1.0	KDZ5.1EV	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6EV	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2EV	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8EV	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5EV	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2EV	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1EV	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10EV+	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11EV+	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12EV	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13EV+	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15EV	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16EV+	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18EV	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20EV	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22EV+	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24EV	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27EV+	-	27	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30EV+	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33EV	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36EV+	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																																																																																																				
KDZ3.9EV	-	39	○		3.70	4.10	5	130	5	1000	0.5	10	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	39	○		3.89	4.16									KDZ4.3EV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7EV	Y	47	○	4.55	4.70	5	120	5	1000	0.5	5	1.0	KDZ5.1EV	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6EV	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2EV	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8EV	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5EV	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2EV	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1EV	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10EV+	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11EV+	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12EV	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13EV+	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15EV	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16EV+	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18EV	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20EV	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22EV+	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24EV	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27EV+	-	27	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30EV+	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33EV	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36EV+	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																																																																																																																						
KDZ4.3EV	Y	43	○		4.17	4.43	5	130	5	1000	0.5	5	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ4.7EV	Y	47	○		4.55	4.70	5	120	5	1000	0.5	5	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ5.1EV	Y	51	○		4.98	5.20	5	70	5	1000	0.5	1	1.5																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ5.6EV	Y	56	○		5.49	5.73	5	40	5	900	0.5	1	2.5																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ6.2EV	Y	62	○		6.06	6.33	5	30	5	500	0.5	1	3.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ6.8EV	Y	68	○		6.65	6.93	5	25	5	150	0.5	0.5	5.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ7.5EV	Y	75	○		7.28	7.60	5	23	5	120	0.5	0.5	6.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ8.2EV	Y	82	○		8.02	8.36	5	20	5	120	0.5	0.5	6.5																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ9.1EV	Y	91	○		8.85	9.23	5	18	5	120	0.5	0.5	7.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ10EV+	Y	10	○		9.77	10.21	5	15	5	120	0.5	0.5	8.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ11EV+	Y	11	○		10.76	11.22	5	15	5	120	0.5	0.5	8.5																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ12EV	Y	12	○		11.74	12.24	5	15	5	110	0.5	0.5	9.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ13EV+	Y	13	○		12.91	13.49	5	15	5	110	0.5	0.5	10.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ15EV	Y	15	○		14.34	14.98	5	15	5	110	0.5	0.5	11.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ16EV+	Y	16	○		15.85	16.51	5	18	5	150	0.5	0.5	12.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ18EV	Y	18	○		17.56	18.35	5	20	5	150	0.5	0.5	14.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ20EV	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0																																																																																																																																																																																																																																																																																																																																																																																																																																			
KDZ22EV+	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0																																																																																																																																																																																																																																																																																																																																																																																																																																			
KDZ24EV	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0																																																																																																																																																																																																																																																																																																																																																																																																																																			
KDZ27EV+	-	27	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0																																																																																																																																																																																																																																																																																																																																																																																																																																			
KDZ30EV+	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0																																																																																																																																																																																																																																																																																																																																																																																																																																			
KDZ33EV	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0																																																																																																																																																																																																																																																																																																																																																																																																																																			
KDZ36EV+	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																																																																																																																																																																																																																																																																																																																																																																																																																																			

Note) ☆ : Mounted on a glass epoxy circuit board of 20X20mm, pad dimension of 4x4mm

Note) ○ : AEC-Q Qualified

Note) + : Irregular Production

Zener Diode

200mW Zener Diode

Type No.	Grade	Mark	AEC-Q	P _D (mW)	V _Z (V)			Z _Z (Ω)		Z _{ZK} (Ω)		I _R (μA)		PKG																																																																																																																																																																																																																																																																																																																																																																																																																																	
					Min.	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@V _R (V)																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ2.0V	-	2A	○	☆200	1.85	2.15	5	100	5	1000	0.5	120	1.0	USC																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Y	2A	○		1.95	2.15									KDZ2.2V	-	2B	○	2.05	2.38	5	100	5	1000	0.5	120	1.0	Y	2B	○	2.16	2.38	KDZ2.4V	-	2C	○	2.28	2.60	5	100	5	1000	0.5	120	1.0	Y	2C	○	2.40	2.60	KDZ2.7V	-	2D	○	2.50	2.90	5	110	5	1000	0.5	120	1.0	Y	2D	○	2.65	2.90	KDZ3.0V	-	30	○	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30	○	2.95	3.20	KDZ3.3V	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6V	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.85	KDZ3.9V	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3V	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7V	Y	47	○	4.55	4.75	5	120	5	1000	0.5	5	1.0	KDZ5.1V	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6V	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2V	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8V	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5V	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2V	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1V	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10V	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11V	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12V	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13V	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15V	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16V	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18V	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20V	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22V	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24V	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27V	-	A1	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30V	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33V	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36V	-	A4	○	35.07
KDZ2.2V	-	2B	○		2.05	2.38	5	100	5	1000	0.5	120	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	2B	○		2.16	2.38									KDZ2.4V	-	2C	○	2.28	2.60	5	100	5	1000	0.5	120	1.0	Y	2C	○	2.40	2.60	KDZ2.7V	-	2D	○	2.50	2.90	5	110	5	1000	0.5	120	1.0	Y	2D	○	2.65	2.90	KDZ3.0V	-	30	○	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30	○	2.95	3.20	KDZ3.3V	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6V	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.85	KDZ3.9V	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3V	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7V	Y	47	○	4.55	4.75	5	120	5	1000	0.5	5	1.0	KDZ5.1V	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6V	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2V	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8V	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5V	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2V	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1V	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10V	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11V	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12V	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13V	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15V	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16V	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18V	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20V	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22V	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24V	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27V	-	A1	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30V	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33V	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36V	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0										
KDZ2.4V	-	2C	○		2.28	2.60	5	100	5	1000	0.5	120	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	2C	○		2.40	2.60									KDZ2.7V	-	2D	○	2.50	2.90	5	110	5	1000	0.5	120	1.0	Y	2D	○	2.65	2.90	KDZ3.0V	-	30	○	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30	○	2.95	3.20	KDZ3.3V	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6V	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.85	KDZ3.9V	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3V	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7V	Y	47	○	4.55	4.75	5	120	5	1000	0.5	5	1.0	KDZ5.1V	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6V	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2V	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8V	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5V	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2V	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1V	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10V	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11V	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12V	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13V	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15V	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16V	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18V	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20V	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22V	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24V	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27V	-	A1	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30V	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33V	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36V	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																												
KDZ2.7V	-	2D	○		2.50	2.90	5	110	5	1000	0.5	120	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	2D	○		2.65	2.90									KDZ3.0V	-	30	○	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30	○	2.95	3.20	KDZ3.3V	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6V	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.85	KDZ3.9V	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3V	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7V	Y	47	○	4.55	4.75	5	120	5	1000	0.5	5	1.0	KDZ5.1V	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6V	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2V	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8V	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5V	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2V	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1V	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10V	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11V	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12V	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13V	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15V	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16V	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18V	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20V	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22V	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24V	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27V	-	A1	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30V	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33V	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36V	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																																														
KDZ3.0V	-	30	○		2.80	3.20	5	120	5	1000	0.5	50	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	30	○		2.95	3.20									KDZ3.3V	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6V	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.85	KDZ3.9V	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3V	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7V	Y	47	○	4.55	4.75	5	120	5	1000	0.5	5	1.0	KDZ5.1V	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6V	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2V	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8V	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5V	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2V	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1V	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10V	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11V	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12V	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13V	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15V	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16V	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18V	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20V	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22V	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24V	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27V	-	A1	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30V	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33V	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36V	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																																																																
KDZ3.3V	-	33	○		3.10	3.50	5	130	5	1000	0.5	20	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	33	○		3.25	3.50									KDZ3.6V	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.85	KDZ3.9V	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3V	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7V	Y	47	○	4.55	4.75	5	120	5	1000	0.5	5	1.0	KDZ5.1V	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6V	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2V	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8V	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5V	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2V	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1V	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10V	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11V	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12V	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13V	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15V	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16V	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18V	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20V	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22V	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24V	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27V	-	A1	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30V	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33V	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36V	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																																																																																		
KDZ3.6V	-	36	○		3.40	3.80	5	130	5	1000	0.5	10	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	36	○		3.60	3.85									KDZ3.9V	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.89	4.16	KDZ4.3V	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7V	Y	47	○	4.55	4.75	5	120	5	1000	0.5	5	1.0	KDZ5.1V	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6V	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2V	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8V	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5V	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2V	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1V	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10V	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11V	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12V	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13V	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15V	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16V	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18V	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20V	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22V	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24V	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27V	-	A1	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30V	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33V	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36V	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																																																																																																				
KDZ3.9V	-	39	○		3.70	4.10	5	130	5	1000	0.5	10	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	39	○		3.89	4.16									KDZ4.3V	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	KDZ4.7V	Y	47	○	4.55	4.75	5	120	5	1000	0.5	5	1.0	KDZ5.1V	Y	51	○	4.98	5.20	5	70	5	1000	0.5	1	1.5	KDZ5.6V	Y	56	○	5.49	5.73	5	40	5	900	0.5	1	2.5	KDZ6.2V	Y	62	○	6.06	6.33	5	30	5	500	0.5	1	3.0	KDZ6.8V	Y	68	○	6.65	6.93	5	25	5	150	0.5	0.5	5.0	KDZ7.5V	Y	75	○	7.28	7.60	5	23	5	120	0.5	0.5	6.0	KDZ8.2V	Y	82	○	8.02	8.36	5	20	5	120	0.5	0.5	6.5	KDZ9.1V	Y	91	○	8.85	9.23	5	18	5	120	0.5	0.5	7.0	KDZ10V	Y	10	○	9.77	10.21	5	15	5	120	0.5	0.5	8.0	KDZ11V	Y	11	○	10.76	11.22	5	15	5	120	0.5	0.5	8.5	KDZ12V	Y	12	○	11.74	12.24	5	15	5	110	0.5	0.5	9.0	KDZ13V	Y	13	○	12.91	13.49	5	15	5	110	0.5	0.5	10.0	KDZ15V	Y	15	○	14.34	14.98	5	15	5	110	0.5	0.5	11.0	KDZ16V	Y	16	○	15.85	16.51	5	18	5	150	0.5	0.5	12.0	KDZ18V	Y	18	○	17.56	18.35	5	20	5	150	0.5	0.5	14.0	KDZ20V	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0	KDZ22V	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0	KDZ24V	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0	KDZ27V	-	A1	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0	KDZ30V	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0	KDZ33V	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0	KDZ36V	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																																																																																																																						
KDZ4.3V	Y	43	○		4.17	4.43	5	130	5	1000	0.5	5	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ4.7V	Y	47	○		4.55	4.75	5	120	5	1000	0.5	5	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ5.1V	Y	51	○		4.98	5.20	5	70	5	1000	0.5	1	1.5																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ5.6V	Y	56	○		5.49	5.73	5	40	5	900	0.5	1	2.5																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ6.2V	Y	62	○		6.06	6.33	5	30	5	500	0.5	1	3.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ6.8V	Y	68	○		6.65	6.93	5	25	5	150	0.5	0.5	5.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ7.5V	Y	75	○		7.28	7.60	5	23	5	120	0.5	0.5	6.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ8.2V	Y	82	○		8.02	8.36	5	20	5	120	0.5	0.5	6.5																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ9.1V	Y	91	○		8.85	9.23	5	18	5	120	0.5	0.5	7.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ10V	Y	10	○		9.77	10.21	5	15	5	120	0.5	0.5	8.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ11V	Y	11	○		10.76	11.22	5	15	5	120	0.5	0.5	8.5																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ12V	Y	12	○		11.74	12.24	5	15	5	110	0.5	0.5	9.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ13V	Y	13	○		12.91	13.49	5	15	5	110	0.5	0.5	10.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ15V	Y	15	○		14.34	14.98	5	15	5	110	0.5	0.5	11.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ16V	Y	16	○		15.85	16.51	5	18	5	150	0.5	0.5	12.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ18V	Y	18	○		17.56	18.35	5	20	5	150	0.5	0.5	14.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ20V	Y	20	○	19.52	20.39	5	25	5	200	0.5	0.5	15.0																																																																																																																																																																																																																																																																																																																																																																																																																																			
KDZ22V	Y	22	○	21.54	22.47	5	30	5	200	0.5	0.5	17.0																																																																																																																																																																																																																																																																																																																																																																																																																																			
KDZ24V	Y	24	○	23.72	24.78	5	40	5	200	0.5	0.5	19.0																																																																																																																																																																																																																																																																																																																																																																																																																																			
KDZ27V	-	A1	○	26.19	27.53	2	150	2	150	0.5	0.1	21.0																																																																																																																																																																																																																																																																																																																																																																																																																																			
KDZ30V	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0																																																																																																																																																																																																																																																																																																																																																																																																																																			
KDZ33V	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0																																																																																																																																																																																																																																																																																																																																																																																																																																			
KDZ36V	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0																																																																																																																																																																																																																																																																																																																																																																																																																																			

Note) ☆ : Mounted on a glass epoxy circuit board of 20X20mm, pad dimension of 4x4mm

Note) ○ : AEC-Q Qualified

■ 200mW Zener Diode

Type No.	Grade	Mark	AEC-Q	P _D (mW)	V _Z (V)			Z _Z (Ω)		Z _{ZK} (Ω)		I _R (μA)		PKG
					Min.	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@V _R (V)	
Z02W2.0V	-	2A	○	200	1.85	2.15	5	100	5	1000	0.5	120	1	SOT-23
	X	2AX	○		1.85	2.05	5	100	5	1000	0.5	120	1	
	Z	2AZ	○		1.95	2.15	5	100	5	1000	0.5	120	1	
Z02W2.2V+	-	2B	○		2.05	2.38	5	100	5	1000	0.5	120	1	
	X	2BX	○		2.05	2.26	5	100	5	1000	0.5	120	1	
	Z	2BZ	○		2.16	2.38	5	100	5	1000	0.5	120	1	
Z02W2.4V	-	2C	○		2.28	2.60	5	100	5	1000	0.5	120	1	
	X	2CX	○		2.28	2.50	5	100	5	1000	0.5	120	1	
	Z	2CZ	○		2.40	2.60	5	100	5	1000	0.5	120	1	
Z02W2.7V	-	2D	○		2.50	2.90	5	110	5	1000	0.5	120	1	
	X	2DX	○		2.50	2.75	5	110	5	1000	0.5	120	1	
	Z	2DZ	○		2.65	2.90	5	110	5	1000	0.5	120	1	
Z02W3.0V	-	30	○		2.80	3.20	5	120	5	1000	0.5	50	1	
	X	30X	○		2.80	3.05	5	120	5	1000	0.5	50	1	
	Z	30Z	○		2.95	3.20	5	120	5	1000	0.5	50	1	
Z02W3.3V	-	33	○		3.10	3.50	5	130	5	1000	0.5	20	1	
	X	33X	○		3.10	3.35	5	130	5	1000	0.5	20	1	
	Z	33Z	○		3.25	3.50	5	130	5	1000	0.5	20	1	
Z02W3.6V	-	36	○		3.40	3.80	5	130	5	1000	0.5	10	1	
	X	36X	○		3.40	3.65	5	130	5	1000	0.5	10	1	
	Z	36Z	○		3.55	3.80	5	130	5	1000	0.5	10	1	
Z02W3.9V	-	39	○		3.70	4.10	5	130	5	1000	0.5	10	1	
	X	39X	○		3.70	3.97	5	130	5	1000	0.5	10	1	
	Z	39Z	○		3.87	4.10	5	130	5	1000	0.5	10	1	
Z02W4.3V	Y	4.3Y	○		4.13	4.35	5	130	5	1000	0.5	5	1	
Z02W4.7V	Y	4.7Y	○		4.53	4.76	5	120	5	1000	0.5	5	1	
Z02W5.1V	Y	5.1Y	○		4.97	5.240	5	70	5	1000	0.5	1	1.5	
Z02W5.6V	Y	5.6Y	○		5.43	5.81	5	40	5	900	0.5	1	2.5	
Z02W6.2V	Y	6.2Y	○		6.00	6.39	5	30	5	500	0.5	1	3	
Z02W6.8V	Y	6.8Y	○		6.60	7.02	5	25	5	150	0.5	0.5	5	
Z02W7.5V	Y	7.5Y	○		7.23	7.66	5	23	5	120	0.5	0.5	6	
Z02W8.2V	Y	8.2Y	○		7.96	8.43	5	20	5	120	0.5	0.5	6.5	
Z02W9.1V	Y	9.1Y	○		8.80	9.30	5	18	5	120	0.5	0.5	7	
Z02W10V	Y	10Y	○	9.73	10.26	5	15	5	120	0.5	0.5	8		
Z02W11V	Y	11Y	○	10.73	11.26	5	15	5	120	0.5	0.5	8.5		
Z02W12V	Y	12Y	○	11.73	12.26	5	15	5	110	0.5	0.5	9		
Z02W13V	Y	13Y	○	12.88	13.57	5	15	5	110	0.5	0.5	10		
Z02W15V	Y	15Y	○	14.33	15.11	5	15	5	110	0.5	0.5	11		
Z02W16V	Y	16Y	○	15.80	16.60	5	18	5	150	0.5	0.5	12		
Z02W18V	Y	18Y	○	17.46	18.43	5	20	5	150	0.5	0.5	14		
Z02W20V	Y	20Y	○	19.48	20.46	5	25	5	200	0.5	0.5	15		
Z02W22V	Y	22Y	○	21.48	22.56	5	30	5	200	0.5	0.5	17		
Z02W24V	Y	24Y	○	23.61	24.92	5	40	5	200	0.5	0.5	19		
Z02W27V	-	27A	○	26.19	27.53	2	150	2	150	0.5	0.1	21		
Z02W30V	-	30A	○	29.19	30.69	2	200	2	200	0.5	0.1	23		
Z02W33V	-	33A	○	32.15	33.79	2	250	2	250	0.5	0.1	25		
Z02W36V	-	36A	○	35.07	36.87	2	300	2	300	0.5	0.1	27		

Note) ○ : AEC-Q Qualified
 Note) + : Irregular Production

DIODE

Zener Diode

200mW Zener Diode

Type No.	Mark	AEC-Q	P _D (mW)	V _Z (V)			Z _Z (Ω)		Z _{Zk} (Ω)		I _R (μA)		PKG
				Min.	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@V _R (V)	
BZX84C2V0+	2AH	○	▽300	1.85	2.15	5	100	5	1000	0.5	120	1	SOT-23
BZX84C2V2+	2BH	○		2.05	2.38	5	100	5	1000	0.5	120	1	
BZX84C2V4+	2CH	○		2.28	2.6	5	100	5	1000	0.5	120	1	
BZX84C2V7+	2DH	○		2.50	2.9	5	100	5	1000	0.5	120	1	
BZX84C3V0+	30H	○		2.80	3.2	5	120	5	1000	0.5	50	1	
BZX84C3V3	33H	○		3.10	3.5	5	130	5	1000	0.5	20	1	
BZX84C3V6+	36H	○		3.40	3.8	5	130	5	1000	0.5	10	1	
BZX84C3V9+	39H	○		3.70	4.1	5	130	5	1000	0.5	10	1	
BZX84C4V3	4.3H	○		4.13	4.35	5	130	5	1000	0.5	5	1	
BZX84C4V7	4.7H	○		4.53	4.76	5	120	5	1000	0.5	5	1	
BZX84C5V1	5.1H	○		4.97	5.24	5	70	5	1000	0.5	1	1.5	
BZX84C5V6	5.6H	○		5.43	5.81	5	40	5	900	0.5	1	2.5	
BZX84C6V2	6.2H	○		6.00	6.39	5	30	5	500	0.5	1	3	
BZX84C6V8	6.8H	○		6.60	7.02	5	25	5	150	0.5	0.5	5	
BZX84C7V5+	7.5H	○		7.23	7.66	5	23	5	120	0.5	0.5	6	
BZX84C8V2+	8.2H	○		7.96	8.43	5	20	5	120	0.5	0.5	6.5	
BZX84C9V1	9.1H	○		8.80	9.3	5	18	5	120	0.5	0.5	7	
BZX84C10	10H	○		9.73	10.26	5	15	5	120	0.5	0.5	8	
BZX84C11	11H	○		10.73	11.26	5	15	5	120	0.5	0.5	8.5	
BZX84C12	12H	○		11.73	12.26	5	15	5	110	0.5	0.5	9	
BZX84C13	13H	○		12.88	13.57	5	15	5	110	0.5	0.5	10	
BZX84C15+	15H	○		14.33	15.11	5	15	5	110	0.5	0.5	11	
BZX84C16+	16H	○		15.80	16.6	5	18	5	150	0.5	0.5	12	
BZX84C18+	18H	○		17.46	18.43	5	20	5	150	0.5	0.5	14	
BZX84C20	20H	○		19.48	20.46	5	25	5	200	0.5	0.5	15	
BZX84C22+	22H	○		21.48	22.56	5	30	5	200	0.5	0.5	17	
BZX84C24	24H	○		23.61	24.92	5	40	5	200	0.5	0.5	19	
BZX84C27+	27B	○		26.19	27.53	2	150	2	150	0.5	0.1	21	
BZX84C30+	30B	○		29.19	30.69	2	200	2	200	0.5	0.1	23	
BZX84C33+	33B	○		32.15	33.79	2	250	2	250	0.5	0.1	25	
BZX84C36	36B	○	35.01	36.87	2	300	2	300	0.5	0.1	27		

Note) ▽ : Package Mounted on 99.5% alumina 10X8X0.6mm

Note) ○ : AEC-Q Qualified

Note) + : Irregular Production

■ 500mW Zener Diode

Type No.	Grade	Mark	AEC-Q	P _D (mW)	V _Z (V)			Z _Z (Ω)		Z _{ZK} (Ω)		I _R (μA)		PKG
					Min.	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@V _R (V)	
KDZ4.3WV	Y	43	○	☆500	4.17	4.43	5	130	5	1000	0.5	5	1.0	SOD-123
KDZ4.7WV	Y	47	○		4.55	4.75	5	120	5	1000	0.5	5	1.0	
KDZ5.1WV	Y	51	○		4.98	5.20	5	70	5	1000	0.5	1	1.5	
KDZ5.6WV	Y	56	○		5.49	5.73	5	40	5	900	0.5	1	2.5	
KDZ6.2WV	Y	62	○		6.06	6.33	5	30	5	500	0.5	1	3.0	
KDZ6.8WV	Y	68	○		6.65	6.93	5	25	5	150	0.5	0.5	5.0	
KDZ7.5WV	Y	75	○		7.28	7.60	5	23	5	120	0.5	0.5	6.0	
KDZ8.2WV	Y	82	○		8.02	8.36	5	20	5	120	0.5	0.5	6.5	
KDZ9.1WV	Y	91	○		8.85	9.23	5	18	5	120	0.5	0.5	7.0	
KDZ10WV	Y	10	○		9.77	10.21	5	15	5	120	0.5	0.5	8.0	
KDZ11WV	Y	11	○		10.76	11.22	5	15	5	120	0.5	0.5	8.5	
KDZ12WV	Y	12	○		11.74	12.24	5	15	5	110	0.5	0.5	9.0	
KDZ13WV	Y	13	○		12.91	13.49	5	15	5	110	0.5	0.5	10.0	
KDZ15WV	Y	15	○		14.34	14.98	5	15	5	110	0.5	0.5	11.0	
KDZ16WV	Y	16	○		15.85	16.51	5	18	5	150	0.5	0.5	12.0	
KDZ18WV	Y	18	○		17.56	18.35	5	20	5	150	0.5	0.5	14.0	
KDZ20WV	Y	20	○		19.52	20.39	5	25	5	200	0.5	0.5	15.0	
KDZ22WV	Y	22	○		21.54	22.47	5	30	5	200	0.5	0.5	17.0	
KDZ24WV	Y	24	○		23.72	24.78	5	40	5	200	0.5	0.5	19.0	
KDZ27WV	-	A1	○		26.19	27.53	2	150	2	150	0.5	0.1	21.0	
KDZ30WV	-	A2	○	29.19	30.69	2	200	2	200	0.5	0.1	23.0		
KDZ33WV	-	A3	○	32.15	33.79	2	250	2	250	0.5	0.1	25.0		
KDZ36WV	-	A4	○	35.07	36.87	2	300	2	300	0.5	0.1	27.0		

Note) ☆ : Mounted on a glass epoxy circuit board of 5X5cm, pad dimension of 2.5X2.5cm

Note) ○ : AEC-Q Qualified

Zener Diode

■ 500mW Zener Diode

Type No.	Grade	Mark	AEC-Q	P _D (mW)	V _Z (V)			I _R (μ A)		PKG
					Min.	Max.	@I _Z (mA)	Max.	@V _R (V)	
USCFZ2.0V+	-	2A	●	□500	1.85	2.15	5	120	1.0	USCF
	Y				1.95	2.15				
USCFZ2.2V+	-	2B	●	□500	2.05	2.38	5	120	1.0	USCF
	Y				2.16	2.38				
USCFZ2.4V+	-	2C	●	□500	2.28	2.60	5	120	1.0	USCF
	Y				2.40	2.60				
USCFZ2.7V+	-	2D	●	□500	2.50	2.90	5	120	1.0	USCF
	Y				2.65	2.90				
USCFZ3.0V+	-	30	●	□500	2.80	3.20	5	50	1.0	USCF
	Y				2.95	3.20				
USCFZ3.3V+	-	33	●	□500	3.10	3.50	5	20	1.0	USCF
	Y				3.25	3.50				
USCFZ3.6V+	-	36	●	□500	3.40	3.80	5	10	1.0	USCF
	Y				3.60	3.85				
USCFZ3.9V+	-	39	●	□500	3.70	4.10	5	10	1.0	USCF
	Y				3.89	4.16				
USCFZ4.3V	Y	43	○	□500	4.17	4.43	5	5	1.0	USCF
USCFZ4.7V	Y	47	○	□500	4.55	4.75	5	5	1.0	USCF
USCFZ5.1V	Y	51	○	□500	4.98	5.20	5	1	1.5	USCF
USCFZ5.6V	Y	56	○	□500	5.49	5.73	5	1	2.5	USCF
USCFZ6.2V	Y	62	○	□500	6.06	6.33	5	1	3.0	USCF
USCFZ6.8V	Y	68	○	□500	6.65	6.93	5	0.5	5.0	USCF
USCFZ7.5V	Y	75	○	□500	7.28	7.60	5	0.5	6.0	USCF
USCFZ8.2V	Y	82	○	□500	8.02	8.36	5	0.5	6.5	USCF
USCFZ9.1V	Y	91	○	□500	8.85	9.23	5	0.5	7.0	USCF
USCFZ10V	Y	10	○	□500	9.77	10.21	5	0.5	8.0	USCF
USCFZ11V	Y	11	○	□500	10.76	11.22	5	0.5	8.5	USCF
USCFZ12V	Y	12	○	□500	11.74	12.24	5	0.5	9.0	USCF
USCFZ13V	Y	13	○	□500	12.91	13.49	5	0.5	10	USCF
USCFZ15V	Y	15	○	□500	14.34	14.98	5	0.5	11	USCF
USCFZ16V	Y	16	○	□500	15.85	16.51	5	0.5	12	USCF
USCFZ18V	Y	18	○	□500	17.56	18.35	5	0.5	14	USCF
USCFZ20V	Y	20	○	□500	19.52	20.39	5	0.5	15	USCF
USCFZ22V	Y	22	○	□500	21.54	22.47	5	0.5	17	USCF
USCFZ24V	Y	24	○	□500	23.72	24.78	5	0.5	19	USCF
USCFZ27V	-	A1	○	□500	26.19	27.53	2	0.1	21	USCF
USCFZ30V	-	A2	○	□500	29.19	30.69	2	0.1	23	USCF
USCFZ33V	-	A3	○	□500	32.15	33.79	2	0.1	25	USCF
USCFZ36V	-	A4	○	□500	35.07	36.87	2	0.1	27	USCF

Note) □ : Mounted on a glass epoxy circuit board of 1X1 inch

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Note) + : Irregular Production

■ 500mW Zener Diode

Type No.	Mark	AEC-Q	P _D (mW)	V _Z			I _R (μ A)		PKG
				Min.	Max.	@I _Z (mA)	Max.	@V _R (V)	
USFZ4.3V	43	○	500	3.9	4.8	10	10	1.0	USF
USFZ4.7V	47	○		4.3	5.2	10	10	1.0	
USFZ5.1V	51	○		4.6	5.6	10	10	1.5	
USFZ5.6V	56	○		5.1	6.1	10	10	2.5	
USFZ6.2V	62	○		5.6	6.8	10	10	3.0	
USFZ6.8V	68	○		6.2	7.4	10	10	3.5	
USFZ7.5V	75	○		6.8	8.3	10	10	4.5	
USFZ8.2V	82	○		7.4	9	10	10	4.9	
USFZ9.1V	91	○		8.2	10	10	10	5.5	
USFZ10V	10	○		9	11	10	10	6.0	
USFZ11V+	11	○		9.9	12.1	10	10	7.0	
USFZ12V+	12	○		10.8	13.2	10	10	8.0	
USFZ13V+	13	○		11.7	14.3	10	10	9.0	
USFZ15V	15	○		13.5	16.5	10	10	10.0	
USFZ16V+	16	○		14.4	17.6	10	10	11.0	
USFZ18V	18	○		16.2	19.8	10	10	12.0	
USFZ20V	20	○		18	22	10	10	14.0	
USFZ22V+	22	○		19.8	24.2	10	10	15.0	
USFZ24V	24	○		21.6	26.4	10	10	16.0	
USFZ27V+	27	○		24.3	29.7	10	10	19.0	
USFZ30V+	30	○	27	33	10	10	21.0		
USFZ33V	33	○	29.7	36.3	10	10	23.0		
USFZ36V	36	○	32.4	39.6	10	10	25.0		

Note) ○ : AEC-Q Qualified

Note) + : Irregular Production

Zener Diode

1W Zener Diode

Type No.	Mark	AEC-Q	P _d (W)	V _Z			I _R (μ A)		PKG
				Min.	Max.	@I _Z (mA)	Max.	@V _R (V)	
SMFZ4.3V	ZZJ	○	□1	4.30	4.8	40	20	1.0	SMF
SMFZ4.7V	ZZK	○		4.70	5.2	40	20	1.0	
SMFZ5.1V	ZZL	○		5.10	5.7	40	20	1.0	
SMFZ5.6V	ZZM	○		5.60	6.3	40	20	1.5	
SMFZ6.2V	ZZN	○		6.20	7	40	20	3.0	
SMFZ6.8V	ZZP	○		6.80	7.7	40	20	3.5	
SMFZ7.5V	ZZQ	○		7.50	8.4	40	20	4.0	
SMFZ8.2V	ZZR	○		8.20	9.3	40	20	5.0	
SMFZ9.1V	ZZS	○		9.10	10.2	40	20	6.0	
SMFZ10V	Z10	○		10.00	11.2	40	10	7.0	
SMFZ11V	Z11	○		11.00	12.3	20	10	8.0	
SMFZ12V	Z12	○		12.00	13.5	20	10	9.0	
SMFZ13V	Z13	○		13.30	15	20	10	10.0	
SMFZ15V	Z15	○		14.70	16.5	20	10	11.0	
SMFZ16V	Z16	○		16.20	18.3	20	10	12.0	
SMFZ18V	Z18	○		18.00	20.3	20	10	13.0	
SMFZ20V	Z20	○		20.00	22.4	20	10	15.0	
SMFZ22V	Z22	○		22.00	24.5	10	10	17.0	
SMFZ24V	Z24	○		24.00	27.6	10	10	19.0	
SMFZ27V	Z27	○		27.00	30.8	10	10	21.0	
SMFZ30V	Z30	○	30.00	34	10	10	23.0		
SMFZ33V	Z33	○	33.00	37	10	10	25.0		
SMFZ36V	Z36	○	36.00	40	10	10	27.0		
SMAZ4.3V	Z4.3	○	1	4.30	4.8	40	20	1.0	SMA
SMAZ4.7V	Z4.7	○		4.70	5.2	40	20	1.0	
SMAZ5.1V	Z5.1	○		5.10	5.7	40	20	1.0	
SMAZ5.6V	Z5.6	○		5.60	6.3	40	20	1.5	
SMAZ6.2V	Z6.2	○		6.20	7.0	40	20	3.0	
SMAZ6.8V	Z6.8	○		6.80	7.7	40	20	3.5	
SMAZ7.5V	Z7.5	○		7.50	8.4	40	20	4.0	
SMAZ8.2V	Z8.2	○		8.20	9.3	40	20	5.0	
SMAZ9.1V	Z9.1	○		9.10	10.2	40	20	6.0	
SMAZ10V	Z10	○		10.00	11.2	40	10	7.0	
SMAZ11V	Z11	○		11.00	12.3	20	10	8.0	
SMAZ12V	Z12	○		12.00	13.5	20	10	9.0	
SMAZ13V	Z13	○		13.30	15.0	20	10	10.0	
SMAZ15V	Z15	○		14.70	16.5	20	10	11.0	
SMAZ16V	Z16	○		16.20	18.3	20	10	12.0	
SMAZ18V	Z18	○		18.00	20.3	20	10	13.0	
SMAZ20V	Z20	○		20.00	22.4	20	10	15.0	
SMAZ22V	Z22	○		22.00	24.5	10	10	17.0	
SMAZ24V	Z24	○		24.00	27.6	10	10	19.0	
SMAZ27V	Z27	○		27.00	30.8	10	10	21.0	
SMAZ30V	Z30	○	30.00	34.0	10	10	23.0		
SMAZ33V	Z33	○	33.00	37.0	10	10	25.0		
SMAZ36V	Z36	○	36.00	40.0	10	10	27.0		

Note) □ : Mounted on a glass epoxy circuit board of 5X5cm, pad dimension of 2.5X2.5cm

Note) ○ : AEC-Q Qualified

High Voltage Zener Diode

Type No.	Mark	AEC-Q	P _D (mW)	V _Z (V)			z _Z (Ω)		z _{Zk} (Ω)		I _R (μA)		PKG
				Min.	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@I _Z (mA)	Max.	@V _R (V)	
KDZ82V	J	●	☆200	74	90	1	700	1	700	0.5	0.1	65	USC
KDZ295V	A6	●		80.0	110	1	700	1	-	-	0.2	75	
KDZ100V	AQ	○		95.0	105	1	700	1	-	-	0.2	76	
★KDZ100VW	AW	○		95.0	105	1	700	1	-	-	0.2	76	
KDZ110V	N	●		104	116	1	700	1	-	-	0.1	94	
KDZ150V	K	●		142	158	1	700	1	-	-	0.1	128	
KDZ160V	V	●		152	168	1	700	1	-	-	0.1	136	
KDZ200V	L	●		190	210	1	700	1	-	-	0.1	170	
KDZ110WV	ZE1	●	☆400	104	120	1	700	1	-	-	0.1	83	SOD-123
KDZ110WVA	RV5	●		104	116	1	700	1	-	-	0.1	94	
KDZ150WVA	TV5	●		142	158	1	700	1	-	-	0.1	128	
KDZ160WVA	SV5	●		152	168	1	700	1	-	-	0.1	136	
KDZ200WVA	UV5	●		190	210	1	700	1	-	-	0.1	170	
Z02W100V	10A	○	200	95.0	105	1	700	1	-	-	0.2	76	SOT-23

Note) ☆ : Mounted on a glass epoxy circuit board of 20X20mm, pad dimension of 4X4mm











Note) ★ : Bi-directional Zener Diode

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q








Series Type Zener Diode

Type No.	Mark	AEC-Q	P _D (mW)	V _Z (V)			I _R (μA)		PKG
				Min.	Max.	@I _Z (mA)	Max.	@V _R (V)	
Z02W7.5VS	Z7	●	200	7.23	7.66	5	0.5	6	SOT-23
Z02W9.1VS	Z9	●	200	8.8	9.7	5	0.5	7	

Note) ● : Preparing for qualification of AEC-Q

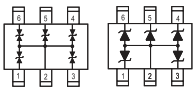
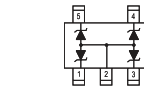
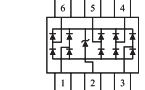

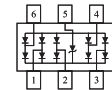
Electrical Characteristics		Single Type (Leadless-Type)									
		ELP-2	ELP-2A		ELP-2D	ULP-2		ULP-2(1)	ULP-2(2)	ULP-2(3)	DFN1610
											
V _{RWM} [V]	P _{PK} [W]	0.6*0.3*0.3mm			1.0*0.6*0.4mm		1.0*0.6*0.4mm	1.0*0.6*0.5mm	1.0*0.6*0.4mm	1.6*1.0*0.55mm	
3	20				PS03VBEL2D ^{LOW}		PS03VBUL2 ^{LOW}				
	50		PS03TSEL2A ^{LOW}		PD03TCBEL2D ^{LOW}		PS03TBUL2 ^{LOW}				
	70			PS03CBEL2A			PS03CBUL2				
	120									PS03PCSUL2	
	280							PG03HSUL2			
	450							PS03GBUL2			
5	30			PG05DBEL2A	PS05VBEL2D ^{LOW}		PS05VBUL2 ^{LOW}				
	50	PG05ESEL2			PD05TCBEL2D ^{LOW}						
	60		PS05TSEL2A ^{LOW}	PS05CBEL2A	PS05TBEL2D ^{LOW}	PS05TSUL2 ^{LOW}	PS05TBUL2 ^{LOW}		PS05TSUL2A ^{LOW}		
	75						PS05CBUL2				
	100					PG05FSUL2					
	120						PS05TCBUL2 ^{LOW}				
	180									PS06CSUL2	
	200					PG05GSUL2	PS05DBUL2				
	260									PG08GSUL2	
	280							PG05HSUL2			
	1200										PG05KS1610D2
7	130						PG07DBUL2				
8	1480										PG08JS1610D2
9	1510										PG09HS1610D2
12	80	PG12ESEL2									
	150						PG12DBUL2				
	1350										PG12HS1610D2
15	1600										PG12GS1610D2
18	1470										PG18HS1610D2
20	1350										PG20GS1610D2
22	1250										PG22GS1610D2
24	120						PG24DBUL2				
	1330										PG24GS1610D2
26	1380										PG26GS1610D2
36	150					PG36DSUL2					

Note) ^{LOW}: Low Capacitance Device ($\leq 1\text{pF}$)

Electrical Characteristics		Single Type (SMD - Type)						
		TESC		ESC		USC		USF
								
V_{RWM} [V]	P_{PK} [W]	0.8*0.6*0.4mm		1.2*0.8*0.6mm		1.7*1.25*1.0mm		1.9*1.25*0.6mm
3	50			PG03FSESC				
5	30			PG05BESEC				
	60				PS05CBESC			
	80	PG05FSTFC	PG05DBTFC		PG05FBESC			
	100			PG05FSESC				
	150				PS05DBESC			
	200		PS05DBTFC					
	350					PG05HSUSC	PG05GBUSC	
10	1000						PG10HSUSF	
12	350					PG12GSUSC	PG12FBUSC	
15	350					PG15GSUSC	PG15FBUSC	
24	350					PG24GSUSC	PG24EBUSC	
33	180	PG33DSTFC						
36	150			PS36DESEC				
	600					PG36FSUSC		
48	1200					PG48FSUSC		
15, 24	210						PG1524DBUSC	

Electrical Characteristics		Array Type (Leadless-Type)		Array Type (SMD-Type)				
		ULP-9	ULP-10	ESM	USM	SOT-23		
V_{RWM} [V]	P_{PK} [W]	2.0*1.0*0.4mm	2.5*1.0*0.5mm	1.6*0.85*0.7mm	2.0*1.25*0.9mm	2.93*1.3*1.0mm		
5	30				PG05BAUSM			
	60	PS05TVUL9 ^{LOW}						
	80		PS05SVU10 ^{LOW}	PG05EAESM		PG05EAS23		
	100							
	350					PG05HAS23		
12	350					PG12GAS23		PG12GCS23
24	120						PG24DAS23	
	350					PG24FAS23	PG24EAS23	
36	550						PG36FSS23	
7,12	400						PG712FBS23	

Note) ^{LOW}: Low Capacitance Device ($\leq 1\text{pF}$)

Electrical Characteristics		Array Type (SMD-Type)				
		TES6	USV	US6	TS6	SOT23-6L
						
V _{RWM} [V]	P _{PK} [W]	1.6*1.2*0.5mm	2.0*2.1*0.9mm	2.0*2.1*0.9mm	2.9*1.6*0.7mm	2.9*1.6*1.15mm
5	60			PS05RVUS6 ^{LOW}		PS05RVS26 ^{LOW}
	150	PG05GXTE6				
	200		PG05GBUSV			
24	350				PG24FBTS6	

Note) ^{LOW} : Low Capacitance Device (≤1pF)

DIODE

■ General Purpose TVS (Single Type)

Type No.	Mark	AEC-Q	Max. Ratings		V _{RWM} (V)	V _{BR} (V)		I _R (μA)		V _C (V)		C _T (pF)	ESD (kV)	PKG	
			P _{PK} (W)	I _{PP} (A)		Max.	Min.	@I _t (mA)	Max.	@V _R (V)	Max.				@I _{PP} (A)
PG05ESEL2		K	○	50	5	5	6	1	5	5	10	5	50	15	ELP-2
PG12ESEL2		A	○	80	3	12	13.3	1	1	12	27	3	20	15	
PS03CBEL2A		M	○	70	7	3.3	3.5	0.002	0.05	3.3	10	7	9	20	ELP-2A
PG05DBEL2A		B	○	30	2	5	5.8	1	0.1	5	15	2	9	15	
PS05CBEL2A		T	○	60	5	5	6	0.002	0.05	5	12	5	9	30	
PS03CBEL2B		M	○	70	7	3.3	3.65	0.002	0.05	3.3	10	7	9	20	ELP-2B
PS05CBEL2B		T	○	60	5	5	6	0.002	0.05	5	12	5	9	30	
PG05FSUL2		5P	○	100	10	5	6	1	5	5	10	10	80	15	ULP-2
PG05GSUL2		TA	○	200	16	5	6	1	5	5	12.5	16	160	30	
PG36DSUL2		DS	○	150	2.5	36	38	1	0.1	36	60	2.5	20	12	
PS03CBUL2		Z	○	70	7	3.3	3.5	0.002	0.05	3.3	10	7	9	20	ULP-2
PS05CBUL2		ZZ	○	75	6	5	6	0.002	0.05	5	12.5	6	9	30	
PS05DBUL2		H	○	200	12	5	6	0.002	0.1	5	17	12	25	30	
PG07DBUL2		I	○	130	7	7	10	1	0.1	7	14	7	30	20	
PG12DBUL2		HH	○	150	7	12	14.8	5	0.1	12	27	7	25	20	
PG24DBUL2		II	○	120	3	24	25.9	1	0.1	24	40	3	15	20	
PS06CSUL2		6C	●	180	15	6	6.5	1	0.1	6	12	15	9	30	ULP-2(3)
PG08GSUL2		SH	○	260	20	7.6	7.9	1	0.1	7.6	13	20	200	30	
PG03HSUL2		3D	○	280	30	3.3	4.5	1	1	3.3	Typ. 7.8	30	Typ. 300	30	ULP-2(1)
PG05HSUL2		5D	○	280	25	5.5	6	1	1	5.5	Typ. 9.2	25	Typ. 240	30	
PG05KS1610D2		KA	●	1240	80	5	7	1	0.1	5	15.5	80	850	30	DFN1610
PG09HS1610D2		KP	●	1150	50	9	10	1	0.1	9	23	50	400	30	
PG12HS1610D2		KH	●	1050	36	12	14	1	0.1	12	29	36	300	30	
PG15HS1610D2		KC	●	990	30	15	17.5	1	0.1	15	33	30	250	30	
PG18HS1610D2		KD	●	825	25	18	20	1	0.1	18	33	25	250	30	
PG20GS1610D2		KJ	●	800	23	20	22	1	0.1	20	35	23	200	30	
PG22GS1610D2		KF	●	940	23	22	24.5	1	0.1	22	41	23	250	30	
PG24GS1610D2		KK	●	900	20	24	28	1	0.1	24	45	20	200	30	
PG26GS1610D2		KL	●	830	18	26	29	1	0.1	26	46	18	180	30	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q



■ General Purpose TVS (Single Type)

Type No.	Mark	AEC-Q	Max. Ratings		V _{RWM} (V)	V _{BR} (V)		I _r (μA)		V _c (V)		C _T (pF)	ESD (kV)	PKG		
			P _{PK} (W)	I _{PP} (A)		Max.	Min.	@I _L (mA)	Max.	@V _R (V)	Max.				@I _{PP} (A)	Max.
PG05FSTFC		E1	○	80	5	5	6	1	5	5	16	5	70	30	TFSC	
PG33DSTFC		TF	○	180	3	33	35	1	1	33	55	2.5	20	12		
PG05DBTFC		6	○	80	5	5	5.8	1	1	5	17	5	25	8	TFSC	
PS05DBTFC		DB	○	200	12	5	6	0.002	0.1	5	17	12	25	30		
PG03FSESC		3S	○	50	5	3.3	4	1	20	3.3	10.9	5	100	8	ESC	
PG05FSESC		5S	○	100	10	5	6	1	5	5	10	10	80	8		
PG05BSESC		D2	○	30	1.6	5	6.65	5	0.5	5	18	1.6	5	8		
PG36DSESC		DS	○	150	2.5	36	38	1	0.1	36	60	2.5	20	12		
PG05FBESC		5B	○	80	5	5	5.8	1	5	5	17	5	80	8	ESC	
PS05DBESC		D5	●	150	12	5	6.3	0.002	0.1	5	14	12	25	30		
PS05CBESC		C5	○	75	6	5	6	0.002	0.05	5	12.5	6	9	30		
PG05HSUSC		5H	○	350	24	5	6	1	10	5	14.5	24	350	8	USC	
PG12GSUSC		L	○	350	15	12	13.8	1	1	12	25	15	150	20		
PG15GSUSC		SD	○	350	12	15	16.7	1	1	15	29	12	150	8		
PG24GSUSC		T	○	350	8	24	27.2	1	1	24	45	8	200	20		
PG36FSUSC		6F	○	600	10	36	42	1	0.1	36	60	10	100	30		
PG48FSUSC		8F	○	1,200	12	48	55	1	0.1	48	100	12	100	30		
PG05GBUSC		5G	○	350	24	5	6	1	10	5	14.5	24	200	8	USC	
PG12FBUSC		2	○	350	15	12	13.8	1	1	12	25	15	100	20		
PG15FBUSC		BD	○	350	12	15	16.7	1	1	15	29	12	75	8		
PG1524DBUSC		D1	PA	○	160	5	15	17	1	0.1	15	32	5	17		30
		D2			200	4	24	25	1	0.1	24	50	4	17		30
PG24EBUSC	4E	○	350	8	24	27.2	1	1	24	45	8	50	20			

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q









DIODE

General Purpose TVS (Single Type)

Type No.		Mark	AEC-Q	Max. Ratings		$V_{RWM}(V)$	$V_{BR}(V)$		$I_R(\mu A)$		$V_C(V)$		$C_T(pF)$	ESD(kV)	PKG
				$P_{PK}(W)$	$I_{PP}(A)$	Max.	Min.	@ I_L (mA)	Max.	@ V_R (V)	Max.	@ I_{PP} (A)	Max.	Contact	
PG10HSUSF		HS	○	1000	43	10	12	1	1	10	24	43	500	30	USF
PG03LSSMF		ZZM	●	600	70	3	4.5	1	5	3	8 (Typ)	30	1350 (Typ)	30	SMF

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

■ General Purpose TVS (Array Type)

Type No.	Mark	AEC-Q	Max. Ratings		V _{RWM} (V)	V _{BR} (V)		I _R (μA)		V _C (V)		C _T (pF)	ESD(kV)	PKG	
			P _{PK} (W)	I _{PP} (A)		Max.	Min.	@I _L (mA)	Max.	@V _R (V)	Max.				@I _{PP} (A)
PG05EAESM		D4	○	80	6.7	5	6.46	5	1	5	17	5	40	8	ESM
PG05GXTE6		5X	○	150	10	5	6.3	1	1	5	14.5	10	100	8	TES6
PG05BAUSM		BA	○	30	1.6	5	6.65	5	0.5	5	18	1.6	5	8	USM
PG05GBUSV		5G	○	200	12	5	6	1	10	5	16	12	175	30	USV
PG24FBTS6		4F	○	350	8	24	27	1	1	24	44	8	75	8	TS6
PG05HAS23		5HA	○	350	24	5	6	1	20	5	14.5	24	400	8	SOT-23
PG12GAS23		12G	○	350	15	12	13.3	1	1	12	25	15	150	8	
PG24FAS23		24F	○	350	8	24	26.7	1	1	24	43.5	8	60	8	
PG36FSS23		E30	●	550	9	36	42	1	100	36	61	9	50	30	
PG12GCS23		12	○	350	15	12	13.3	1	0.1	12	25	15	120	8	
PG712FBS23	D1	712	○	400	17	7	7.5	1	20	7	12	17	75	8	
	D2					12	13.3	1	20	12	26	17	75	8	
PG24DAS23		QD	○	120	3	24	25	1	100	24	40	3	17	30	
PG24EAS23		QA	●	330	7	24	26	1	100	24	37	7	30	30	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

DIODE

TVS Diode




Low Cap TVS (Single. / Array Type)

Type No.	Mark	AEC-Q	Max. Ratings		$V_{RWM}(V)$	$V_{BR}(V)$			$I_R(\mu A)$		$V_C(V)$		$C_T(pF)$	ESD(kV)	PKG
			$P_{PK}(W)$	$I_{PP}(A)$		Max.	Min.	@ I_t (mA)	Max.	@ $V_R(V)$	Max.	@ $I_{PP}(A)$			
PS03TSEL2A		H	○	50	4.0	3.3	5.0	-	0.1	3.3	14	4	0.9	20	ELP-2A
PS05TSEL2A		E1	○	60	4.0	5.0	6.0	-	0.1	5.0	15	4	0.9	20	
PS03VBEL2D		C	●	18	1.8	3.3	4.5	1	0.1	3.3	10	1.8	0.3	12	ELP-2D
PD03TCBEL2D		K	●	65	8.5	3.3	6.0	1	0.1	3.3	7.7	8.5	0.35	16	
PS05VBEL2D		V	●	22	2.0	5.0	5.5	1	0.1	5.0	11	2	0.3	12	
PD05TCBEL2D		Z	●	65	8.5	5	11.5	1	0.1	5	7.7	8.5	0.35	16	
PS05TBEL2D		S	○	60	4.0	5.0	6.0	0.002	0.1	5.0	15	4	0.5	20	
PS05TSUL2		S2	○	60	4.0	5.0	6.0	0.002	0.1	5.0	15	4	0.9	25	
PS03VBUL2		S	●	18	1.8	3.3	4.5	1	0.1	3.3	10	1.8	0.3	12	ULP-2
PS03TBUL2		8	○	50	4.0	5.0	4.5	0.002	0.05	5.0	13	4	0.5	20	
PS05VBUL2		N	●	22	2.0	5.0	5.5	1	0.1	5.0	11	2	0.3	12	
PS05TBUL2		88	○	60	4.0	5.0	5.5	50	0.1	5.0	15	4	0.5	25	
PG05TBUL2		TK	○	100	4.0	5.0	6.0	0.002	0.1	5.0	15	4	0.5	8	
PG05TBUL2A		TS	○	100	4.0	5.0	7.0	1	0.1	5.0	15	4	0.6	8	
PS05TCBUL2		O	●	120	9.0	5.0	5.5	1	0.1	5.0	15	9	0.9	30	
PS05TSUL2A		S2	○	60	4.0	5.0	6.0	0.002	0.1	5.0	15	4	0.9	25	ULP-2(2)
PS03PSUL2		K	●	65	7	3.3	4.5	1	0.1	3.3	9.3	7	2.0	30	ULP-2(3)
PS05TVUL9		BY	○	60	4.0	5.0	6.0	1	0.3	5.0	15	4	0.6	20	ULP-9
PS05RVUS6		RV	○	80	4.0	5.0	6.0	0.002	0.3	5.0	20	4	1.0	12	US6
PS05RVS26		RE	●	60	4.0	5.0	6.0	0.002	0.3	5.0	15	4	1.0	20	SOT23-6L
PS05SVU10		SU	○	80	5.0	5.0	6.0	0.002	0.3	5.0	16	5	1.0	25	ULP-10

Note) *: Under development

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

■ Power TVS

Type No.	Mark	AEC-Q	Max. Ratings		V _{RWM} (V)	V _{BR} (V)		I _R (μA)		V _C (V)		C _T (pF)	ESD (kV)	PKG	
			P _{PK} (W)	I _{PP} (A)	Max.	Min.	@I _t (mA)	Max.	@V _R (V)	Max.	@I _{PP} (A)	Max.	Contact		
PG24LSSMAF		P24	○	600	18.5	24	26.7	1	0.1	24	32.5	18.5	1000	30	SMAF
PG36JSSMAF		P36	○	600	12.8	36	40	1	0.1	36	47.2	18.5	800	30	
PG24LSSMB		Q24	○	1500	43.5	24	26.7	1	0.1	24	34.5	43.5	2000	30	SMB
PG36LSSMB		Q36	○	1500	31.5	36	40	1	0.1	36	47.7	31.5	2000	30	
PG24MSSMC		R24	○	7000	205	24	26.7	1	0.1	24	34.2	205	5000	30	SMC
PG36MSSMC		R36	○	3000	87	36	40.4	1	0.1	36	47.4	87	5000	30	

Note) ○ : AEC-Q Qualified

DIODE

Schottky Barrier Diode

Small Signal Schottky Barrier Diode

Type No.	Mark	AEC-Q	Max. Ratings							V _F (V)		I _R (μ A)		C _T (pF)			PKG
			V _{RRM} (V)	V _R (V)	I _{FM} (mA)	I _O (mA)	I _{FSM} (A)	P _D (mW)	Max.	@I _F (mA)	Max.	@V _R (V)	Max.	@V _R (V)	@f(MHz)		
KDR720EL		R	●	30	30	-	100	0.5	-	0.37	10	7	10	-	-	-	ELP-2
KDR730EL		SB	●	30	30	-	100	0.5	-	0.46	10	0.3	10	-	-	-	
KDR720EL2A		U	●	30	30	-	200	0.5	-	0.37	10	7	10	-	-	-	ELP-2A
KDR530UL		UL	●	30	30	-	500	0.5	-	0.5	500	0.5	30	30	1	1	ULP-2
KDR720UL		SB	○	30	30	-	100	1	-	0.35	10	10	10	-	-	-	
KDR740UL		SD	○	40	40	-	200	3	-	0.6	200	10	40	-	-	-	
KDR582F		M	○	5	5	-	10	0.13	☆100	0.6	10	0.25	3	0.75	0	1	TFSC
KDR552F		7	○	25	25	-	50	0.2	-	0.38	5	0.45	20	2.8	1	1	
KDR720F		R	○	30	30	-	100	1	-	0.35	10	10	10	-	-	-	
KDR730F		Q	○	30	30	-	100	0.5	-	0.45	10	0.5	10	-	-	-	
KDR720V		SB	○	30	30	-	100	1	-	0.35	10	10	10	-	-	-	VSC
KDR730V		SA	○	30	30	-	100	0.5	-	0.45	10	0.5	10	-	-	-	
KDR582E		S4	○	4	4	-	130	-	☆150	0.6	10	0.25	3	0.75	0	1	ESC
KDR367E		US	○	15	10	200	100	1	☆150	0.5	100	20	10	40	0	1	
KDR368E		U4	○	20	20	200	100	1	☆150	0.5	100	20	10	40	0	1	
KDR720E		UB	○	30	30	-	200	1	☆150	0.5	200	30	10	-	-	-	
KDR728E		UT	○	30	30	150	30	0.2	☆150	0.55	30	300	30	6.5 (Typ)	1	1	
KDR730E		EB	○	30	30	-	200	1	☆150	0.6	200	1	10	-	-	-	
KDR377E		UV	○	40	40	150	30	0.2	☆150	0.55	30	20	40	6 (Typ)	1	1	
KDR760E		DA	○	60	60	-	200	1	☆150	0.66	200	10	10	-	-	-	
KDR367		US	○	15	10	200	100	1	200	0.5	100	20	10	40	0	1	USC
KDR729		UM	○	30	30	300	200	1	☆200	0.55	200	50	30	50 (Typ)	0	1	
KDR412		U3	○	40	20	-	500	3	-	0.5	500	30	10	20	10	1	
KDR377		UV	○	40	40	150	30	0.2	200	0.55	30	20	40	6 (Typ)	1	1	
KDR357		UL	○	45	40	200	100	1	☆200	0.55	100	5	40	30	0	1	
KDR331V		UW	○	15	10	100	50	1	100	0.5	50	20	10	40	0	1	VSM
KDR731		UX	○	30	30	-	70	2	-	0.55	70	5	15	5 (Typ)	10	1	USM
KDR411		U3	○	40	20	-	500	3	-	0.5	500	30	10	20 (Typ)	10	1	

Note) ☆ : Mounted on a glass epoxy circuit board of 20X20mm

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Small Signal Schottky Barrier Diode

Type No.	Mark	AEC-Q	Max. Ratings						V _F (V)		I _R (μ A)		C _T (pF)			PKG
			V _{RRM} (V)	V _R (V)	I _O (mA)	I _{FSM} (A)	P _D (mW)	Max.	@I _F (mA)	Max.	@V _R (V)	Max.	@V _R (V)	@f(MHz)		
BAT54		L4	○	30	30	200	0.6	200	0.8	100	2	25	10	1	1	SOT-23
KDR411S		U3	○	40	20	500	3	-	0.5	500	30	10	20 (Typ)	10	1	
KDR105S		DL	○	50	50	100	2	-	0.55	100	10	25	7.7 (Typ)	10	1	
BAT54C		L43	○	30	30	200	0.6	200	0.8	100	2	25	10	1	1	
BAT54S		L44	○	30	30	200	0.6	200	0.8	100	2	25	10	1	1	
KDR731S		UX	○	30	30	70	2	-	0.55	70	5	15	5 (Typ)	10	1	
KDR400S		DJ	○	40	40	500	3	-	0.55	500	50	25	25 (Typ)	10	1	
KDR407S		DN	○	40	40	750	5	-	0.5	750	10	40	-	-	-	
KDR505S		DM	○	50	50	500	5	-	0.55	500	20	25	22 (Typ)	10	1	
KDR701S		DK	○	30	30	700	5	-	0.55	700	80	30	190 (Typ)	0	1	
KDR720S		MG	○	30	30	200	1	-	0.55	200	50	30	30 (Typ)	0	1	
KDR721S		MK	○	30	30	200	1	-	0.55	200	50	30	13 (Typ)	10	1	
KDR521T		T2	○	-	20	1A	3	-	0.45	1000	200	20	-	-	-	TSM
KDR531T		T3	●	-	30	1A	10	-	0.47	1000	500	15	35 (Typ)	10	1	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Power Schottky Barrier Diode

Type No.	Mark	AEC-Q	Max. Ratings			V _{FM} (V)		I _{RRM} (mA)		PKG	
			V _{RRM} (V)	I _O (A)	I _{FSM} (A)	Max.	@I _{FM} (A)	Max.	@V _R (V)		
USFB13		A3	○	30	1	5	0.47	1	0.20	30	USF
USFB13A		BA	○	30	1	22	0.52	1	0.05	30	
USFB13L		BB	●	30	1	22	Typ 0.39	1	1	30	
USFB14		SA	○	40	1	5	0.55	0.7	0.05	40	
USFB16L		A6	●	60	1	30	0.60	1	10	60	
KDR713W		W13	●	30	1	5	0.47	1	0.20	30	SOD-123
KDR714W		W14	●	40	1	5	0.55	0.7	0.05	40	
SMFB13		B13	○	30	1	22	0.42	1	1	30	SMF
SMFB16		S16	●	60	1	30	0.55	1	0.05	60	
SMFB23H		33H	○	30	2	22	0.49	2	0.05	30	
SMFB14		B14	○	40	1	22	0.50	1	1	40	
SMAFB24		T24	●	40	2	55	0.50	2	0.05	40	SMAF
SMAFB26		T26	●	60	2	50	0.50	2	0.05	60	
SMAFB34		T34	●	40	3	50	0.50	3	0.05	40	
SMAFB36		T36	●	60	3	70	0.50	3	0.05	60	
SMAFB310		T310	●	100	3	70	0.50	3	0.05	100	
SMAFAB54J	54J	●	40	5	150	0.52	5	0.15	40	SMAFA	
SMAB13		B13	○	30	1	40	0.42	1	1	30	SMA
SMAB33		B33	○	30	3	70	0.45	3	2	30	
SMAB14		B14	○	40	1	40	0.50	1	1	40	
SMAB34		B34	○	40	3	70	0.52	3	2	40	
SMAB16		B16	●	60	1	30	0.58	1	1	60	
SMAB36		B36	●	60	3	70	0.60	3	2	60	
SMAB110		B110	●	100	1	30	0.80	1	1	100	
SMAB210		B210	●	100	2	50	0.80	2	1	100	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q




Schottky Barrier Diode

Power Schottky Barrier Diode

Type No.	AEC-Q	Max. Ratings			$V_{FM}(V)$		$I_{RRM}(mA)$		$R_{th(j-c)}$ (°C/W)	PKG			
		$V_{RRM}(V)$	$I_O(A)$	$I_{FSM}(A)$	Max.	@ $I_{FM}(A)$	Max.	@ $V_{RRM}(V)$	Max.				
MBRD5U100D		●	100	5	90	0.8	5	50	100	5	DPAK(1)		
MBRD5U200D		●	200	5	90	0.95	5	50	200	5			
MBRD6U60CT		●	60	6	45	0.65	3	50	60	6			
MBRD10U60CT		●	60	10	45	0.75	5	50	60	6			
MBRD10U100CT		●	100	10	45	0.85	5	50	100	6			
MBRD10U200CT		●	200	10	45	0.95	5	50	200	6			
MBRD5U150			●	150	5	125	0.9	5	100	150		5	
MBRD10U150	●		150	10	150	0.9	10	100	150	5			
MBRD20U60CT		●	60	20	150	0.75	10	50	60	6			
MBRD20U100CT		●	100	20	150	0.85	10	50	100	6			
MBRD20U150CT		●	150	20	150	0.9	10	50	150	6			
MBRD20U200CT		●	200	20	150	0.95	10	50	200	6			
MBRF10U45CTA			○	45	10	100	0.7	5	100	45		4.5	TO-220IS(1)
MBRF15U45CTA	○		45	15	150	0.7	7.5	100	45	4			
MBRF20U45CTA	○		45	20	250	0.7	10	100	45	4			
MBRF30U45CTA	○		45	30	350	0.7	15	100	45	3.5			
MBRF10U60CTA	●		60	10	100	0.75	5	50	60	4.5			
MBRF20U60CTA	○		60	20	250	0.75	10	50	60	3.5			
MBRF30U60CTA	○		60	30	350	0.75	15	50	60	3			
MBRF20U80CTA	●		80	20	150	0.8	10	600	80	4			
MBRF10U100CTA	●		100	10	100	0.85	5	50	100	4.5			
MBRF20U100CTA	●		100	20	100	0.85	10	50	100	3.5			
MBRF30U100CTA	○		100	30	350	0.85	15	50	100	3			
MBRF10U150CTA	●		150	10	130	0.9	5	50	150	4.5			
MBRF20U150CTA	○		150	20	180	0.9	10	50	150	3.5			
MBRF10U200CTA	●		200	10	100	0.95	5	50	200	4.5			
MBRF20U200CTA	●		200	20	120	0.95	10	50	200	3.5			
MBRF10U200			●	200	10	100	0.95	10	100	200	4.5	TO-220IS (2pin)	
MBRF20U200			●	200	20	120	0.95	20	100	200	3.5		

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Power Schottky Barrier Diode(Low V_F Type)

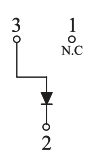




Type No.	AEC-Q	Max. Ratings			$V_{FM}(V)$		$I_{RRM}(mA)$		$R_{th(j-c)}$ ($^{\circ}C/W$)	PKG	
		$V_{RRM}(V)$	$I_O(A)$	$I_{FSM}(A)$	Max.	@ $I_{FM}(A)$	Max.	@ $V_{RRM}(V)$	Max.		
TMBRD10100CT		●	100	10	100	0.67	5	100	100	6	DPAK(1)
TMBRD20100CT		●	100	20	150	0.75	10	100	100	6	
TMBRD30100CT		●	100	30	160	0.77	15	100	100	6	
TMBRD30150CTA		●	150	30	150	0.9	15	100	150	6	
TMBRD20100D		●	100	20	150	0.7	20	200	100	6	DPAK(1)
TMBRD20150D		●	150	20	150	1	20	100	150	6	
TMBRF10100CT		○	100	10	100	0.67	5	100	100	4.5	TO-220IS(1)
TMBRF20100CT		●	100	20	150	0.7	10	100	100	4	
TMBRF30100CT		●	100	30	180	0.77	15	200	100	4	
TMBRF40100CT		○	100	40	200	0.73	20	200	100	3.5	
TMBRF40120CT		●	120	40	200	0.85	20	100	120	3.5	
TMBRF20150CT		●	150	20	150	1	20	100	150	4	
TMBRF20150CTA		●	150	20	120	0.9	20	100	150	-	
TMBRF30150CT		●	150	30	180	1.2	15	100	150	4	
TMBRF30150CTA		●	150	30	150	0.9	15	100	150	-	
TMBRF40150CT		●	150	40	200	1	20	100	150	3.5	
TMBRF40150CTA		●	150	40	200	1	20	100	150	3.5	
TMBRF20200CT		●	200	20	150	1.4	10	150	200	4	
TMBRF20200CTA		●	200	20	150	0.95	10	150	200	4	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

DIODE

Fast Recovery Rectifier

Ultra Fast Recovery Rectifier

Type No.	AEC-Q	Max. Ratings			V_{FM} (V)		I_{RM} (μA)		t_{rr} (ns)				PKG	
		V_{RRM} (V)	I_O (A)	I_{FSM} (A)	Max.	@ I_{FM} (A)	Max.	@ V_{RRM} (V)	Max.	@ V_R (V)	@ I_F (A)	di/dt (A/us)		
U5A6CD		○	600	5	100	1.7	5	30	600	35	30	1	-50	DPAK(1)
U8A6CD		○	600	8	100	1.8	8	30	600	35	30	1	-50	
U10A6CDC		○	600	10	100	1.7	5	30	600	35	30	1	-50	
U5A6CI		○	600	5	100	1.7	5	30	600	35	30	1	-50	TO-220IS (2P)
U8A6CI		○	600	8	100	1.8	8	30	600	35	30	1	-50	
U10A6CI		○	600	10	100	2.0	10	30	600	35	30	1	-50	
U10A6CIC		○	600	10	100	1.7	5	30	600	35	30	1	-50	TO-220IS
U20A6CIC		○	600	20	100	2.0	10	30	600	35	30	1	-50	

Note) ○ : AEC-Q Qualified

SiC Schottky Barrier Diode

Type No.	AEC-Q	Max. Ratings			$V_{FM}(V)$		$I_{RRM}(\mu A)$		$R_{th(j-c)}$ (°C/W)	PKG	
		V_{RRM} (V)	I_O (A)	I_{FSM} (A)	Max.	@ I_F (A)	Max.	@ V_{RRM} (V)	Max.		
SMBRF08A65BIS3		●	650	27	74	1.5	8	20	650	2	TO-220-2L (2PIN)
SMBRF10A12CIS3		●	1200	39	95	1.6	10	20	1200	0.85	
SMBRF10A65BIS3		●	650	33	75	1.5	10	25	650	1.7	
SMBRF12A65BIS3		●	650	44	115	1.5	12	30	650	1.2	
SMBRF15A12CIS3		●	1200	53	120	1.5	15	30	1200	0.71	
SMBRK20A12CIS3		○	1200	64	170	1.6	20	40	1200	0.7	TO-247-2L
SMBRK20A65BIS3		○	650	57	135	1.5	20	50	650	1.1	
SMBRK30A12CIS3		○	1200	77	210	1.65	30	60	1200	0.6	
SMBRK20A65BCS3		●	650	32	68	1.5	10	25	650	2.0	TO-247-3L
SMBRK40A65BCS		○	650	51	135	1.7	20	50	650	1.1	
SMBRK40A65BCS3		○	650	57	135	1.5	20	50	650	1.1	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

DIODE

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
02CZ10	TOSHIBA	Z02W10V	1SS403	TOSHIBA	KDS135	BZD27C6V8P	VISHAY	SMFZ6.8V
02CZ13	TOSHIBA	Z02W13V	1SS413	TOSHIBA	KDR552F	BZG03C24	VISHAY	SMAZ24V
02CZ20	TOSHIBA	Z02W20V	1SS427	TOSHIBA	KDS160F	BZT52B18	VISHAY	KDZ18WV
02CZ22	TOSHIBA	Z02W22V	B140	DIODES	SMAB14	BZT52-B5V1S	PANJIT	KDZ5.1V
02CZ5.1	TOSHIBA	Z02W5.1V	B160	DIODES	SMAB16	BZT52-B8V2	Nexperia	KDZ8.2WV
02CZ5.6	TOSHIBA	Z02W5.6V	B340A	DIODES	SMAB34	BZT52-B9V1S	PANJIT	KDZ9.1V
02CZ6.2	TOSHIBA	Z02W6.2V	BA891	Nexperia	KDS114E	BZT52C10	DIODES	KDZ10WV
02CZ7.5	TOSHIBA	Z02W7.5V	BA516	DIODES	KDS4148S	BZT52C10S	DIODES	KDZ10V
02CZ8.2	TOSHIBA	Z02W8.2V	BA516	Nexperia	KDS4148S	BZT52C12	DIODES	KDZ12WV
10DL2CZ47A	TOSHIBA	MBRF10U200CTA	BA516	VISHAY	KDS4148S	BZT52C12S	DIODES	KDZ12V
1N4148W	DIODES	KDS4148W	BA521C-AU	PANJIT	BAV23C	BZT52-C12S	PANJIT	KDZ12V
1N4148W	PANJIT	KDS4148W	BA5316	Nexperia	KDS4148U	BZT52C13	DIODES	KDZ13WV
1N4148W	SEMTECH	KDS4148W	BA5581-02V-V-G	VISHAY	KDR377E	BZT52C15	DIODES	KDZ15WV
1N4148W	VISHAY	KDS4148W	BAT42WS	VISHAY	KDR729	BZT52C15	DIODES	SMFZ15V
1N4148WS	DIODES	KDS4148U	BAT43XV2	ONSEMI	KDR730E	BZT52C15S	DIODES	KDZ15V
1N4148WS	PANJIT	KDS4148U	BAT54	DIODES	BAT54	BZT52-C15S-AU	PANJIT	SMFZ15V
1N4148WS	SEMTECH	KDS4148U	BAT54	Nexperia	BAT54	BZT52C18	DIODES	KDZ18WV
1N4148WS	VISHAY	KDS4148U	BAT54	PANJIT	BAT54	BZT52C18	DIODES	SMFZ18V
1N4148WT	DIODES	KDS4148E	BAT54	SEMTECH	BAT54	BZT52C20	DIODES	KDZ20WV
1N4448HLP	DIODES	KDS160UL	BAT54A	DIODES	KDR720S	BZT52-C20S-AU	PANJIT	SMFZ20V
1N4448WS	PANJIT	KDS4148U	BAT54A	VISHAY	KDR720S	BZT52C24	DIODES	KDZ24WV
1N5819HW	DIODES	SMFB14	BAT54AHM	ROHM	KDR720S	BZT52C24	DIODES	SMFZ24V
1PS300	Nexperia	KDS120	BAT54C	DIODES	BAT54C	BZT52-C24S-AU	PANJIT	SMFZ24V
1PS76SB10	Nexperia	KDR729	BAT54C	Nexperia	BAT54C	BZT52-C2V7S	PANJIT	KDZ2.7V
1PS79SB30	Nexperia	KDR730E	BAT54C	ONSEMI	BAT54C	BZT52C30	DIODES	KDZ30WV
1PS79SB31	Nexperia	KDR720E	BAT54C	PANJIT	BAT54C	BZT52C30S	DIODES	KDZ30V
1SMA4746	PANJIT	SMAZ18V	BAT54C	SEMTECH	BAT54C	BZT52C33	DIODES	KDZ33WV
1SMA5934BT3G	ONSEMI	SMAZ24V	BAT54HT1G	ONSEMI	KDR729	BZT52C3V3	DIODES	KDZ3.3WV
1SMA5937BT3G	ONSEMI	SMAZ33V	BAT54J	Nexperia	KDR729	BZT52C3V3S	DIODES	KDZ3.3V
1SS181	TOSHIBA	KDS181	BAT54LT1G	ONSEMI	BAT54	BZT52C3V6S	DIODES	KDZ3.6V
1SS184	TOSHIBA	KDS184	BAT54S	DIODES	BAT54S	BZT52-C4V7	Nexperia	KDZ4.7WV
1SS187	TOSHIBA	KDS187	BAT54S	Nexperia	BAT54S	BZT52C5V1	DIODES	KDZ5.1WV
1SS193	TOSHIBA	KDS193	BAT54S	ONSEMI	BAT54S	BZT52C5V1	DIODES	SMFZ5.1V
1SS196	TOSHIBA	KDS196	BAT54S	STMICRO ELECTRONICS	BAT54S	BZT52C5V1S	DIODES	KDZ5.1V
1SS226	TOSHIBA	KDS226	BAT54S-AU	PANJIT	BAT54S	BZT52-C5V1S	PANJIT	KDZ5.1V
1SS250	TOSHIBA	KDS135S	BAT54SHM	ROHM	BAT54S	BZT52C5V6	DIODES	KDZ5.6WV
1SS294	TOSHIBA	KDR105S	BAT54SLT1G	ONSEMI	BAT54S	BZT52C5V6S	DIODES	KDZ5.6V
1SS300	TOSHIBA	KDS120	BAT54WS	DIODES	KDR729	BZT52C6V2S	DIODES	KDZ6.2V
1SS301	TOSHIBA	KDS121	BAT54WS	PANJIT	KDR729	BZT52C7V5	DIODES	KDZ7.5WV
1SS302	TOSHIBA	KDS122	BAT54WS	VISHAY	KDR729	BZT52C9V1	DIODES	KDZ9.1WV
1SS302A	TOSHIBA	KDS122	BAT54XV2T1G	ONSEMI	KDR730E	BZT52C9V1S	DIODES	KDZ9.1V
1SS307	TOSHIBA	KDS193	BAT750-7-F	DIODES	KDR407S	BZT52-C9V1S-AU	PANJIT	KDZ9.1V
1SS314	TOSHIBA	KDS114	BAV16WS	DIODES	KDS4148U	BZT52H-C12	Nexperia	SMFZ12V
1SS352	TOSHIBA	KDS160	BAV23A	Nexperia	BAV23A	BZT52H-C16	Nexperia	KDZ16WV
1SS353	ROHM	KDS160	BAV70	DIODES	BAV70	BZT52H-C18	Nexperia	KDZ18WV
1SS355	ROHM	KDS160	BAV70	Nexperia	BAV70	BZX384-B12	Nexperia	KDZ12V
1SS355	SEMTECH	KDS160	BAV70	PANJIT	BAV70	BZX384-B13	Nexperia	KDZ13V
1SS355VM	ROHM	KDS160	BAV70	ROHM	BAV70	BZX384B15	VISHAY	KDZ15V
1SS356	ROHM	KDS114	BAV70	SEMTECH	BAV70	BZX384-B15	Nexperia	KDZ15V
1SS360	TOSHIBA	KDS120E	BAV70	VISHAY	BAV70	BZX384-B16	Nexperia	KDZ16V
1SS361	TOSHIBA	KDS121E	BAV70-G	VISHAY	BAV70	BZX384-B18	Nexperia	KDZ18V
1SS361FV	TOSHIBA	KDS121V	BAV70HM	ROHM	BAV70	BZX384-B20	Nexperia	KDZ20V
1SS362	TOSHIBA	KDS123E	BAV70LT1G	ONSEMI	BAV70	BZX384-B27	Nexperia	KDZ27V
1SS362FV	TOSHIBA	KDS123V	BAV99	DIODES	BAV99	BZX384-B2V4	Nexperia	KDZ2.4V
1SS367	TOSHIBA	KDR367	BAV99	Nexperia	BAV99	BZX384B2V7	VISHAY	KDZ2.7V
1SS376	ROHM	KDS135	BAV99	ONSEMI	BAV99	BZX384-B33	Nexperia	KDZ33V
1SS379	TOSHIBA	KDS226	BAV99	SEMTECH	BAV99	BZX384-B36	Nexperia	KDZ36V
1SS380VM	ROHM	KDS160	BAV99HM	ROHM	BAV99	BZX384-B3V0	Nexperia	KDZ3.0V
1SS387	TOSHIBA	KDS160E	BAV99LT1G	ONSEMI	BAV99	BZX384-B3V9	Nexperia	KDZ3.9V
1SS388	TOSHIBA	KDR730E	BAW56	DIODES	BAW56	BZX384-B4V7	Nexperia	KDZ4.7V
1SS389	TOSHIBA	KDR367E	BAW56	Nexperia	BAW56	BZX384-B5V6	Nexperia	KDZ5.6V
1SS390	ROHM	KDS114E	BAW56	PANJIT	BAW56	BZX384-B6V2	Nexperia	KDZ6.2V
1SS400	PANJIT	KDS160E	BAW56	SEMTECH	BAW56	BZX384-B8V2	Nexperia	KDZ8.2V
1SS400	ROHM	KDS160E	BAW56LT1G	ONSEMI	BAW56	BZX384-B9V1	Nexperia	KDZ9.1V
1SS400	SEMTECH	KDS160E	BD10100CS	PANJIT	MBRD10U100CT	BZX384-C10	Nexperia	KDZ10V
1SS400BP	DIODES	KDS160UL	BD5100S	PANJIT	MBRD5U100D	BZX384C11	VISHAY	KDZ11V
1SS400CS	ROHM	KDS160V	BD5200S	PANJIT	MBRD5U200D	BZX384C12	VISHAY	KDZ12V
1SS400FH	ROHM	KDS160E	BR210	PANJIT	SMAB210	BZX384C15	VISHAY	KDZ15V
1SS400G	ROHM	KDS160V	BX34	PANJIT	SMAB34	BZX384-C15	Nexperia	KDZ15V
1SS400SM	ROHM	KDS160E	BYV410X-600	Nexperia	U20A6CIC	BZX384-C16	Nexperia	KDZ16V

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
BZX384-C18	Nexperia	KDZ18V	BZX84C15	DIODES	Z02W15V	D3Z27BF	DIODES	KDZ27V
BZX384-C20	Nexperia	KDZ20V	BZX84C15	PANJIT	Z02W15V	D5V0L1B2S9	DIODES	PS05DBTFC
BZX384-C2V7	Nexperia	KDZ2.7V	BZX84-C15	Nexperia	Z02W15V	DA204K	ROHM	BAV99
BZX384-C33	Nexperia	KDZ33V	BZX84-C16	Nexperia	Z02W16V	DA204U	ROHM	KDS123U
BZX384-C36	Nexperia	KDZ36V	BZX84C16VL	ROHM	Z02W16V	DA221	ROHM	KDS221E
BZX384C3V0	VISHAY	KDZ3.0V	BZX84-C18	Nexperia	Z02W18V	DA221WM	ROHM	KDS221E
BZX384-C4V7	Nexperia	KDZ4.7V	BZX84C18LT1G	ONSEMI	Z02W18V	DA223WM	ROHM	KDS221E
BZX384C5V1	VISHAY	KDZ5.1V	BZX84C20VL	ROHM	BZX84C20	DA228K	ROHM	KDS226
BZX384-C5V1	Nexperia	KDZ5.1V	BZX84-C22	Nexperia	Z02W22V	DA228U	ROHM	KDS122
BZX384-C6V2	Nexperia	KDZ6.2V	BZX84-C24	Nexperia	BZX84C24	DA2J101	PANASONIC	KDS160
BZX384-C6V8	Nexperia	KDZ6.8V	BZX84-C2V4	Nexperia	Z02W2.4V	DA2J10100L	PANASONIC	KDS160
BZX384-C8V2	Nexperia	KDZ8.2V	BZX84C33VLYFH	ROHM	Z02W33V	DA2S10100L	PANASONIC	KDS160E
BZX584C7V5	PANJIT	KDZ7.5EV	BZX84C3V3	PANJIT	BZX84C3V3	DA37102D0L	PANASONIC	KDS123V
BZX585-B15	Nexperia	KDZ15EV	BZX84-C3V3	Nexperia	BZX84C3V3	DA37103E	PANASONIC	KDS121V
BZX585-B24	Nexperia	KDZ24EV	BZX84C3V3L	ROHM	BZX84C3V3	DA3J101F	PANASONIC	KDS122
BZX585-B3V0	Nexperia	KDZ3.0EV	BZX84C3V3LT1G	ONSEMI	BZX84C3V3	DA3J101F0L	PANASONIC	KDS122
BZX585-B3V9	Nexperia	KDZ3.9EV	BZX84-C3V6	Nexperia	Z02W3.6V	DA3J102D0L	PANASONIC	KDS120
BZX585-B4V7	Nexperia	KDZ4.7EV	BZX84-C3V9	Nexperia	Z02W3.9V	DA3J103E0L	PANASONIC	KDS121
BZX585-B5V6	Nexperia	KDZ5.6EV	BZX84C3V9L	ROHM	Z02W3.9V	DA3S101F0L	PANASONIC	KDS123E
BZX585-B9V1	Nexperia	KDZ9.1EV	BZX84C4V3	VISHAY	Z02W4.3V	DA3S103E	PANASONIC	KDS121E
BZX585-C18	Nexperia	KDZ18EV	BZX84-C4V7	Nexperia	BZX84C4V7	DA3S103E0L	PANASONIC	KDS121E
BZX585-C5V1	Nexperia	KDZ5.1EV	BZX84C5V1	VISHAY	BZX84C5V1	DA3X101F	PANASONIC	KDS226
BZX585-C5V6	Nexperia	KDZ5.6EV	BZX84-C5V1	Nexperia	Z02W5.1V	DA3X101F0L	PANASONIC	KDS226
BZX84-B10	Nexperia	BZX84C10	BZX84C5V1L	ROHM	BZX84C5V1	DA3X101K0L	PANASONIC	KDS193
BZX84B10VL	ROHM	BZX84C10	BZX84C5V1LT1G	ONSEMI	BZX84C5V1	DA3X102D0L	PANASONIC	KDS181
BZX84-B11	Nexperia	BZX84C11	BZX84C5V6	VISHAY	BZX84C5V6	DA3X103E0L	PANASONIC	KDS184
BZX84B11VLY	ROHM	BZX84C11	BZX84-C5V6	Nexperia	BZX84C5V6	DAN202K	ROHM	KDS184
BZX84-B12	Nexperia	BZX84C12	BZX84C5V6L	ROHM	BZX84C5V6	DAN202U	ROHM	KDS121
BZX84B12VLYFH	ROHM	BZX84C12	BZX84-C6V8	Nexperia	BZX84C6V8	DAN202UM	ROHM	KDS121
BZX84-B13	Nexperia	BZX84C13	BZX84C6V8L	ROHM	BZX84C6V8	DAN217	ROHM	KDS226
BZX84-B15	Nexperia	Z02W15V	BZX84-C8V2	Nexperia	Z02W8.2V	DAN217U	ROHM	KDS122
BZX84B15LT1G	ONSEMI	Z02W15V	BZX84C9V1	ONSEMI	BZX84C9V1	DAN217W	ROHM	KDS123E
BZX84B15VL	ROHM	Z02W15V	BZX84-C9V1	Nexperia	BZX84C9V1	DAN222	ROHM	KDS121E
BZX84-B16	Nexperia	Z02W16V	BZX84J-B16	Nexperia	KDZ16V	DAN222M3T5G	ONSEMI	KDS121V
BZX84B16VL	ROHM	Z02W16V	BZX84J-B3V3	Nexperia	KDZ3.3V	DAP202K	ROHM	KDS181
BZX84-B18	Nexperia	Z02W18V	BZX84J-B3V6	Nexperia	KDZ3.6V	DAP202U	ROHM	KDS120
BZX84B20	PANJIT	BZX84C20	BZX84J-C12	Nexperia	KDZ12V	DAP222	ROHM	KDS120E
BZX84-B20	Nexperia	BZX84C20	BZX84J-C24	Nexperia	KDZ24V	DAP222M	ROHM	KDS120V
BZX84B20VL	ROHM	BZX84C20	BZX84J-C4V7	Nexperia	KDZ4.7V	DAP222WM	ROHM	KDS120E
BZX84-B24	Nexperia	BZX84C24	BZX84J-C9V1	Nexperia	KDZ9.1V	DAP222ZM	ROHM	KDS120V
BZX84B24VLYFH	ROHM	BZX84C24	BZX84W-B36	Nexperia	KDZ36V	DB2J31300L	PANASONIC	KDR729
BZX84B2V4	VISHAY	Z02W2.4V	CDZV5.6B	ROHM	KDZ5.6VV	DB2J40600L	PANASONIC	KDR357
BZX84-B2V4	Nexperia	Z02W2.4V	CE5520	TOSHIBA	KDR730E	DB2S31100L	PANASONIC	KDR730E
BZX84-B2V7	Nexperia	Z02W2.7V	CE5521	TOSHIBA	KDR720E	DB2S31400L	PANASONIC	KDR728E
BZX84-B30	Nexperia	Z02W30V	CRS01	TOSHIBA	SMFB13	DB2U31600L	PANASONIC	KDR720F
BZX84-B3V3	Nexperia	BZX84C3V3	CRS04	TOSHIBA	SMFB14	DB3X313F0L	PANASONIC	BAT54S
BZX84-B3V6	Nexperia	Z02W3.6V	CRS10I40A	TOSHIBA	SMFB14	DB3X313J	ROHM	KDR720S
BZX84-B3V9	Nexperia	Z02W3.9V	CRS10I40B	TOSHIBA	SMFB14	DB3X313N	ROHM	KDR721S
BZX84-B4V3	Nexperia	Z02W4.3V	CRS11	TOSHIBA	SMFB13	DB3X407K0L	PANASONIC	KDR400S
BZX84-B4V7	Nexperia	BZX84C4V7	CRS12	TOSHIBA	SMFB16	DCB010	ONSEMI	KDS184
BZX84-B5V1	Nexperia	BZX84C5V1	CRS14	TOSHIBA	SMFB23H	DDZ15	DIODES	KDZ15WV
BZX84B5V1-AU	PANJIT	BZX84C5V1	CRS20I30A	TOSHIBA	SMFB23H	DDZ18C	DIODES	KDZ18WV
BZX84B5V1L	ROHM	BZX84C5V1	CRS20I30B	TOSHIBA	SMFB23H	DDZ5V6ASF	DIODES	USCFZ5.6V
BZX84-B5V6	Nexperia	BZX84C5V6	CRY62	TOSHIBA	SMFZ6.2V	DDZ9692T	DIODES	KDZ6.8EV
BZX84B5V6L	ROHM	BZX84C5V6	CRY68	TOSHIBA	SMFZ6.8V	DF2B5M4CT	TOSHIBA	PS03VBUL2
BZX84B5V6LT1G	ONSEMI	BZX84C5V6	CRY82	TOSHIBA	SMFZ8.2V	DF2B6M4ASL	TOSHIBA	PS05VBEL2D
BZX84-B6V2	Nexperia	BZX84C6V2	CRZ10	TOSHIBA	SMFZ10V	DF2S6.8FS	TOSHIBA	PG05FSTFC
BZX84B6V2LT1G	ONSEMI	BZX84C6V2	CRZ12	TOSHIBA	SMFZ12V	DF2S6P2FU	TOSHIBA	PG05HSUSC
BZX84-B6V8	Nexperia	BZX84C6V8	CRZ13	TOSHIBA	SMFZ13V	DF3A6.8UFU	TOSHIBA	PG05BAUSM
BZX84-B7V5	Nexperia	Z02W7.5V	CRZ15	TOSHIBA	SMFZ13V	DFLS160	DIODES	SMFB16
BZX84-B8V2	Nexperia	Z02W8.2V	CRZ16	TOSHIBA	SMFZ16V	DFLZ24Q	DIODES	SMFZ24V
BZX84B8V2-7-F	DIODES	Z02W8.2V	CRZ18	TOSHIBA	SMFZ18V	DTH8L06DNC	DIODES	U8A6CD
BZX84-B9V1	Nexperia	BZX84C9V1	CRZ20	TOSHIBA	SMFZ20V	DUP2105SOQ-7	DIODES	PG24EAS23
BZX84C10VL	ROHM	BZX84C10	CRZ24	TOSHIBA	SMFZ24V	DZ2J02400L	PANASONIC	KDZ2.4V
BZX84-C11	Nexperia	BZX84C11	CRZ27	TOSHIBA	SMFZ27V	DZ2J02700L	PANASONIC	KDZ2.7V
BZX84C12	PANJIT	BZX84C12	CRZ33	TOSHIBA	SMFZ33V	DZ2J027M0L	PANASONIC	KDZ2.7V
BZX84-C12	Nexperia	BZX84C12	CRZ36	TOSHIBA	SMFZ36V	DZ2J03000L	PANASONIC	KDZ3.0V
BZX84C12LT1G	ONSEMI	BZX84C12	CUS03	TOSHIBA	USFB14	DZ2J030M0L	PANASONIC	KDZ3.0V
BZX84-C13	Nexperia	BZX84C13	CUS05S30	TOSHIBA	KDR412	DZ2J03300L	PANASONIC	KDZ3.3V
BZX84C13LT1G	ONSEMI	BZX84C13	CUS357	TOSHIBA	KDR357	DZ2J033M0L	PANASONIC	KDZ3.3V

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
DZ2J03600L	PANASONIC	KDZ3.6V	DZ2J33000L	PANASONIC	KDZ33V	EDZV2.0B	ROHM	KDZ2.0EV
DZ2J036M0L	PANASONIC	KDZ3.6V	DZ2J330M0L	PANASONIC	KDZ33V	EDZV2.4B	ROHM	KDZ2.4EV
DZ2J03900L	PANASONIC	KDZ3.9V	DZ2J360M0L	PANASONIC	KDZ36V	EDZV3.0B	ROHM	KDZ3.0EV
DZ2J039M0L	PANASONIC	KDZ3.9V	DZ2S02400L	PANASONIC	KDZ2.4EV	EDZV3.3B	ROHM	KDZ3.3EV
DZ2J04300L	PANASONIC	KDZ4.3V	DZ2S04300L	PANASONIC	KDZ4.3EV	EDZV3.9B	ROHM	KDZ3.9EV
DZ2J043M0L	PANASONIC	KDZ4.3V	DZ2S047M0L	PANASONIC	KDZ4.7EV	EDZV33B	ROHM	KDZ33EV
DZ2J04700L	PANASONIC	KDZ4.7V	DZ2S051M0L	PANASONIC	KDZ5.1EV	EDZV4.7B	ROHM	KDZ4.7EV
DZ2J047M0L	PANASONIC	KDZ4.7V	DZ2S056M0L	PANASONIC	KDZ5.6EV	EDZV5.1B	ROHM	KDZ5.1EV
DZ2J05100L	PANASONIC	KDZ5.1V	DZ2S062M0L	PANASONIC	KDZ6.2EV	EDZV5.6B	ROHM	KDZ5.6EV
DZ2J051M0L	PANASONIC	KDZ5.1V	DZ2S06800L	PANASONIC	KDZ6.8EV	EDZV6.2B	ROHM	KDZ6.2EV
DZ2J05600L	PANASONIC	KDZ5.6V	DZ2S075M0L	PANASONIC	KDZ7.5EV	EDZV6.8B	ROHM	KDZ6.8EV
DZ2J056M0L	PANASONIC	KDZ5.6V	DZ2S08200L	PANASONIC	KDZ8.2EV	EDZV7.5B	ROHM	KDZ7.5EV
DZ2J06200L	PANASONIC	KDZ6.2V	DZ2S091M0L	PANASONIC	KDZ9.1EV	EDZV8.2B	ROHM	KDZ8.2EV
DZ2J062M0L	PANASONIC	KDZ6.2V	DZ2S12000L	PANASONIC	KDZ12EV	EDZV9.1B	ROHM	KDZ9.1EV
DZ2J06800L	PANASONIC	KDZ6.8V	DZ2S150M0L	PANASONIC	KDZ15EV	EMZ6.8N	ROHM	PG05EAESM
DZ2J068M0L	PANASONIC	KDZ6.8V	DZ2S20000L	PANASONIC	KDZ20EV	ER1006FCT	PANJIT	U10A6CIC
DZ2J07500L	PANASONIC	KDZ7.5V	DZ2S24000L	PANASONIC	KDZ24EV	ES1A	ONSEMI	SMAB16
DZ2J075M0L	PANASONIC	KDZ7.5V	DZ2W04300L	PANASONIC	SMFZ4.3V	ESD114-U1-02EL	INFINEON	PS05TSUL2
DZ2J08200L	PANASONIC	KDZ8.2V	DZ2W05600L	PANASONIC	SMFZ5.6V	ESD24VS2U	INFINEON	PG24FAS23
DZ2J082M0L	PANASONIC	KDZ8.2V	DZ2W06200L	PANASONIC	SMFZ6.2V	ESD5Z5.0T1G	ONSEMI	PG05FSESC
DZ2J09100L	PANASONIC	KDZ9.1V	DZ2W12000L	PANASONIC	SMFZ12V	ESD7381MUT5G	ONSEMI	PS03TSEL2A
DZ2J091M0L	PANASONIC	KDZ9.1V	DZ2W24000L	PANASONIC	SMFZ24V	ESD9BL5V0BP	SEMTECH	PS05CBUL2
DZ2J10000L	PANASONIC	KDZ10V	DZ2W27000L	PANASONIC	SMFZ27V	ESDA25L	STMICRO ELECTRONICS	PG24FAS23
DZ2J100M0L	PANASONIC	KDZ10V	DZ2W30000L	PANASONIC	SMFZ30V	ESDBL2105DX-AH	SEMTECH	PG24EAS23
DZ2J110M0L	PANASONIC	KDZ11V	DZ2W33000L	PANASONIC	SMFZ33V	ESDCAN04-2BLY	STMICRO ELECTRONICS	PG24EAS23
DZ2J12000L	PANASONIC	KDZ12V	DZ2W36000L	PANASONIC	SMFZ36V	ESDCAN24-2BLY	STMICRO ELECTRONICS	PG24DAS23
DZ2J120M0L	PANASONIC	KDZ12V	DZ2W360M0L	PANASONIC	KDZ36V	ESDLIN1524BJ	STMICRO ELECTRONICS	PG1524DBUSC
DZ2J13000L	PANASONIC	KDZ13V	ED502S	PANJIT	MBRD5U200D	FFD08560S_F085	ONSEMI	U8A6CD
DZ2J130M0L	PANASONIC	KDZ13V	ED506S	PANJIT	U8A6CD	FFD08560S-F085	ONSEMI	U8A6CD
DZ2J15000L	PANASONIC	KDZ15V	EDZ12B	ROHM	KDZ12EV	FFPF20UA60DN	ONSEMI	U20A6CIC
DZ2J150M0L	PANASONIC	KDZ15V	EDZ18B	ROHM	KDZ18EV	GDZ2V0B-G	VISHAY	KDZ2.0V
DZ2J16000L	PANASONIC	KDZ16V	EDZ27B	ROHM	KDZ27EV	GDZ2V0B-G3-08	VISHAY	KDZ2.0V
DZ2J160M0L	PANASONIC	KDZ16V	EDZ3.9B	ROHM	KDZ3.9EV	GDZ5V1B-V	VISHAY	KDZ5.1V
DZ2J18000L	PANASONIC	KDZ18V	EDZ33B	ROHM	KDZ33EV	GDZ9V1B-V	VISHAY	KDZ9.1V
DZ2J180M0L	PANASONIC	KDZ18V	EDZ4.3B	ROHM	KDZ4.3EV	GSOT05C	VISHAY	PG05HAS23
DZ2J20000L	PANASONIC	KDZ18V	EDZ4.7B	ROHM	KDZ4.7EV	GSOT05C-E3-08	VISHAY	PG05HAS23
DZ2J200M0L	PANASONIC	KDZ20V	EDZ5.1B	ROHM	KDZ5.1EV	GSOT24C	VISHAY	PG24FAS23
DZ2J22000L	PANASONIC	KDZ22V	EDZ5.6B	ROHM	KDZ5.6EV	HN1D02FU	TOSHIBA	KDS127U
DZ2J220M0L	PANASONIC	KDZ22V	EDZ6.2B	ROHM	KDZ6.2EV	IDH10G120C5	INFINEON	SMBRF10A12CIS3
DZ2J24000L	PANASONIC	KDZ24V	EDZ6.8B	ROHM	KDZ6.8EV	IDH10SG60C	INFINEON	SMBRF10A65BIS3
DZ2J240M0L	PANASONIC	KDZ24V	EDZ7.5B	ROHM	KDZ7.5EV	IDW20G65C5B	INFINEON	SMBRK20A65BCS3
DZ2J27000L	PANASONIC	KDZ27V	EDZ8.2B	ROHM	KDZ8.2EV	IDW40G65C5B	INFINEON	SMBRK40A65BCS
DZ2J270M0L	PANASONIC	KDZ27V	EDZV12B	ROHM	KDZ12EV	IDWD20G120C5	INFINEON	SMBRK20A12CIS3
DZ2J30000L	PANASONIC	KDZ30V	EDZV15B	ROHM	KDZ15EV	KDZ13B	ROHM	KDZ13WV
DZ2J300M0L	PANASONIC	KDZ30V	EDZV18B	ROHM	KDZ18EV	KDZ13B	ROHM	SMFZ13V

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
KDZ15B	ROHM	SMFZ15V	KDZV7.5B	ROHM	KDZ7.5WV	LM3Z7V5T1	LRC	KDZ7.5V
KDZ16B	ROHM	SMFZ16V	KDZV8.2B	ROHM	KDZ8.2WV	LM3Z8V2T1G	LRC	KDZ8.2V
KDZ18B	ROHM	KDZ18WV	KDZV9.1B	ROHM	KDZ9.1WV	LM3Z9V1T1	LRC	KDZ9.1V
KDZ18B	ROHM	SMFZ18V	KDZV9.1B	ROHM	SMFZ9.1V	LMBD2836LT1G	LRC	KDS181
KDZ20B	ROHM	KDZ20WV	KDZVTF12B	ROHM	KDZ12WV	LMBR140T1G	LRC	SMFB14
KDZ22B	ROHM	SMFZ22V	KDZVTF16B	ROHM	SMFZ16V	LMBZ5231BLT1G	LRC	BZX84C5V1
KDZ24B	ROHM	KDZ24WV	KDZVTF18B	ROHM	KDZ18WV	LMBZ5245BLT1G	LRC	Z02W15V
KDZ27B	ROHM	KDZ27WV	KDZVTF18B	ROHM	SMFZ18V	LMBZ5258BLT1G	LRC	BZX84C36
KDZ30B	ROHM	KDZ30WV	KDZVTF20B	ROHM	KDZ20WV	LMSZ5226BT1G	LRC	KDZ3.3WV
KDZ33B	ROHM	KDZ33WV	KDZVTF22B	ROHM	KDZ22WV	LMSZ5230BT1G	LRC	KDZ4.7WV
KDZ36B	ROHM	KDZ36WV	KDZVTF24B	ROHM	KDZ24WV	LMSZ5232BT1G	LRC	KDZ5.6WV
KDZ4.3B	ROHM	KDZ4.3WV	KDZVTF36B	ROHM	KDZ36WV	LMSZ5234BT1G	LRC	KDZ6.2WV
KDZ5.6B	ROHM	KDZ5.6WV	KDZVTF5.6B	ROHM	KDZ5.6WV	LMSZ5236BT1G	LRC	KDZ7.5WV
KDZ5.6B	ROHM	SMFZ5.6V	L1N4148WT1G	LRC	KDS4148W	LMSZ5237BT1G	LRC	KDZ8.2WV
KDZ6.8B	DIODES	KDZ6.8WV	L1S5181LT1G	LRC	KDS181	LMSZ5237BT1H	LRC	KDZ8.2WV
KDZ7.5B	ROHM	SMFZ7.5V	L1S5184LT1G	LRC	KDS184	LMSZ5239BT1G	LRC	KDZ9.1WV
KDZLV110	ROHM	KDZ110WV	L1S5226LT1G	LRC	KDS226	LMSZ5240BT1G	LRC	KDZ10WV
KDZTF12B	ROHM	KDZ12WV	L1S5355T1G	LRC	KDS160	LMSZ5242BT1G	LRC	KDZ12WV
KDZTF27B	ROHM	KDZ27WV	L1S5400T1G	LRC	KDS160E	LMSZ5243BT1G	LRC	KDZ13WV
KDZTF36B	ROHM	SMFZ36V	LBAS16HT1G	LRC	KDS4148U	LMSZ5245BT1G	LRC	KDZ15WV
KDZTF7.5B	ROHM	KDZ7.5WV	LBAT54CLT1	LRC	BAT54C	LMSZ5248BT1G	LRC	KDZ18WV
KDZV11B	ROHM	KDZ11WV	LBAT54CLT1G	LRC	BAT54C	LMSZ5251BT1H	LRC	KDZ22WV
KDZV12B	ROHM	KDZ12WV	LBAT54HT1G	LRC	KDR729	LMSZ5252BT1G	LRC	KDZ24WV
KDZV13B	ROHM	KDZ13WV	LBAT54SLT1G	LRC	BAT54S	LMSZ5258BT1G	LRC	SMFZ36V
KDZV15B	ROHM	KDZ15WV	LBAT54XV2T1G	LRC	KDR730E	LRB520S-30T1G	LRC	KDR730E
KDZV16B	ROHM	KDZ16WV	LBAV70LT1G	LRC	BAV70	LRB551V-30T1G	LRC	KDR412
KDZV16B	ROHM	SMFZ16V	LBAV99LT1G	LRC	BAV99	LUDZS10BT1G	LRC	KDZ10V
KDZV18B	ROHM	KDZ18WV	LBZT52B6V2T1G	LRC	KDZ6.2WV	LUDZS12BT1G	LRC	KDZ12V
KDZV20B	ROHM	KDZ20WV	LBZT52MB11T1G	LRC	KDZ11WV	LUDZS13BT1G	LRC	KDZ13V
KDZV22B	ROHM	KDZ22WV	LBZX84C24LT1G	LRC	BZX84C24	LUDZS15BT1G	LRC	KDZ15V
KDZV22B	ROHM	SMFZ22V	LESD11D5.0CBT5G	LRC	PS05CBEL2B	LUDZS18BT1G	LRC	KDZ18V
KDZV24B	ROHM	KDZ24WV	LESD5D5.0CT1G	LRC	PG05FBESC	LUDZS20BT1G	LRC	KDZ20V
KDZV24B	ROHM	SMFZ24V	LESD8L3.3C	LRC	PS03TBUL2	LUDZS22BT1G	LRC	KDZ22V
KDZV27B	ROHM	KDZ27WV	LESD9D5.0CT5G	LRC	PG05DBTFC	LUDZS27BT1G	LRC	KDZ27V
KDZV3.9B	ROHM	KDZ3.9WV	LM3Z10VT1G	LRC	KDZ10V	LUDZS3.6BT1G	LRC	KDZ3.6V
KDZV30B	ROHM	KDZ30WV	LM3Z12VT1	LRC	KDZ12V	LUDZS30BT1G	LRC	KDZ30V
KDZV30B	ROHM	SMFZ30V	LM3Z15VT1	LRC	KDZ15V	LUDZS36BT1G	LRC	KDZ36V
KDZV33B	ROHM	KDZ33WV	LM3Z18VT1G	LRC	KDZ18V	LUDZS4.3BT1G	LRC	KDZ4.3V
KDZV36B	ROHM	KDZ36WV	LM3Z22VT1	LRC	KDZ22V	LUDZS4.7BT1G	LRC	KDZ4.7V
KDZV4.7B	ROHM	KDZ4.7WV	LM3Z2V4T1G	LRC	KDZ2.4V	LUDZS5.1BT1G	LRC	KDZ5.1V
KDZV5.1B	ROHM	SMFZ5.1V	LM3Z4V3T1G	LRC	KDZ4.3V	LUDZS5.6BT1G	LRC	KDZ5.6V
KDZV5.6B	ROHM	KDZ5.6WV	LM3Z5V1T1	LRC	KDZ5.1V	LUDZS6.2BT1G	LRC	KDZ6.2V
KDZV5.6B	ROHM	SMFZ5.6V	LM3Z5V6T1G	LRC	KDZ5.6V	LUDZS6.8BT1G	LRC	KDZ6.8V
KDZV6.2B	ROHM	KDZ6.2WV	LM3Z6V2T1	LRC	KDZ6.2V	LUDZS7.5BT1G	LRC	KDZ7.5V
KDZV6.8B	ROHM	KDZ6.8WV	LM3Z6V2T1G	LRC	KDZ6.2V	LUDZS8.2BT1G	LRC	KDZ8.2V

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
LUDZS9.1BT1G	LRC	KDZ9.1V	MBRA340T3G	ONSEMI	SMAB34	MM3Z5B6	SEMTECH	KDZ5.6V
M1MA142WKT1G	ONSEMI	KDS121	MBRD10100CT	DIODES	MBRD10U100CT	MM3Z5V1	SEMTECH	KDZ5.1V
M1MA152KT1G	ONSEMI	KDS193	MBRD20100CT	DIODES	MBRD20U100CT	MM3Z5V1ST1G	ONSEMI	KDZ5.1V
MA2J111	PANASONIC	KDS160	MBRD660CTRLG	ONSEMI	MBRD6U60CT	MM3Z5V1T1G	ONSEMI	KDZ5.1V
MA3J143A	PANASONIC	KDS122	MBRF10100CT	DIODES	MBRF10U100CTA	MM3Z5V6ST1G	ONSEMI	KDZ5.6V
MA8036-L	PANASONIC	KDZ3.6V	MBRF10100CT	VISHAY	MBRF10U100CTA	MM3Z5V6T1G	ONSEMI	KDZ5.6V
MA8039-L	PANASONIC	KDZ3.9V	MC2837	ISAHAYA	KDS226	MM3Z6V2B	ONSEMI	KDZ6.2V
MA8043-H	PANASONIC	KDZ4.3V	MM1W16B	SEMTECH	SMFZ16V	MM3Z6V2T1G	ONSEMI	KDZ6.2V
MA8047-H	PANASONIC	KDZ4.7V	MM1Z27	SEMTECH	KDZ8.2WV	MM3Z6V8B	ONSEMI	KDZ6.8V
MA8056-H	PANASONIC	KDZ5.6V	MM1Z5230B	SEMTECH	SMFZ4.7V	MM3Z6V8ST1G	ONSEMI	KDZ6.8V
MA8056-L	PANASONIC	KDZ5.6V	MM1Z5231B	SEMTECH	KDZ5.1WV	MM3Z7V5	SEMTECH	KDZ7.5V
MA8062-H	PANASONIC	KDZ6.2V	MM1Z5234B	SEMTECH	KDZ6.2WV	MM3Z7V5ST1G	ONSEMI	KDZ7.5V
MA8068-H	PANASONIC	KDZ6.8V	MM1Z5236B	SEMTECH	KDZ7.5WV	MM3Z7V5T1G	ONSEMI	KDZ7.5V
MA8075-H	PANASONIC	KDZ7.5V	MM1Z5239B	SEMTECH	KDZ9.1WV	MM3Z9V1	SEMTECH	KDZ9.1V
MA8082-H	PANASONIC	KDZ8.2V	MM1Z5240B	SEMTECH	KDZ10WV	MM3ZB12	SEMTECH	KDZ12V
MA8091-L	PANASONIC	KDZ9.1V	MM1Z5241B	SEMTECH	SMFZ11V	MM3ZB15	SEMTECH	KDZ15V
MA8110-M	PANASONIC	KDZ11V	MM1Z5242B	SEMTECH	KDZ12WV	MM3ZB16	SEMTECH	KDZ16V
MA8150-L	PANASONIC	KDZ15V	MM1Z5245B	SEMTECH	SMFZ15V	MM3ZB18	SEMTECH	KDZ18V
MA8330-L	PANASONIC	KDZ33V	MM1Z5248B	SEMTECH	SMFZ18V	MM3ZB20	SEMTECH	KDZ20V
MAZ8027-L	PANASONIC	KDZ2.7V	MM1Z5252B	SEMTECH	KDZ24WV	MM3ZB22	SEMTECH	KDZ22V
MAZ8051-M	PANASONIC	KDZ5.1V	MM1Z6B8	SEMTECH	KDZ6.8WV	MM3ZB27	SEMTECH	KDZ27V
MAZ8056-M	PANASONIC	KDZ5.6V	MM1ZB22	SEMTECH	KDZ22WV	MM5Z15V	ONSEMI	KDZ15EV
MAZ8068-M	PANASONIC	KDZ6.8V	MM3Z10	SEMTECH	KDZ10V	MM5Z15VT1G	ONSEMI	KDZ15EV
MAZ8082-M	PANASONIC	KDZ8.2V	MM3Z10VST1G	ONSEMI	KDZ10V	MM5Z5V1B	SEMTECH	KDZ5.1EV
MAZ8120-M	PANASONIC	KDZ12V	MM3Z10VT1G	ONSEMI	KDZ10V	MM5Z6V2T1G	ONSEMI	KDZ6.2EV
MAZ8150-M	PANASONIC	KDZ15V	MM3Z12	SEMTECH	KDZ12V	MM5Z7V5	SEMTECH	KDZ7.5EV
MAZ8160-L	PANASONIC	KDZ16V	MM3Z12VT1G	ONSEMI	KDZ12V	MM7Z5V6B	SEMTECH	KDZ5.6VV
MAZ8180-M	PANASONIC	KDZ18V	MM3Z15	SEMTECH	KDZ15V	MMBD202CC	SEMTECH	KDS184
MAZ8200-L	PANASONIC	KDZ20V	MM3Z15VC	ONSEMI	KDZ15V	MMBD4148	DIODES	KDS4148S
MAZ8240-L	PANASONIC	KDZ24V	MM3Z16VST1G	ONSEMI	KDZ16V	MMBD4148	ONSEMI	KDS4148S
MAZ8300-M	PANASONIC	KDZ30V	MM3Z18	SEMTECH	KDZ18V	MMBD6100	PANJIT	BAV70
MAZS0510M	PANASONIC	KDZ5.1EV	MM3Z18B	SEMTECH	KDZ18V	MMBZ27VALQ	DIODES	PG24FAS23
MBR0540T1G	ONSEMI	SMFB14	MM3Z20VT1G	ONSEMI	KDZ20V	MMBZ5232B	PANJIT	BZX84C5V6
MBR10150FCT	PANJIT	MBRF10U150CTA	MM3Z22B	SEMTECH	KDZ22V	MMBZ5232BLT1G	ONSEMI	BZX84C5V6
MBR10200FCT	PANJIT	MBRF10U200CTA	MM3Z22VST1G	ONSEMI	KDZ22V	MMBZ5234BLT1G	ONSEMI	BZX84C6V2
MBR1045FCT	PANJIT	MBRF10U45CTA	MM3Z24VB	ONSEMI	KDZ24V	MMBZ5235BLT1G	ONSEMI	BZX84C6V8
MBR140SFT1G	ONSEMI	SMFB14	MM3Z24VT1G	ONSEMI	KDZ24V	MMBZ5241BLT1G	ONSEMI	BZX84C11
MBR20100FCT	PANJIT	MBRF20U100CTA	MM3Z2B7	SEMTECH	KDZ2.7V	MMBZ5245BLT1G	ONSEMI	Z02W15V
MBR20150FCT	PANJIT	MBRF20U150CTA	MM3Z2V7	SEMTECH	KDZ2.7V	MMSZ15T1G	ONSEMI	SMFZ15V
MBR20200FCT	PANJIT	MBRF20U200CTA	MM3Z36B	SEMTECH	KDZ36V	MMSZ18T1G	ONSEMI	KDZ18WV
MBR20H150YD	PANJIT	MBRD20U150CT	MM3Z3V3T1G	ONSEMI	KDZ3.3V	MMSZ27T1G	ONSEMI	KDZ27WV
MBR230LSFT1G	ONSEMI	KDR713W	MM3Z4B3	SEMTECH	KDZ4.3V	MMSZ3V6T1G	ONSEMI	KDZ3.6WV
MBR30100CTF	DIODES	MBRF30U100CTA	MM3Z4B7	SEMTECH	KDZ4.7V	MMSZ4681T1G	ONSEMI	KDZ2.4WV
MBRA140T3G	ONSEMI	SMAB14	MM3Z5232B	SEMTECH	KDZ5.6V	MMSZ4688-V	PANJIT	KDZ4.7WV
MBRA340F	SEMTECH	SMAB34	MM3Z5B1	SEMTECH	KDZ5.1V	MMSZ4688-V	VISHAY	KDZ4.7WV

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
MMSZ4688 -V	VISHAY	SMFZ4.7V	MMSZ5246BT1G	ONSEMI	KDZ16WV	PEC3324C2A-AU	PANJIT	PG24EAS23
MMSZ4689	VISHAY	KDZ5.6WV	MMSZ5248B	PANJIT	KDZ18WV	PESD12VS2UT	Nexperia	PG12GAS23
MMSZ4689 -V	PANJIT	KDZ5.1WV	MMSZ5248BS	PANJIT	KDZ18V	PESD12VV1BL	Nexperia	PG12DBUL2
MMSZ4689 -V	VISHAY	KDZ5.1WV	MMSZ5248BT1G	ONSEMI	SMFZ18V	PESD15VL1BA	Nexperia	PG15EBUSC
MMSZ4690T1G	ONSEMI	KDZ5.6WV	MMSZ5250B	DIODES	KDZ20WV	PESD1CAN	Nexperia	PG24DAS23
MMSZ4693	VISHAY	KDZ7.5WV	MMSZ5250BT1G	ONSEMI	KDZ20WV	PESD1FLEX	Nexperia	PG24DAS23
MMSZ4693 -V	VISHAY	KDZ7.5WV	MMSZ5252B	DIODES	KDZ24WV	PESD1IVN24-AX	Nexperia	PG24EBUSC
MMSZ4698	VISHAY	KDZ11WV	MMSZ5252BT1G	ONSEMI	KDZ24WV	PESD1IVN27-A	Nexperia	PG24EBUSC
MMSZ4698 -V	VISHAY	KDZ11WV	MMSZ5252BT1G	ONSEMI	SMFZ24V	PESD1LIN	Nexperia	PG1524DBUSC
MMSZ4703T1G	ONSEMI	KDZ16WV	MMSZ5254BT1G	ONSEMI	KDZ27WV	PESD2CAN	Nexperia	PG24EAS23
MMSZ4703 -V	VISHAY	KDZ16WV	MMSZ5254BT1G	ONSEMI	SMFZ27V	PESD2ETH100-T	Nexperia	PG24DAS23
MMSZ4705	VISHAY	KDZ18WV	MMSZ5256BT1G	ONSEMI	KDZ30WV	PESD2IVN24-T	Nexperia	PG24DAS23
MMSZ4705T1G	ONSEMI	SMFZ18V	MMSZ5256BT1G	ONSEMI	SMFZ30V	PESD36VS2UT	Nexperia	PG36FSS23
MMSZ4705 -V	VISHAY	KDZ18WV	MMSZ5257BT1G	ONSEMI	KDZ33WV	PESD5V0C1BSF	Nexperia	PS05TBEL2D
MMSZ4711	VISHAY	KDZ27WV	MMSZ5258B	DIODES	KDZ36WV	PESD5V0F1BL	Nexperia	PS05TBUL2
MMSZ4711 -V	VISHAY	KDZ27WV	MMSZ5258BT1G	ONSEMI	KDZ36WV	PESD5V0F1BLD	Nexperia	PG05TBUL2
MMSZ4V3T1G	ONSEMI	KDZ4.3WV	MMSZ5258BT1G	ONSEMI	SMFZ36V	PESD5V0L2UU	Nexperia	PG05BAUSM
MMSZ5229B	DIODES	KDZ4.3WV	MS110	PANJIT	SMAB110	PESD5V0S1BA	Nexperia	PG05GBUSC
MMSZ5230B	PANJIT	KDZ4.7WV	MUR1060F	PANJIT	U10A6CI	PESD5V0S1BB	Nexperia	PS05DBESC
MMSZ5231B	DIODES	KDZ5.1WV	MURA110T3G	ONSEMI	SMAB110	PESD5V0U1UB	Nexperia	PG05BSESC
MMSZ5231BT1G	ONSEMI	KDZ5.1WV	NRVB0530T1G	ONSEMI	SMFB13	PESD5V0U1UL	Nexperia	PS05TSUL2
MMSZ5232B	DIODES	KDZ5.6WV	NRVB0540T1G	ONSEMI	SMFB14	PESD5V0V1BB	Nexperia	PS05CBESC
MMSZ5232B	ONSEMI	KDZ5.6WV	NRVB140ESFT1G	ONSEMI	SMFB14	PESD5V0V1BL	Nexperia	PS05CBUL2
MMSZ5232B	PANJIT	KDZ5.6WV	NRVBA130LT3G	ONSEMI	SMAB13	PESD5V0V1BLD	Nexperia	PS05CBUL2
MMSZ5232B	PANJIT	SMFZ5.6V	NRVBA140NT3G	ONSEMI	SMAB14	PESD5V0X1BCAL	Nexperia	PS05TBUL2
MMSZ5232BS	DIODES	KDZ5.6V	NRVBA140T3G	ONSEMI	SMAB14	PJEC2415VM1WS-AU	PANJIT	PG1524DBUSC
MMSZ5232BT1G	ONSEMI	KDZ5.6WV	NRVBA2H100NT3G	ONSEMI	SMAB210	PJEC24MTA	PANJIT	PG24DAS23
MMSZ5234BT1G	ONSEMI	KDZ6.2WV	NRVBA340NT3G	ONSEMI	SMAB34	PJEC24MTA-AU	PANJIT	PG24DAS23
MMSZ5235	VISHAY	KDZ6.8WV	NRVBA340T3G	ONSEMI	SMAB34	PJSD05W	PANJIT	PG05HSUSC
MMSZ5235B	DIODES	KDZ6.8WV	NRVBD660CTT4G	ONSEMI	MBRD6U60CT	PJSD24W	PANJIT	PG24GSUSC
MMSZ5235B	PANJIT	KDZ6.8WV	NRVBSS14HE	ONSEMI	USFB14	PJSOT05C -05	PANJIT	PG05HAS23
MMSZ5235BT1G	ONSEMI	KDZ6.8WV	NSR0130P2T5G	ONSEMI	KDR720F	PMEG2005AEA	Nexperia	KDR412
MMSZ5236	VISHAY	KDZ7.5WV	NSVBAS70LT1G	ONSEMI	KDS193	PMEG3015EH	Nexperia	SMFB23H
MMSZ5236BT1G	ONSEMI	KDZ7.5WV	NSVBAT54HT1G	ONSEMI	KDR729	PMEG3020EH	Nexperia	SMFB23H
MMSZ5239B	PANJIT	KDZ9.1WV	NSVBAV23CLT1G	ONSEMI	BAV23C	PMEG4002EL	Nexperia	KDR740UL
MMSZ5241	VISHAY	KDZ11WV	NUP2105LT1G	ONSEMI	PG24EAS23	PMEG4010EGWJ	Nexperia	SMFB14
MMSZ5241A	PANJIT	KDZ11WV	NVDSH20120C	ONSEMI	SMBRK20A12CIS3	PMEG4010EH	Nexperia	SMFB14
MMSZ5242B	DIODES	KDZ12WV	NZH16C	Nexperia	KDZ16WV	PMEG6010CEH	Nexperia	SMFB16
MMSZ5242B	PANJIT	KDZ12WV	NZH3V0B	Nexperia	KDZ3.0WV	PMEG6010ELRX	Nexperia	SMFB16
MMSZ5242BT1G	ONSEMI	KDZ12WV	NZH3V6B	Nexperia	KDZ3.6WV	PMEG6010ER	Nexperia	SMFB16
MMSZ5245B	DIODES	KDZ15WV	NZH5V1B	Nexperia	KDZ5.1WV	PMEG60T30ELP	Nexperia	SMAFB36
MMSZ5245B	PANJIT	KDZ15WV	NZH6V2B	Nexperia	SMFZ6.2V	PTZ10B	ROHM	SMAZ10V
MMSZ5245BT1G	ONSEMI	KDZ15WV	NZH7V5C	Nexperia	KDZ7.5WV	PTZ11A	ROHM	SMAZ11V
MMSZ5245BT1G	ONSEMI	SMFZ15V	PDZ33B	Nexperia	KDZ33V	PTZ11B	ROHM	SMAZ11V
MMSZ5246B	PANJIT	SMFZ16V	PEC1605M1Q	PANJIT	PS05TBUL2	PTZ12B	ROHM	SMAZ12V

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
PZU2.4B	ROHM	KDZ2.4V	RB085T-90	ROHM	MBRF10U100CTA	RB522ES-30	ROHM	KDR720EL
PZU2.7B	ROHM	KDZ2.7V	RB088BM100	ROHM	MBRD10U100CT	RB530SM-30	ROHM	KDR730E
PZU20B	ROHM	KDZ20V	RB088BM200	ROHM	MBRD10U200CT	RB530VM-30	ROHM	KDR357
PZU20B2	ROHM	KDZ20V	RB095B-60	ROHM	MBRD6U60CT	RB531CM-30	ROHM	KDR720F
PZU22B2	ROHM	KDZ22V	RB160L-40	ROHM	SMAB14	RB531SM-30	ROHM	KDR720E
PZU24B2	ROHM	KDZ24V	RB160L-60	ROHM	SMAB16	RB540VM-30	ROHM	KDR729
PZU27B	ROHM	KDZ27V	RB160M-30	ROHM	SMFB13	RB550VA-30	ROHM	USFB13A
PZU3.0B	Nexperia	KDZ3.0V	RB160M-40	ROHM	SMFB14	RB551V-30	PANJIT	KDR412
PZU3.0B2	ROHM	KDZ3.0V	RB160M-60	ROHM	SMFB16	RB551V-30	ROHM	KDR412
PZU3.3B2	ROHM	KDZ3.3V	RB160MM-30	ROHM	SMFB13	RB551VM-30	ROHM	KDR412
PZU3.6B2	ROHM	KDZ3.6V	RB160MM-40	ROHM	SMFB14	RB751S-40	ROHM	KDR728E
PZU3.9B2	ROHM	KDZ3.9V	RB160MM-60	ROHM	SMFB16	RB751SM-40	ROHM	KDR720E
PZU30B	Nexperia	KDZ30V	RB160VA-40	ROHM	USFB14	RB751VM-40	ROHM	KDR377
PZU30B	ROHM	KDZ30V	RB161L-40	ROHM	SMAB14	RBQ10BM65A	ROHM	MBRD10U60CT
PZU33B	ROHM	KDZ33V	RB162L-40	ROHM	SMAB14	RBR10T60ANZC9	ROHM	MBRF10U60CTA
PZU36B	ROHM	KDZ36V	RB162L-60	ROHM	SMAB16	RBR1MM30A	ROHM	KDR713W
PZU4.3B3A	Nexperia	KDZ4.3V	RB162M-60	ROHM	SMFB16	RBR1MM40A	ROHM	KDR714W
PZU4.7B1	Nexperia	KDZ4.7V	RB162MM-30	ROHM	SMFB16	RBR1MM60A	ROHM	SMFB16
PZU4.7B2	ROHM	KDZ4.7V	RB162MM-40	ROHM	KDR714W	RBR2MM30A	ROHM	KDR713W
PZU5.1B2	ROHM	KDZ5.1V	RB162MM-60	ROHM	SMFB16	RBR2MM30B	ROHM	SMFB23H
PZU5.1B3	Nexperia	KDZ5.1V	RB168L100DD	ROHM	SMAB110	RBR3L40B	ROHM	SMAB34
PZU5.6B2	Nexperia	KDZ5.1V	RB168M-40	ROHM	KDR714W	RBR3L60B	ROHM	SMAB36
PZU5.6B2	ROHM	KDZ5.6V	RB168MM-40	ROHM	SMFB14	RCLAMP0521PA	SEMTECH	PS05TBUL2
PZU5.6B3A	Nexperia	KDZ5.6V	RB168MM-60TF	ROHM	SMFB16	RClamp0521Z	SEMTECH	PS05TBEL2D
PZU6.2B1A	Nexperia	KDZ6.2V	RB225T-60	ROHM	MBRF30U60CTA	RCLAMP0524P	SEMTECH	PS05SVU10
PZU6.2B2	Nexperia	KDZ6.2V	RB238T100NZ	ROHM	TMBRF40100CT	RCLAMP0524PA	SEMTECH	PS05SVU10
PZU6.2B2	ROHM	KDZ6.2V	RB400D	ROHM	KDR400S	RClamp0531T	SEMTECH	PS05TBUL2
PZU6.8B2	ROHM	KDZ6.8V	RB411D	ROHM	KDR411S	RClamp0531TQ	SEMTECH	PS05TBUL2
PZU6.8B2A	Nexperia	KDZ6.8V	RB491D	ROHM	KDR521T	RCLAMP0544T	SEMTECH	PS05TVUL9
PZU7.5B1	ROHM	KDZ7.5V	RB500V-40	ROHM	KDR357	RCLAMP0821P	SEMTECH	PG05TBUL2
PZU7.5B2	ROHM	KDZ7.5V	RB500VM-40	ROHM	KDR357	RESD1CAN	ROHM	PG24EAS23
PZU8.2B2	ROHM	KDZ8.2V	RB501V-40	ROHM	KDR357	RESD1CANYFH	ROHM	PG24EAS23
PZU9.1B3	ROHM	KDZ9.1V	RB520CM-30	ROHM	KDR730F	RF01VM2S	ROHM	KDS135
RB050L-40	ROHM	SMAB34	RB520CS-30	ROHM	KDR730V	RF1001T2D	ROHM	U10A2CIC
RB050L-60	ROHM	SMAB36	RB520G-30	ROHM	KDR730V	RF1001T2DNZ	ROHM	U10A2CIC
RB051L-40	ROHM	SMAB34	RB520S-30	ROHM	KDR730E	RF1005TF6S	ROHM	U10A6CI
RB055L-40	ROHM	SMAB34	RB520S-30	SEMTECH	KDR730E	RF2001T3D	ROHM	U20A3CIC
RB056L-40	ROHM	SMAB34	RB520S30T1G	ONSEMI	KDR730E	RF505B6SFH	ROHM	U5A6CD
RB060L-40	ROHM	SMAB34	RB520SM-30	ROHM	KDR730E	RFN10T2D	ROHM	U10A2CIC
RB060M-30	ROHM	SMFB23H	RB521CM-30	ROHM	KDR720F	RFN10TF6S	ROHM	U10A6CIC
RB063L-30	ROHM	SMAB33	RB521G-30	ROHM	KDR720V	RFNL5BM6SFH	ROHM	U5A6CD
RB068L100	ROHM	SMAB210	RB521G-30	SEMTECH	KDR720V	RFNL5TJ6SFHG	ROHM	U5A6CI
RB070M-30	ROHM	KDR713W	RB521S30	Nexperia	KDR720E	RFU10TF6S	ROHM	U10A6CI
RB085B-90	ROHM	MBRD10U100CT	RB521S30	PANJIT	KDR720E	RFX10TF6S	ROHM	U10A6CI
RB085T-60	ROHM	MBRF10U60CTA	RB521S-30	ROHM	KDR720E	RHRD660S9A	ONSEMI	U8A6CD

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
RS1B	DIODES	SMAB110	SMA5J24A	VISHAY	PG24LSSMAF	SZBZX84C15LT1G	ONSEMI	Z02W15V
RSB27V	ROHM	PG24EBUSC	SMAZ10	DIODES	SMAZ10V	SZBZX84C16LT1G	ONSEMI	Z02W16V
RSB27VFH	ROHM	PG24EBUSC	SMAZ18-13-F	DIODES	SMAZ18V	SZBZX84C24LT1G	ONSEMI	BZX84C24
RSX101M-30	ROHM	SMFB13	SMAZ24	DIODES	SMAZ24V	SZBZX84C4V7LT1G	ONSEMI	Z02W4.7V
RSX101MM-30	ROHM	SMFB13	SMAZ24-13-F	DIODES	SMAZ24V	SZBZX84C5V1LT1G	ONSEMI	BZX84C5V1
RSX301L-30	ROHM	SMAB33	SMAZ5V6-13-F	DIODES	SMAZ5.6V	SZBZX84C5V1LT1G	ONSEMI	Z02W5.1V
RSX301LA-30	ROHM	SMAB33	SMBJ24A	VISHAY	PG24LSSMB	SZBZX84C5V6LT1G	ONSEMI	BZX84C5V6
S1B	ONSEMI	SMAB110	SMBJ26A	VISHAY	PG24LSSMB	SZBZX84C6V2LT1G	ONSEMI	BZX84C6V2
S210	ONSEMI	SMAB210	SMCJ24CA	VISHAY	PG24MSSMC	SZBZX84C6V8LT1G	ONSEMI	BZX84C6V8
SB10100LFACT	PANJIT	MBRF10U100CTA	SMF05	SEMTECH	PG05GBUSV	SZBZX84C8V2LT1G	ONSEMI	BZX84C8V2
SB1060FACT	PANJIT	MBRF10U60CTA	SNRVD660CTT4G	ONSEMI	MBRD6U60CT	SZESD5B5.0ST1G	ONSEMI	PS05CBESC
SB160M-40	SEMTECH	KDR714W	SODZ16A-SH	LRC	SMFZ16V	SZESD7551N2T5G	ONSEMI	PS03VBUL2
SB160W-60	SEMTECH	SMFB16	SS1040	PANJIT	SMFB14	SZESD7571N2T5G	ONSEMI	PG05TBUL2
SBA0520Q	PANJIT	KDR530UL	SS1040L	PANJIT	KDR714W	SZMM3Z12VT1G	ONSEMI	KDZ12V
SBA0530Q	PANJIT	KDR530UL	SS1060FL	PANJIT	SMFB16	SZMM3Z15VT1G	ONSEMI	KDZ15V
SBA130AS	PANJIT	KDR713W	SS1060HEWS	PANJIT	USFB14	SZMM3Z18VST1G	ONSEMI	KDZ18V
SBA140AS	PANJIT	KDR714W	SS110	SEMTECH	SMAB110	SZMM3Z18VT1G	ONSEMI	KDZ18V
SBA230AL	PANJIT	KDR713W	SS13	SEMTECH	SMAB13	SZMM3Z20VT1G	ONSEMI	KDZ20V
SBAS21LT1G	ONSEMI	KDS135S	SS14	ONSEMI	SMAB14	SZMM3Z22VT1G	ONSEMI	KDZ22V
SBAT54ALT1G	ONSEMI	KDR720S	SS14	PANJIT	SMAB14	SZMM3Z24VT1G	ONSEMI	KDZ24V
SBAT54CLT1G	ONSEMI	BAT54C	SS14	VISHAY	SMAB14	SZMM3Z36VST1G	ONSEMI	KDZ36V
SBAV70LT1G	ONSEMI	BAV70	SS16	VISHAY	SMAB16	SZMM3Z4V3ST1G	ONSEMI	KDZ4.3V
SBAV70LT3G	ONSEMI	BAV70	SS16T3G	ONSEMI	SMAB16	SZMM3Z5V1T1G	ONSEMI	KDZ5.1V
SBM2060VCT	PANJIT	MBRF20U60CTA	SS1H10	VISHAY	SMAB110	SZMM3Z5V6T1G	ONSEMI	KDZ5.6V
SBR15U100CTL	DIODES	MBRD20U100CT	SS2030FL	PANJIT	SMFB23H	SZMM3Z6V2ST1G	ONSEMI	KDZ6.2V
SBR20150CTFP	DIODES	MBRF20U150CTA	SSA34	VISHAY	SMAB34	SZMM3Z6V2T1G	ONSEMI	KDZ6.2V
SBR20A200CTFP	DIODES	MBRF20U200CTA	S-SZA7.5A	LRC	SMAZ7.5V	SZMM3Z7V5T1G	ONSEMI	KDZ7.5V
SBR20U150CTFP	DIODES	MBRF20U150CTA	STPS10LCD100CFP	STMICRO ELECTRONICS	MBRF10U100CTA	SZMM3Z8V2T1G	ONSEMI	KDZ8.2V
SBR3A40SA	DIODES	SMAB34	STPS140Z-Y	STMICRO ELECTRONICS	SMFB14	SZMM5Z15VT1G	ONSEMI	KDZ15EV
SBR6100CTL	DIODES	MBRD5U100D	STPS1L60A	STMICRO ELECTRONICS	SMAB16	SZMMBZ27VALT1G	ONSEMI	PG24FAS23
SBR80520LT1G	ONSEMI	SMFB13	STPS1L60ZFY	STMICRO ELECTRONICS	SMFB16	SZMMSZ10T1G	ONSEMI	SMFZ10V
SBRA401NT3G	ONSEMI	SMAB14	STPS2H100AY	STMICRO ELECTRONICS	SMAB210	SZMMSZ15T1G	ONSEMI	SMFZ15V
SD05	SEMTECH	PG05HSUSC	STPS5H100-Y	STMICRO ELECTRONICS	MBRD5U100D	SZMMSZ16T1G	ONSEMI	SMFZ16V
SD05C	SEMTECH	PG05GBUSC	STTH10LCD06CFP	STMICRO ELECTRONICS	U10A6CIC	SZMMSZ4687T1G	ONSEMI	KDZ4.3WV
SD12	SEMTECH	PG12GSUSC	STTH16L06CFP	STMICRO ELECTRONICS	U20A6CIC	SZMMSZ4689T1G	ONSEMI	KDZ5.1WV
SD12C	SEMTECH	PG12FBUSC	SURA8110T3G	ONSEMI	SMAB110	SZMMSZ4689T1G	ONSEMI	SMFZ5.1V
SDM20U30	DIODES	KDR720E	SX33L	PANJIT	SMAB33	SZMMSZ4691T1G	ONSEMI	KDZ6.2WV
SDT30100CTFP	DIODES	MBRF20U100CTA	SX34	PANJIT	SMAB34	SZMMSZ4705T1G	ONSEMI	KDZ18WV
SESDONCAN1LT1G	ONSEMI	PG24DAS23	SX36	PANJIT	SMAB36	SZMMSZ5226BT1G	ONSEMI	KDZ3.3WV
SL04-M-08	VISHAY	SMFB14	SZ1SMA5919BT3G	ONSEMI	SMAZ5.6V	SZMMSZ5230BT1G	ONSEMI	SMFZ4.7V
S-L1SS355T1G	LRC	KDS160	SZ1SMA5931BT3G	ONSEMI	SMAZ18V	SZMMSZ5231BT1G	ONSEMI	SMFZ5.1V
SM05	SEMTECH	PG05HAS23	SZ1SMA5937BT3G	ONSEMI	SMAZ33V	SZMMSZ5232BT1G	ONSEMI	SMFZ5.6V
SM340A	LRC	SMAB34	SZBZX84B15LT1G	ONSEMI	Z02W15V	SZMMSZ5235BT1G	ONSEMI	KDZ6.8WV
SM360A	LRC	SMAB36	SZBZX84B5V1LT1G	ONSEMI	BZX84C5V1	SZMMSZ5241BT1G	ONSEMI	SMFZ11V
SM712	SEMTECH	PG712FBS23	SZBZX84C12LT1G	ONSEMI	BZX84C12	SZMMSZ5242BT1G	ONSEMI	SMFZ12V

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
SZMMSZ5245BT1G	ONSEMI	SMFZ15V	UDZ10B	ROHM	KDZ10V	UDZS9.1B	ROHM	KDZ9.1V
SZMMSZ5248BT1G	ONSEMI	KDZ18WV	UDZ11B	ROHM	KDZ11V	UDZSTF16B	ROHM	KDZ16V
SZMMSZ5248BT1G	ONSEMI	SMFZ18V	UDZ12B	ROHM	KDZ12V	UDZSTF18B	ROHM	KDZ18V
SZNUP1105LT1G	ONSEMI	PG24FAS23	UDZ16B	ROHM	KDZ16V	UDZSTF24B	ROHM	KDZ24V
SZNUP2105LT1G	ONSEMI	PG24EAS23	UDZ18B	ROHM	KDZ18V	UDZSTF27B	ROHM	KDZ27V
TBAT54S	TOSHIBA	BAT54S	UDZ2.0B	ROHM	KDZ2.0V	UDZSTF36B	ROHM	KDZ36V
TDZ15	ROHM	USFZ15V	UDZ2.7B	ROHM	KDZ2.7V	UDZSTF5.1B	ROHM	KDZ5.1V
TDZ24	ROHM	USFZ24V	UDZ3.0B	ROHM	KDZ3.0V	UDZSTF6.2B	ROHM	KDZ6.2V
TDZ5V1J	Nexperia	USCFZ5.1V	UDZ3.9B	ROHM	KDZ3.9V	UDZSTF6.8B	ROHM	KDZ6.8V
TDZ6.8	ROHM	USFZ6.8V	UDZ30B	ROHM	KDZ30V	UDZSTF8.2B	ROHM	KDZ8.2V
TDZ6V8J	Nexperia	USCFZ6.8V	UDZ33B	ROHM	KDZ33V	UDZSTF9.1B	ROHM	KDZ9.1V
TDZFHTR18	ROHM	USFZ18V	UDZ5.1B	ROHM	KDZ5.1V	UDZU5.6B	ROHM	KDZ5.6V
TDZV10	TOSHIBA	USFZ10V	UDZ5.6B	ROHM	KDZ5.6V	UDZV10B	ROHM	KDZ10V
TDZV18	ROHM	USFZ18V	UDZ6.2B	ROHM	KDZ6.2V	UDZV11B	ROHM	KDZ11V
TDZV27	ROHM	USFZ27V	UDZ6.8B	ROHM	KDZ6.8V	UDZV12B	ROHM	KDZ12V
TDZV5.1	ROHM	USFZ5.1V	UDZ8.2B	ROHM	KDZ8.2V	UDZV13B	ROHM	KDZ13V
TDZV6.2	ROHM	USFZ6.2V	UDZLV100	ROHM	KDZ100V	UDZV15B	ROHM	KDZ15V
TFZ18B	ROHM	USFZ18V	UDZS10B	ROHM	KDZ10V	UDZV16B	ROHM	KDZ16V
TFZ20B	ROHM	USFZ20V	UDZS11B	ROHM	KDZ11V	UDZV18B	ROHM	KDZ18V
TFZ24B	ROHM	USFZ24V	UDZS12B	ROHM	KDZ12V	UDZV2.0B	ROHM	KDZ2.0V
TFZ4.7B	ROHM	USFZ4.7V	UDZS13B	ROHM	KDZ13V	UDZV2.2B	ROHM	KDZ2.2V
TFZ5.6B	ROHM	USFZ5.6V	UDZS15B	ROHM	KDZ15V	UDZV2.4B	ROHM	KDZ2.4V
TFZ6.2B	ROHM	USFZ6.2V	UDZS16B	ROHM	KDZ16V	UDZV2.7B	ROHM	KDZ2.7V
TFZ8.2B	ROHM	USFZ8.2V	UDZS18B	ROHM	KDZ18V	UDZV20B	ROHM	KDZ20V
TFZV10B	ROHM	USFZ10V	UDZS2.0B	ROHM	KDZ2.0V	UDZV22B	ROHM	KDZ22V
TFZV15B	ROHM	USFZ15V	UDZS2.7B	ROHM	KDZ2.7V	UDZV24B	ROHM	KDZ24V
TFZV18B	ROHM	USFZ18V	UDZS20B	ROHM	KDZ20V	UDZV27B	ROHM	KDZ27V
TFZV20B	ROHM	USFZ20V	UDZS22B	ROHM	KDZ22V	UDZV3.0B	ROHM	KDZ3.0V
TFZV24B	ROHM	USFZ24V	UDZS24B	ROHM	KDZ24V	UDZV3.3B	ROHM	KDZ3.3V
TFZV36B	ROHM	USFZ36V	UDZS27B	ROHM	KDZ27V	UDZV3.6B	ROHM	KDZ3.6V
TFZV4.7B	ROHM	USFZ4.7V	UDZS3.0B	ROHM	KDZ3.0V	UDZV3.9B	ROHM	KDZ3.9V
TFZV5.1B	ROHM	USFZ5.1V	UDZS3.3B	ROHM	KDZ3.3V	UDZV30B	ROHM	KDZ30V
TFZV5.6B	ROHM	USFZ5.6V	UDZS3.6B	ROHM	KDZ3.6V	UDZV33B	ROHM	KDZ33V
TFZV6.2B	ROHM	USFZ6.2V	UDZS3.9B	ROHM	KDZ3.9V	UDZV36B	ROHM	KDZ36V
TFZV6.8B	ROHM	USFZ6.8V	UDZS30B	ROHM	KDZ30V	UDZV4.3B	ROHM	KDZ4.3V
TFZV8.2B	ROHM	USFZ8.2V	UDZS33B	ROHM	KDZ33V	UDZV4.7B	ROHM	KDZ4.7V
TFZV9.1B	ROHM	USFZ9.1V	UDZS36B	ROHM	KDZ36V	UDZV5.1B	ROHM	KDZ5.1V
TPSMC27A	VISHAY	PG24MSSMC	UDZS4.3B	ROHM	KDZ4.3V	UDZV5.6B	ROHM	KDZ5.6V
UCLAMP0301PQ	SEMTECH	PS03CBUL2	UDZS4.7B	ROHM	KDZ4.7V	UDZV6.2B	ROHM	KDZ6.2V
uClamp0505A	SEMTECH	PG05GXTE6	UDZS5.1B	ROHM	KDZ5.1V	UDZV6.8B	ROHM	KDZ6.8V
UCLAMP1211P	SEMTECH	PG12DBUL2	UDZS5.6B	ROHM	KDZ5.6V	UDZV7.5B	ROHM	KDZ7.5V
uCLAMP1271P	SEMTECH	PG12HS1610D2	UDZS6.2B	ROHM	KDZ6.2V	UDZV8.2B	ROHM	KDZ8.2V
uclamp2671p	SEMTECH	PG26GS1610D2	UDZS6.8B	ROHM	KDZ6.8V	UDZV9.1B	ROHM	KDZ9.1V
UClamp3311P	SEMTECH	PS03CBUL2	UDZS7.5B	ROHM	KDZ7.5V	UDZVFH10B	ROHM	KDZ10V
UCLAMP3311T	SEMTECH	PS03CBUL2	UDZS8.2B	ROHM	KDZ8.2V	UDZVFH11B	ROHM	KDZ11V

Type No.	Maker	KEC
UDZVFH12B	ROHM	KDZ12V
UDZVFH13B	ROHM	KDZ13V
UDZVFH15B	ROHM	KDZ15V
UDZVFH16B	ROHM	KDZ16V
UDZVFH18B	ROHM	KDZ18V
UDZVFH2.4B	ROHM	KDZ2.4V
UDZVFH2.7B	ROHM	KDZ2.7V
UDZVFH20B	ROHM	KDZ20V
UDZVFH22B	ROHM	KDZ22V
UDZVFH24B	ROHM	KDZ24V
UDZVFH27B	ROHM	KDZ27V
UDZVFH3.0B	ROHM	KDZ3.0V
UDZVFH3.3B	ROHM	KDZ3.3V
UDZVFH3.6B	ROHM	KDZ3.6V
UDZVFH3.9B	ROHM	KDZ3.9V
UDZVFH30B	ROHM	KDZ30V
UDZVFH33B	ROHM	KDZ33V
UDZVFH36B	ROHM	KDZ36V
UDZVFH4.3B	ROHM	KDZ4.3V
UDZVFH4.7B	ROHM	KDZ4.7V
UDZVFH5.1B	ROHM	KDZ5.1V
UDZVFH5.6B	ROHM	KDZ5.6V
UDZVFH6.2B	ROHM	KDZ6.2V
UDZVFH6.8B	ROHM	KDZ6.8V
UDZVFH7.5B	ROHM	KDZ7.5V
UDZVFH8.2B	ROHM	KDZ8.2V
UDZVFH9.1B	ROHM	KDZ9.1V
UF5JD1	DIODES	U5A6CD
UFZV30B	ROHM	KDZ30V
VBUS051BD	VISHAY	PS05TSUL2
VCUT05B1-DD1-G-08	VISHAY	PS05VBUL2
VESD05A1B-HD1	VISHAY	PS05TSUL2
VSSA210	VISHAY	SMAB210
YDZVFH18	ROHM	USCFZ18V
YFZVFH15B	ROHM	USCFZ15V
YFZVFH5.6B	ROHM	USFZ5.6V
ZLLS500TA	DIODES	KDR407S

3










MOSFET

MOSFET	96~110
MOSFET Line-up	98~101
S-MOSFET	102
Low Voltage MOSFET	103~104
High Voltage MOSFET (Planar)	105~106
High Voltage MOSFET (Super Junction)	107
List of Equivalent Product	108~110




$V_{DSS} : 20V \sim 60V$

V_{DSS} [V]	I_D [A]	ULP-3 ULP-3(1)	VSM	ESM	TES6	USM	US6	SOT-23	DPAK(1) DPAK(3)	PDFN56
		 (1.0X0.6)	 (1.2X0.8)	 (1.6X0.85)	 (1.6X1.2)	 (2.0X1.25)	 (2.0X1.25)	 (2.93X1.3)	 (6.6X6.1)	 (4.9X6.0)
20	0.4	KML0D4N20UL	KML0D4N20V	KML0D4N20E						
	3							KMA3D0N20SA		
	3.6							KMA3D6N20SA		
-20	-0.3	KML0D3P20UL	KML0D3P20V							
	-0.4			KML0D4P20E						
	-2.4							KMA2D4P20SA		
	-3.7							KMA3D7P20SA		
30	0.1		KTK5132V	KTK5132E	KTK7132E (Dual)	KTK5132U		KTK5132S		
	4							KMB4D0N30SA		
	4.2							KMD4D2N30S		
	62								KU2303D	
	79								KU2307D	
	100									KU024N03C
-30	-0.05		KTJ6131V	KTJ6131E						
	-3							KMB3D0P30SA		
	-70									KU080P03C
40	3.5							KMB3D5N40SA		
60	0.3			2N7002KE		2N7002KU	2N7002KDU (Dual)	2N7002KA 2N7002KB		
	2							KMB2D0N60SA		





$V_{DSS} : 100V$

V_{DSS} [V]	I_D [A]	SOT-23	DFN22D	PDFN33 PDFN33D	PDFN56 PDFN56D / (1)	SOT-223 SOT-223(1)	DPAK(1) DPAK(3)	TO-220IS(1)
		 (2.93X1.3)	 (2.0X2.0)	 (3.15X3.1)	 (4.9X6.0)	 (6.5X3.5)	 (6.6X6.1)	
100	0.22		KU6KDN10MZ (Dual)					
	1.3	KU3600N10SZA						
	1.7					KU3600N10WZ		
	4.7			KU3600DN10RZ (Dual)	KU3600DN10CZ (Dual)			
	5						KU3600N10D	
	5.4			KU3600N10RZ				
	23							KU310N10F
	27						KU310N10D	
	32						KUS220N10DA	
	44				KUS140N10C			
55							KUS086N10FA	
63						KUS086N10DA		
80							KUS045N10FA	

V_{DSS} : 200V ~ 525 V

V_{DSS} [V]	I_D [A]	PDFN33	PDFN56D	SOT-223 SOT-223(1)	DPAK(1) DPAK(3)	TO-220IS(1)	TO-220AB(1)	
		 (3.15X3.1)	 (4.9X5.75)	 (6.5X3.5)	 (6.6X6.1)			
200	1			KF4N20LW				
	3		KF4DN20LC (Dual)					
	3.1	KF4N20LR						
	3.6				KF4N20LD			
	15				KF19N20D			
	19					KF19N20F		
	66						KU210N20PS1	
250	4.4				KF5N25D			
	7.5				KF9N25D			
	9					KF9N25F		
	13				KF16N25D			
	16					KF16N25F		
400	2			KF3N40W				
	2.2				KF3N40D			
	4.3				KF5N40D			
	4.4					KF5N40F		
	6.5				KF9N40D			
	7					KF9N40F		
500 (525)	2.5				KF3N50DZ			
	3					KF3N50FZ		
	4.1				KF5N53DS (525V)			
	4.3				KF5N50DZ			
	5						KF5N50FZA	
							KF5N53FS (525V)	
	5.5				KF7N50D			
	7					KF7N50F		
	9					KF9N50F		
11					KF11N50F			
13					KF13N50F			

$V_{DSS} : 600V \sim 800V$

V_{DSS} [V]	I_D [A]	DPAK(1) DPAK(3)	IPAK(2)	TO-220IS(1)	TO-220ISW
		 (6.6X6.1)			
600	1	KF1N60D			
	2	KF2N60D	KF2N60I	KF2N60F	
	2.3	KF3N60D	KF3N60I		
	3			KF3N60F	
	3.2	KF4N60D			
	3.5	KF5N60D			
	4			KF4N60F	
	4.5			KF5N60F	
	5	KF6N60D			
	6			KF6N60F	
	7			KF7N60F	
	8			KF8N60F	
			KP580N60DM3 KPM8N60D	KP580N60FM3 KPM8N60F	KP580N60FWM3
	10			KF10N60F	
	11		KP380N60DM3 KPM11N60D	KP380N60FM3 KPM11N60F	KP380N60FWM3
	12			KF12N60F	
	15		KP280N60DM3	KP280N60FM3 KPM15N60F	KP280N60FWM3
20			KP190N60FM3 KPM20N60F	KP190N60FWM3	
30			KP125N60FM3		
650	3.6			KF4N65F	
	4.4	KF5N65D			
	5			KF5N65F	
	7			KF7N65F	
680	7			KF7N68F	
	10			KF10N68F	
	12			KF12N68F	
700	6			KF6N70F	
800	2.7	KF3N80D			
	3			KF3N80F	
	4			KF4N80F	
	7			KF7N80F	

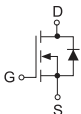

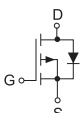
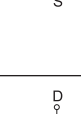
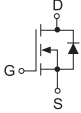
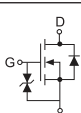
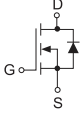
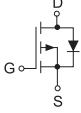

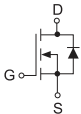
MOSFET

S-MOSFET

Type No.	Mark	AEC-Q	Internal circuit	Max. Ratings				I _{DSS} (μ A)			V _{th} (V)				R _{DS(ON)} (m Ω)				PKG
				V _{DSS} (V)	V _{GSS} (V)	I _D (A)	P _D (W)	Max.	@V _{DS} (V)	@V _{GS} (V)	Min.	Max.	@V _{DS} (V)	I _D (μ A)	Typ.	Max.	@V _{GS} (V)	@I _D (A)	
KML0D4N20UL	LB	●		20	± 6	0.4	0.28	0.1	16	0	0.45	1	V _{GS}	250	410	700	4.5	0.4	ULP-3
KML0D4N20V	LA	○		20	± 6	0.4	0.15	0.1	16	0	0.45	1	V _{GS}	250	410	700	4.5	0.4	VSM
KML0D4N20E	C2	●		20	± 6	0.4	0.21	0.1	16	0	0.45	1	V _{GS}	250	410	700	4.5	0.4	ESM
KML0D3P20UL	LC	●		-20	± 6	-0.3	0.28	0.1	16	0	-0.45	-1	V _{GS}	-250	800	1200	-4.5	-0.3	ULP-3
KML0D3P20V	LB	●		-20	± 6	-0.3	0.15	0.1	16	0	-0.45	-1	V _{GS}	-250	800	1200	-4.5	-0.3	VSM
KML0D4P20E	C3	●		-20	± 6	-0.35	0.21	0.1	16	0	-0.45	-1	V _{GS}	-250	800	1200	-4.5	-0.35	ESM
KTK5132V	KB	●		30	± 20	0.1	0.1	1	30	0	0.5	1.5	3	100	4000	7000	2.5	0.01	VSM
KTK5132E	KB	●		30	± 20	0.1	0.1	1	30	0	0.5	1.5	3	100	4000	7000	2.5	0.01	ESM
KTK5132U	KB	●		30	± 20	0.1	0.2	1	30	0	0.5	1.5	3	100	4000	7000	2.5	0.01	USM
KTK5132S	KB	●		30	± 20	0.1	0.2	1	30	0	0.5	1.5	3	100	4000	7000	2.5	0.01	SOT-23
KTK7132E	AL	●		30	± 20	0.1	0.2	1	30	0	0.5	1.5	3	100	4000	7000	2.5	0.01	TES6
KTJ6131V	M1	●		-30	± 20	-0.05	0.1	-1	-30	0	-0.5	-1.5	-3	-100	20000	40000	-2.5	-0.01	VSM
KTJ6131E	EB	●		-30	± 20	-0.05	0.1	-1	-30	0	-0.5	-1.5	-3	-100	20000	40000	-2.5	-0.01	ESM
2N7002KDU	DU	○		60	± 20	0.3	0.27	1	60	0	1	2	V _{GS}	250	1200	1500	10	0.3	US6
2N7002KU	KU	○		60	± 20	0.3	0.27	1	60	0	1	2	V _{GS}	250	1200	1500	10	0.3	USM
2N7002KE	KE	●		60	± 20	0.3	0.27	1	60	0	1	2	V _{GS}	250	1200	1500	10	0.3	ESM
2N7002KB	WE	●		60	± 20	0.3	0.4	10	60	0	1	2.5	V _{GS}	250	2100	2900	4.5	0.2	SOT-23
2N7002KA	2P	○	60	± 20	0.3	0.35	1	60	0	1.1	2.35	V _{GS}	250	1700	2700	5	0.05		
														-	2300	10	0.5	SOT-23	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

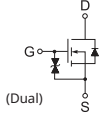
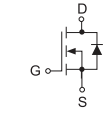
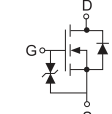
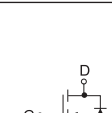
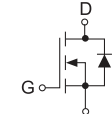
Low Voltage MOSFET

Type No.	Mark	AEC-Q	Internal circuit	Max. Ratings				V _{th} (V)				R _{DS(ON)} (mΩ)				Q _g (nC)		PKG
				V _{DSS} (V)	V _{GS} (V)	I _D (A)	P _D (W)	Min.	Max.	@V _{DS} (V)	I _D (μA)	Typ.	Max.	@V _{GS} (V)	@I _D (A)	Typ.	@V _{GS} (V)	
KMA3D0N20SA	KNB	●		20	±12	3	1.25	0.5	1.5	V _{GS}	250	38	55	4.5	2.5	4.0	4.5	SOT-23
KMA3D6N20SA	KNC	●		20	±12	3.6	1.25	0.6	1.5	V _{GS}	250	32	45	4.5	2.5	6.6	4.5	SOT-23
KMA2D4P20SA	KB2	●		-20	±12	-2.4	1.25	-0.6	-1.5	V _{GS}	-250	83	100	-4.5	-2.4	4	-4.5	SOT-23
KMA3D7P20SA	KNH	○		-20	±12	-3.7	1.25	-0.55	-1.5	V _{GS}	-250	65	76	-4.5	-2.8	4.37	-4.5	SOT-23
KMB4D0N30SA	KNA	●		30	±20	4	1.25	1	3	V _{GS}	250	38	47	10	3.5	6	10	SOT-23
KMD4D2N30S	KNE	●		30	±20	4.2	1.25	1	1.8	V _{GS}	250	32	42	10	4.2	7.2	10	SOT-23
KU2303D	-	●		30	±20	68	52	1	3	V _{GS}	250	11.0	14.2	4.5	20	9.6	4.5	DPAK(1) DPAK(3)
KU2307D	-	●										5.7	6.8	10	30	18.4	10	
				8.4	10.1	4.5	30	13.1	4.5	DPAK(1) DPAK(3)								
KU024N03C	-	●		30	±20	100	40	1.2	2.5		V _{GS}	250	2.6	3.3	4.5	20	74	10
			1.95							2.4			10	30				
KMB3D0P30SA	KPA	●		-30	±20	-3	1.25	-1	-3	V _{GS}	-250	64	80	-10	-3.0	6.3	-10	SOT-23
KU080P03C	-	●		-30	±20	-70	80	-1	-2	V _{GS}	-250	7.8	10	-4.5	-2	42	-4.5	PDFN56
												6.5	8	-10	-2			
KMB3D5N40SA	MA1	●		40	±20	3.5	1.25	1	3	V _{GS}	250	36	45	10	3.5	6.4	10	SOT-23
KMB2D0N60SA	KND	●		60	±20	2	1.25	1.5	3	V _{GS}	250	125	160	10	2	4.8	10	SOT-23

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

MOSFET

Low Voltage MOSFET

Type No.	AEC-Q	Internal circuit	Max. Ratings				V _{th} (V)				R _{DS(ON)} (mΩ)				Q _g (nC)		PKG
			V _{DSS} (V)	V _{GSS} (V)	I _D (A)	P _D (W)	Min.	Max.	@V _{DS} (V)	I _D (μA)	Typ.	Max.	@V _{GS} (V)	@I _D (A)	Typ.	@V _{GS} (V)	
KU6KDN10MZ	●		100	±20	0.22	0.57	1	2.5	V _{GS}	250	2300	6000	10	0.11	0.7	10	DFN22D
KU3600N10D	●		100	±20	5	17.4	2	4	V _{GS}	250	300	360	10	2.5	4.2	10	DPAK(1) DPAK(3)
KU3600N10SZA	●		100	±18	1.3	1.25	1	2.5	V _{GS}	250	300	360	10	0.6	3.3	10	SOT-23
KU3600N10WZ	●		100	±18	1.7	2	1	2.5	V _{GS}	250	300	360	10	0.8	4.5	10	SOT-223 SOT-223(1)
KU3600N10RZ	●		100	±16	5.4	21.5	1	2.5	V _{GS}	250	300	360	10	0.8	4.5	10	PDFN33
KU3600DN10RZ	●		100	±16	4.7	16.6	1	2.5	V _{GS}	250	300	360	10	2.3	4.5	10	PDFN33D
KU3600DN10CZ	●		(Dual)	100	±16	4.7	16.5	1	2.5	V _{GS}	250	300	360	10	2.3	4.5	10
KU310N10F	●		100	±20	23	38	2	4	V _{GS}	250	25	31	10	17	49	10	TO-220IS(1)
KU310N10D	●		100	±20	27	52	2	4	V _{GS}	250	25	31	10	13.5	49	10	DPAK(1) DPAK(3)
KUS220N10DA	●		100	±20	32	39	2	4	V _{GS}	250	17	22	10	16	18	10	DPAK(1) DPAK(3)
KUS140N10C	●		100	±20	44	49	2	4	V _{GS}	250	11.3	14	10	22	26	10	PDFN56
KUS086N10FA	●		100	±20	55	46	2	4	V _{GS}	250	6	8.6	10	27.5	54	10	TO-220IS(1)
KUS086N10DA	●		100	±20	63	62.5	2	4	V _{GS}	250	6	8.6	10	31.5	54	10	DPAK(1) DPAK(3)
KUS045N10FA	●		100	±20	80	50	2	4	V _{GS}	250	3.9	4.5	10	40	78	10	TO-220IS(1)

Note) Additional Function Code : Z → Built in ESD Zener diode

Note) ● : Preparing for qualification of AEC-Q

■ High Voltage MOSFET (Planar)

Type No.	AEC-Q	Max. Ratings				V _{th} (V)				R _{DS(ON)} (mΩ)				Q _g (nC)		PKG
		V _{DSS} (V)	V _{GSS} (V)	I _D (A)	P _D (W)	Min.	Max.	@V _{DS} (V)	I _D (μA)	Typ.	Max.	@V _{GS} (V)	@I _D (A)	Typ.	@V _{GS} (V)	
KF4N20LW	●	200	±20	1	2.2	1	2	V _{GS}	250	850	1050	10	0.5	2.9	5	SOT-223 SOT-223(1)
KF4DN20LC	●	200	±20	3	21.5	1	2	V _{GS}	250	1000	1200	10	1.5	2.9	5	PDFN56D
KF4N20LR	●	200	±20	3.1	23.1	1	2	V _{GS}	250	1000	1200	10	1.5	2.9	5	PDFN33
KF4N20LD	●	200	±20	3.6	31	1	2	V _{GS}	250	850	1150	10	1.8	2.9	5	DPAK(1) DPAK(3)
KF19N20D	○	200	±30	15	83.3	2	4	V _{GS}	250	130	155	10	7.5	21	10	DPAK(1) DPAK(3)
KF19N20F	●	200	±30	19	43.1	2	4	V _{GS}	250	130	155	10	9.5	21	10	TO-220IS(1)
KU210N20PS1 (Trench)	●	200	±20	66	223	2	4	V _{GS}	250	16	21	10	20	35	10	TO-220AB(1)
KF5N25D	●	250	±30	4.4	50	2	4	V _{GS}	250	900	1100	10	2.2	6	10	DPAK(1) DPAK(3)
KF9N25D	●	250	±30	7.5	54.3	2.5	4.5	V _{GS}	250	310	400	10	3.75	14.5	10	DPAK(1) DPAK(3)
KF9N25F	●	250	±30	9	38	2.5	4.5	V _{GS}	250	310	400	10	4.5	14.5	10	TO-220IS(1)
KF16N25D	●	250	±30	13	85	2	4	V _{GS}	250	200	240	10	6.5	21	10	DPAK(1) DPAK(3)
KF16N25F	●	250	±30	16	41.7	2	4	V _{GS}	250	200	240	10	8.0	21	10	TO-220IS(1)
KF3N40W	●	400	±30	2	2	2.5	4.5	V _{GS}	250	2800	3400	10	1	4.4	10	SOT-223 SOT-223(1)
KF3N40D	●	400	±30	2.2	40	2.5	4.5	V _{GS}	250	2800	3400	10	1.1	4.4	10	DPAK(1) DPAK(3)
KF5N40D	●	400	±30	4.2	50	2.5	4.5	V _{GS}	250	1300	1600	10	2.1	5.4	10	DPAK(1) DPAK(3)
KF5N40F	●	400	±30	4.4	37.9	2.5	4.5	V _{GS}	250	1300	1600	10	2.1	5.4	10	TO-220IS(1)
KF9N40D	●	400	±30	6.5	78	2.5	4.5	V _{GS}	250	700	830	10	3.25	13	10	DPAK(1) DPAK(3)
KF9N40F	●	400	±30	7	41.6	2.5	4.5	V _{GS}	250	700	830	10	3.25	13	10	TO-220IS(1)
KF3N50DZ	●	500	±30	2.5	40	2.5	4.5	V _{GS}	250	2000	2500	10	1.25	8	10	DPAK(1) DPAK(3)
KF3N50FZ	●	500	±30	3	25	2.5	4.5	V _{GS}	250	2000	2500	10	1.5	8	10	TO-220IS(1)
KF5N50DZ	●	500	±30	4.3	59.5	2.5	4.5	V _{GS}	250	1100	1400	10	2.15	12	10	DPAK(1) DPAK(3)
KF5N50FZA	●	500	±30	5	37.9	2.5	4.5	V _{GS}	250	1150	1400	10	2.5	12	10	TO-220IS(1)
KF7N50D	●	500	±30	5.5	69.4	2.5	4.5	V _{GS}	250	830	1000	10	2.7	16	10	DPAK(1) DPAK(3)
KF7N50F	●	500	±30	7	41.7	2.5	4.5	V _{GS}	250	830	1000	10	3.5	16	10	TO-220IS(1)
KF9N50F	●	500	±30	9	41	2.5	4.5	V _{GS}	250	640	750	10	4.5	19	10	TO-220IS(1)
KF11N50F	●	500	±30	11	46.3	2.5	4.5	V _{GS}	250	420	520	10	5.5	26	10	TO-220IS(1)
KF13N50F	●	500	±30	13	49.8	2.5	4.5	V _{GS}	250	350	440	10	6.5	35	10	TO-220IS(1)
KF5N53DS	●	525	±30	4.1	59.5	2.5	4.5	V _{GS}	250	1350	1500	10	2.15	12	10	DPAK(1) DPAK(3)
KF5N53FS	●	525	±30	5	37.9	2.5	4.5	V _{GS}	250	1250	1500	10	2.5	12	10	TO-220IS(1)

Note) Additional Function Code : Z → Built in ESD Zener diode

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

MOSFET

High Voltage MOSFET (Planar)

Type No.	AEC-Q	Max. Ratings				V _{th} (V)				R _{DS(ON)} (mΩ)				Q _g (nC)		PKG
		V _{DSS} (V)	V _{GSS} (V)	I _D (A)	P _D (W)	Min.	Max.	@V _{DS} (V)	I _D (μA)	Typ.	Max.	@V _{GS} (V)	@I _D (A)	Typ.	@V _{GS} (V)	
KF1N60D	●	600	±30	1	28	2.5	4.5	V _{GS}	250	8000	10000	10	0.5	4	10	DPAK(1) DPAK(3)
KF2N60D	●	600	±30	2	40.3	2.5	4.5	V _{GS}	250	3700	4400	10	1	6	10	DPAK(1) DPAK(3)
KF2N60I	●	600	±30	2	40.3	2.5	4.5	V _{GS}	250	3700	4400	10	1	6	10	IPAK(2)
KF2N60F	●	600	±30	2	28.4	2.5	4.5	V _{GS}	250	3700	4400	10	1	6	10	TO-220IS(1)
KF3N60D	●	600	±30	2.3	44.6	2.5	4.5	V _{GS}	250	2800	3300	10	1.15	8.5	10	DPAK(1) DPAK(3)
KF3N60I	●	600	±30	2.3	44.6	2.5	4.5	V _{GS}	250	2800	3300	10	1.15	8.5	10	IPAK(2)
KF3N60F	●	600	±30	3	31	2.5	4.5	V _{GS}	250	2800	3300	10	1.5	8.5	10	TO-220IS(1)
KF4N60D	●	600	±30	3.2	59.5	2.5	4.5	V _{GS}	250	1900	2500	10	1.6	10	10	DPAK(1) DPAK(3)
KF4N60F	●	600	±30	4	37.9	2.5	4.5	V _{GS}	250	1900	2500	10	2	10	10	TO-220IS(1)
KF5N60D	●	600	±30	3.5	59.5	2.5	4.5	V _{GS}	250	1700	2000	10	1.75	11	10	DPAK(1) DPAK(3)
KF5N60F	●	600	±30	4.5	38	2.5	4.5	V _{GS}	250	1700	2000	10	2.25	11	10	TO-220IS(1)
KF6N60D	●	600	±30	5	69.4	2.5	4.5	V _{GS}	250	1200	1400	10	2.5	16	10	DPAK(1) DPAK(3)
KF6N60F	●	600	±30	6	41.7	2.5	4.5	V _{GS}	250	1200	1400	10	3	16	10	TO-220IS(1)
KF7N60F	●	600	±30	7	41	2.5	4.5	V _{GS}	250	950	1200	10	3.5	19	10	TO-220IS(1)
KF8N60F	●	600	±30	8	44.6	2.5	4.5	V _{GS}	250	850	1050	10	4	22	10	TO-220IS(1)
KF10N60F	●	600	±30	10	46	2.5	4.5	V _{GS}	250	590	730	10	5	26	10	TO-220IS(1)
KF12N60F	●	600	±30	12	49.8	2.5	4.5	V _{GS}	250	510	600	10	6	36	10	TO-220IS(1)
KF4N65F	●	650	±30	3.6	37.9	2.5	4.5	V _{GS}	250	2100	2500	10	1.8	12	10	TO-220IS(1)
KF5N65D	●	650	±30	4.4	69.4	2.5	4.5	V _{GS}	250	1500	1750	10	2.2	14.5	10	DPAK(1) DPAK(3)
KF5N65F	●	650	±30	5	41.7	2.5	4.5	V _{GS}	250	1500	1750	10	2.5	14.5	10	TO-220IS(1)
KF7N65F	●	650	±30	7	44.6	2.5	4.5	V _{GS}	250	1000	1200	10	3.5	24	10	TO-220IS(1)
KF7N68F	●	680	±30	7	44.6	2.5	4.5	V _{GS}	250	1000	1250	10	3.5	24	10	TO-220IS(1)
KF10N68F	●	680	±30	10	46	2.5	4.5	V _{GS}	250	760	950	10	5	24	10	TO-220IS(1)
KF12N68F	●	680	±30	12	50	2.5	4.5	V _{GS}	250	580	710	10	6	30	10	TO-220IS(1)
KF6N70F	●	700	±30	6	41	2.5	4.5	V _{GS}	250	1420	1650	10	3	19	10	TO-220IS(1)
KF3N80D	●	800	±30	2.7	69.4	2.5	4.5	V _{GS}	250	3400	4200	10	1.35	12	10	DPAK(1) DPAK(3)
KF3N80F	●	800	±30	3	32	2.5	4.5	V _{GS}	250	3400	4200	10	1.5	12	10	TO-220IS(1)
KF4N80F	●	800	±30	4	43	2.5	4.5	V _{GS}	250	2200	2600	10	2	17	10	TO-220IS(1)
KF7N80F	●	800	±30	7	44.6	2.5	4.5	V _{GS}	250	1200	1450	10	3.5	45	10	TO-220IS(1)

Note) ● : Preparing for qualification of AEC-Q

■ High Voltage MOSFET (Super Junction)

Type No.	AEC-Q	Max. Ratings				V _{th} (V)				R _{DS(ON)} (mΩ)				Q _g (nC)		PKG
		V _{DSS} (V)	V _{GSS} (V)	I _D (A)	P _D (W)	Min.	Max.	@V _{DS} (V)	I _D (μA)	Typ.	Max.	@V _{GS} (V)	@I _D (A)	Typ.	@V _{GS} (V)	
KP580N60DM3	●	600	±30	8	56.8	2	4	V _{GS}	250	510	580	10	4	12	10	DPAK(3)
KP580N60FM3	●	600	±30	8	39.1	2	4	V _{GS}	250	510	580	10	4	12	10	TO-220IS(1)
KP580N60FWM3	●	600	±30	8	39.1	2	4	V _{GS}	250	510	580	10	4	12	10	TO-220ISW
KP380N60DM3	●	600	±30	11	78.1	2	4	V _{GS}	250	330	380	10	5.5	17	10	DPAK(3)
KP380N60FM3	●	600	±30	11	36.8	2	4	V _{GS}	250	330	380	10	5.5	17	10	TO-220IS(1)
KP380N60FWM3	●	600	±30	11	36.8	2	4	V _{GS}	250	330	380	10	5.5	17	10	TO-220ISW
KP280N60DM3	●	600	±30	15	83	2	4	V _{GS}	250	245	280	10	7.5	21	10	DPAK(1)
KP280N60FM3	●	600	±30	15	50	2	4	V _{GS}	250	245	280	10	7.5	21	10	TO-220IS(1)
KP280N60FWM3	●	600	±30	15	50	2	4	V _{GS}	250	245	280	10	7.5	21	10	TO-220ISW
KP190N60FM3	●	600	±30	20	59.5	2	4	V _{GS}	250	165	190	10	10	31	10	TO-220IS(1)
KP190N60FWM3	●	600	±30	20	59.5	2	4	V _{GS}	250	165	190	10	10	31	10	TO-220ISW
KP125N60FM3	●	600	±30	30	66	2	4	V _{GS}	250	109	125	10	15	47	10	TO-220IS(1)
KPM8N60D	●	600	±30	8	56.8	2	4	V _{GS}	250	520	580	10	4	16	10	DPAK(1) DPAK(3)
KPM8N60F	●	600	±30	8	39.1	2	4	V _{GS}	250	520	580	10	4	16	10	TO-220IS(1)
KPM8N60FW	●	600	±30	8	39.1	2	4	V _{GS}	250	520	580	10	4	16	10	TO-220ISW
KPM11N60D	●	600	±30	11	78.1	2	4	V _{GS}	250	330	380	10	5.5	24	10	DPAK(1) DPAK(3)
KPM11N60F	●	600	±30	11	36.8	2	4	V _{GS}	250	330	380	10	5.5	24	10	TO-220IS(1)
KPM11N60FW	●	600	±30	11	36.8	2	4	V _{GS}	250	330	380	10	5.5	24	10	TO-220ISW
KPM15N60D	●	600	±30	15	83	2	4	V _{GS}	250	240	280	10	7.5	32	10	DPAK(1) DPAK(3)
KPM15N60F	●	600	±30	15	50	2	4	V _{GS}	250	240	280	10	7.5	32	10	TO-220IS(1)
KPM15N60FW	●	600	±30	15	50	2	4	V _{GS}	250	240	280	10	7.5	32	10	TO-220ISW
KPM20N60F	●	600	±30	20	59.5	2	4	V _{GS}	250	170	190	10	10	46	10	TO-220IS(1)
KPM20N60FW	●	600	±30	20	59.5	2	4	V _{GS}	250	170	190	10	10	46	10	TO-220ISW

Note) ● : Preparing for qualification of AEC-Q

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
10N60KL-TF1-T	UTC	KF10N60F	2SK3541GT2L	TOSHIBA	KTK5132V	BSS138N	INFINEON	2N7002KB
10N80L-TF1-T	UTC	KF7N80F	2SK3561	TOSHIBA	KF9N50F	BSS205N	INFINEON	KMA3D0N20SA
12N50L-TF1-T	UTC	KF11N50F	2SK3565	TOSHIBA	KF4N80F	CJ2301	JCET	KMA2D4P20SA
18NM60L-TF1-T	UTC	KPM15N60F	2SK3607-01MR	FUJI	KF19N20F	CJ2302	JCET	KMA3D0N20SA
1N60G-TN3-R	UTC	KF1N60D	2SK3667	TOSHIBA	KF8N60F	CPH3355-TL-W	ONSEMI	KMB3D0P30SA
2N65L-TF3-T	UTC	KF12N68F	2SK3687-01MR	FUJI	KF12N60F	CPH3356	ONSEMI	KMA2D4P20SA
2N7002	DIODES	2N7002KB	2SK3749-T1-A	VBSEMI	2N7002KU	CPH3423	Sanyo	KMB2D0N60SA
2N7002	NEXPERIA	2N7002KB	2SK3767	TOSHIBA	KF2N60F	CR7N65FA9K	crmicro	KF7N65F
2N7002	PANJIT	2N7002KB	2SK4012	TOSHIBA	KF13N50F	CRSD082N10L2	crmicro	KUS086N10DA
2N7002BKW	NEXPERIA	2N7002KU	2SK4013	TOSHIBA	KF7N80F	CS10N60FA9R	crmicro	KF10N60F
2N7002CK	NEXPERIA	2N7002KB	2V7002LT1G	ONSEMI	2N7002KB	CS12N60FA9HD	NEXPERIA	KF12N60F
2N7002DW	DIODES	2N7002KDU	2V7002WT1G	ONSEMI	2N7002KU	CS12N60FA9R	crmicro	KF10N60F
2N7002DW	INFINEON	2N7002KDU	4N65L-TF3-T	UTC	KF4N65F	CS6N40A4R	crmicro	KF9N40D
2N7002E	VISHAY	2N7002KB	4N80L-TF3-T	UTC	KF4N80F	CS7N60 A4R	NEXPERIA	KF6N60D
2N7002K	AUK	2N7002KB	5N50ZG-TN3-R	UTC	KF5N50DZ	CS830A4RD	crmicro	KF5N50DZ
2N7002K	DIODES	2N7002KB	7N65L-TF3-T	UTC	KF7N65F	CS830FA9RD	crmicro	KF5N50FZA
2N7002K	ONSEMI	2N7002KB	7N80L-TF3-T	UTC	KF7N80F	CS840FA9H	crmicro	KF9N50F
2N7002K	PANJIT	2N7002KB	AO3409	AOS	KMB3D0P30SA	CS8N25A4R	crmicro	KF9N25D
2N7002K	VISHAY	2N7002KB	AO3409L	AOS	KMB3D0P30SA	CS8N50FA9R	crmicro	KF9N50F
2N7002KT1G	ONSEMI	2N7002KB	AO3424	AOS	KMD4D2N30S	CS8N80FA9D	crmicro	KF7N80F
2N7002KU	AUK	2N7002KU	AO3434	AOS	KMD4D2N30S	DMG2305UX	DIODES	KU390P02SZ
2N7002KW	ONSEMI	2N7002KU	AOD296A	AOS	KUS086N10DA	DMG2307L	DIODES	KMB3D0P30SA
2N7002Q	DIODES	2N7002KA-RTK/HU	AOD2N60	AOS	KF2N60D	DMN3010LK3	DIODES	KU2307D
2N7002WT1G	ONSEMI	2N7002KU	AOD2N60A	AOS	KF2N60D	DMN3070SSN	DIODES	KMD4D2N30S
2SJ648	RENESAS	KML0D4P20E	AOD380A60C	AOS	KPM11N60D	DMN33D8LT	DIODES	KTK5132E
2SK1764KYTL-E	RENESAS	KMB2D0N60SA	AOD5N40	AOS	KF5N40D	DMN601K-7	DIODES	2N7002KB
2SK2662	TOSHIBA	KF5N50FZA	AOD5N50	AOS	KF5N50DZ	DMN6140L	DIODES	KMB2D0N60SA
2SK2843	TOSHIBA	KF10N60F	AOD66920	AOS	KUS086N10DA	DMN62D0U	DIODES	2N7002KB
2SK2858	RENESAS	KTK5132U	AOD8N25	AOS	KF9N25D	DMP3130LQ-7	DIODES	KMA3D7P20SA
2SK2865	TOSHIBA	KF2N60D	AOD9N40	AOS	KF9N40D	FCD380N60E	ONSEMI	KPM11N60D
2SK3018	ROHM	KTK5132U	AOH3106	AOS	KU3600N10WZ	FCPF190N60	ONSEMI	KPM20N60F
2SK3018UB	ROHM	KTK5132U	AOSS21319C	AOS	KMB3D0P30SA	FCPF190N60E	ONSEMI	KPM20N60F
2SK3019	ROHM	KTK5132E	AOSS32338C	AOS	KMD4D2N30S	FCPF260N60E	ONSEMI	KPM15N60F
2SK3019B	ROHM	KTK5132E	AOTF190A60CL	AOS	KPM20N60F	FDD6N50TM	ONSEMI	KF7N50D
2SK3107	NEC	KTK5132E	AOTF380A60CL	AOS	KPM11N60F	FDD7N60NZ	ONSEMI	KF7N60F
2SK3113B-ZK-E1-AY	RENESAS	KF2N60D	AP10N024H	APEC	KUS220N10DA	FDD86102	ONSEMI	KUS220N10DA
2SK3520-01MR	FUJI	KF9N50F	AP11N50I	APEC	KF11N50F	FDN342P	ONSEMI	KMA3D7P20SA
2SK3530-01MR	FUJI	KF7N80F	BSS138BKS	NEXPERIA	2N7002KDU	FDN360P	ONSEMI	KMB3D0P30SA

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
FDPF12N50NZ	ONSEMI	KF11N50F	JCS9N50FT	JSMC	KF9N50F	MMSF60R190QTH	MAGNACHIP	KPM20N60FW
FDPF18N20FT	ONSEMI	KF19N20F	L2N7002KLT1G	LRC	2N7002KB	MMSF60R280QTH	MAGNACHIP	KPM15N60FW
FDPF5N60NZ	ONSEMI	KF5N60F	L2N7002SLT1G	LRC	2N7002KB	MMSF60R360P	MAGNACHIP	KPM11N60FW
FH13N60K	STMICRO ELECTRONICS	KPM11N60FW	LP2301BLT1G	LRC	KMA2D4P20SA	MMSF60R360Q	MAGNACHIP	KPM11N60FW
FK3303010L	PANASONIC	KTK5132V	MDD3N50G	MAGNACHIP	KF3N50DZ	MMSF60R360QTH	MAGNACHIP	KPM11N60FW
FK3503010L	PANASONIC	KTK5132U	MDD4N25RH	MAGNACHIP	KF5N25D	MMSF60R580QTH	MAGNACHIP	KPM8N60FW
FMV12N50ES	FUJI	KF11N50F	MDD5N40RH	MAGNACHIP	KF5N40D	MTA040P02KN3	CYSTEKEC	KU390P02SZ
FMV12N60ES	FUJI	KF12N60F	MDD5N50RH	MAGNACHIP	KF5N50DZ	MTNK6S3	CYSTEKEC	2N7002KU
FMV60N190S2HF	FUJI	KPM20N60F	MDD7N25RH	MAGNACHIP	KF9N25D	NTR5103NT1G	ONSEMI	2N7002KB
FMV60N280S2HF	FUJI	KPM15N60F	MDD9N40	MAGNACHIP	KF9N40D	NTRV4101P1G	ONSEMI	KMA3D7P20SA
FQD1N60C	ONSEMI	KF1N60D	MDD9N40RH	MAGNACHIP	KF9N40D	NVR4501NT1G	ONSEMI	KMA3D0N20SA
FQPF8N80C	ONSEMI	KF7N80F	MDF10N055TH	MAGNACHIP	KUS045N10FA	NVR5198NLT1G	ONSEMI	KMB2D0N60SA
FQPF9N25C	ONSEMI	KF9N25F	MDF11N65B	MAGNACHIP	KF12N68F	NX138BK	NEXPERIA	2N7002KB
FQT7N10L	ONSEMI	KU3600N10WZ	MDF12N50	MAGNACHIP	KF11N50F	NX2301P	NEXPERIA	KMA2D4P20SA
HFS7N80	Semihow	KF7N80F	MDF13N50	MAGNACHIP	KF11N50F	NX7002BK5	NEXPERIA	2N7002KDU
HPA600R380PC-G	crmicro	KPM11N60F	MDF1922	MAGNACHIP	KUS086N10FA	NX7002BK5X	NEXPERIA	2N7002KDU
INJ0203AC1	ISAHAYA	KMA2D4P20SA	MDF5N50	MAGNACHIP	KF5N50FZA	P15F60HP2	SHINDENGEN	KPM15N60F
INJ0203BC1	ISAHAYA	KMA2D4P20SA	MDHT4N20Y	MAGNACHIP	KF4N20LW	P6FE25VX5K	SHINDENGEN	KF9N25D
IPA045N10N3G	INFINEON	KUS045N10FA	MMD60R280QRH	MAGNACHIP	KPM15N60D	PJA3402-AU	PANJIT	KMD4D2N30S
IPA083N10N5	INFINEON	KUS086N10FA	MMD60R360P	MAGNACHIP	KPM11N60D	PJA3411-AU	PANJIT	KMA3D7P20SA
IPA60R180P7	INFINEON	KPM20N60F	MMD60R360PRH	MAGNACHIP	KPM11N60D	PJA3440-AU	PANJIT	KMB3D5N40SA
IPA60R180P7S	INFINEON	KPM20N60F	MMD60R360Q	MAGNACHIP	KPM11N60D	PJF4N65M	PANJIT	KF4N65F
IPA60R190P6	INFINEON	KPM20N60F	MMD60R360QRH	MAGNACHIP	KPM11N60D	PJF8N65M	PANJIT	KF7N65F
IPA60R360P7S	INFINEON	KPM11N60F	MMD60R580Q	MAGNACHIP	KPM8N60D	PMT280ENEA	NEXPERIA	KU3600N10WZ
IPA60R380E6	INFINEON	KPM11N60F	MMF60R190PTH	MAGNACHIP	KPM20N60F	PMV280ENEA	NEXPERIA	KU3600N10SZA
IPA80R1K4P7	INFINEON	KF7N80F	MMF60R190Q	MAGNACHIP	KPM20N60F	PMV75UP	NEXPERIA	KMA3D7P20SA
IPAW60R380CE	INFINEON	KPM15N60FW	MMF60R190QTH	MAGNACHIP	KPM20N60F	R5009ANX	ROHM	KF9N50F
IPD60R1K4C6	INFINEON	KF6N60D	MMF60R280Q	MAGNACHIP	KPM15N60F	R6004PND3FRA	ROHM	KF5N60D
IPD60R2K1CE	INFINEON	KF5N60D	MMF60R280QTH	MAGNACHIP	KPM15N60F	R6007KNX	ROHM	KPM8N60F
IPD60R360P7S	INFINEON	KPM11N60D	MMF60R360PTH	MAGNACHIP	KPM11N60F	R6011KNX	ROHM	KPM11N60F
IRFB4227PbF	INFINEON	KU210N20PS1	MMF60R360Q	MAGNACHIP	KPM11N60F	R6012ANX	ROHM	KPM11N60F
IRFR420	VISHAY	KF3N50DZ	MMF60R360QTH	MAGNACHIP	KPM11N60F	R6015KNX	ROHM	KPM15N60F
IRLML2502PBF	IRF	KMA3D6N20SA	MMF60R580P	MAGNACHIP	KPM8N60F	R6020KNX	ROHM	KPM20N60F
IRLML2502TRPBF	IRF	KMA3D6N20SA	MMF60R580Q	MAGNACHIP	KPM8N60F	R8002CND3FRA	ROHM	KF3N80D
IRLML6346TRPbF	INFINEON	KMD4D2N30S	MMF60R580QTH	MAGNACHIP	KPM8N60F	RD3P200SN	ROHM	KU310N10D
JCS13N50FT	JSMC	KF13N50F	MMFTP2301	SEMTECH	KMA2D4P20SA	RD3P200SNFRA	ROHM	KU310N10D
JCS8N60F	JSMC	KF7N60F	MMSF60R190P	MAGNACHIP	KPM20N60FW	RE1C002ZP	ROHM	KML0D4P20E
JCS9N50FC	JSMC	KF9N50F	MMSF60R190Q	MAGNACHIP	KPM20N60FW	RHK003N06	ROHM	2N7002KB

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
RHK003N06FRA	ROHM	2N7002KB	SIHFR214TRL-GE3	VISHAY	KF5N25D	T2N7002BK	TOSHIBA	2N7002KB
RHU002N06	ROHM	2N7002KU	SLF20N60S	MAPLESEMI	KPM11N60F	TK10A50D	TOSHIBA	KF9N50F
RHU002N06FRA	ROHM	2N7002KU	SM2314NSAC	SinoPower	KMA3D6N20SA	TK10A60D	TOSHIBA	KF10N60F
RJU002N06	ROHM	2N7002KU	SM7002NSAN	SinoPower	2N7002KA-RTK/HU	TK11A50D	TOSHIBA	KF11N50F
RK7002	ROHM	2N7002KB	SMK0825F	AUK	KF9N25F	TK12A50D	TOSHIBA	KF11N50F
RK7002A	ROHM	2N7002KB	SMN01L20Q	AUK	KF4N20LW	TK12A60D	TOSHIBA	KF12N60F
RK7002B	ROHM	2N7002KB	SQ2303ES-T1-GE3	VISHAY	KMB3D0P30SA	TK13A50D	TOSHIBA	KF13N50F
RK7002BM	ROHM	2N7002KB	SQ2308CES	VISHAY	KMB2D0N60SA	TK15A20D	TOSHIBA	KF19N20F
RK7002BMHZG	ROHM	2N7002KB	SQD07N25-350H	VISHAY	KF9N25D	TK16A55D	TOSHIBA	KPM15N60F
RQ5E030AJ	ROHM	KMB4D0N30SA	SSM3J352F	TOSHIBA	KMA2D4P20SA	TK16A60W	TOSHIBA	KPM20N60F
RQ5P010SN	ROHM	KU3600N10SZA	SSM3J36FS	TOSHIBA	KML0D4P20E	TK1K9A60F	TOSHIBA	KF5N60F
RQK0603CGDQA	RENESAS	KMB2D0N60SA	SSM3K15AFS	TOSHIBA	KTK5132E	TK20A60U	TOSHIBA	KPM20N60F
RQK0604IGDQA	RENESAS	KMB2D0N60SA	SSM3K15AFU	TOSHIBA	KTK5132U	TK20A60W	TOSHIBA	KPM20N60F
RRR030P03	ROHM	KMB3D0P30SA	SSM3K15AMFV	TOSHIBA	KTK5132V	TK25A10K3	TOSHIBA	KU310N10F
RS1E281BN	ROHM	KU024N03C	SSM3K15F	TOSHIBA	KTK5132S	TK290A60Y	TOSHIBA	KPM15N60F
RSE002N06	ROHM	2N7002KE	SSM3K15FS	TOSHIBA	KTK5132E	TK2P60D	TOSHIBA	KF2N60D
RSR010N10FHA	ROHM	KU3600N10SZA	SSM3K36MFV	TOSHIBA	KML0D4N20V	TK3P80E	TOSHIBA	KF3N80D
RSR020N06	ROHM	KMB2D0N60SA	SSM3K44FS	TOSHIBA	KTK5132E	TK40A10N1	TOSHIBA	KUS086N10FA
RSR020N06FRA	ROHM	KMB2D0N60SA	SSM3K44MFV	TOSHIBA	KTK5132V	TK4A50D	TOSHIBA	KF5N50FZA
RSU002N06	ROHM	2N7002KU	SSM3K7002KFU	TOSHIBA	2N7002KU	TK4A65DA	TOSHIBA	KF5N60F
RTR020P02	ROHM	KMA3D7P20SA	STD13NM60N	STMICRO ELECTRONICS	KPM11N60D	TK4A80E	TOSHIBA	KF4N80F
RTR025N03	ROHM	KMB4D0N30SA	STD16N60M2	STMICRO ELECTRONICS	KPM11N60D	TK5A50D	TOSHIBA	KF5N50FZA
RTR025N03FRA	ROHM	KMB4D0N30SA	STD25NF10LA	STMICRO ELECTRONICS	KU310N10D	TK5A60D	TOSHIBA	KF6N60F
RTR025P02	ROHM	KMA2D4P20SA	STD80N10F7	STMICRO ELECTRONICS	KUS086N10DA	TK65A10N1	TOSHIBA	KUS045N10FA
RU1L002SN	ROHM	2N7002KU	STF10N60M2	STMICRO ELECTRONICS	KPM8N60F	TK6A60D	TOSHIBA	KF7N60F
RUM002N02	ROHM	KML0D4N20V	STF10NM60N	STMICRO ELECTRONICS	KPM8N60F	TK6A65D	TOSHIBA	KF7N65F
RUM003N02	ROHM	KML0D4N20V	STF13N60M2	STMICRO ELECTRONICS	KPM11N60F	TK750A60F	TOSHIBA	KF10N60F
RZE002P02	ROHM	KML0D4P20E	STF13NM60N	STMICRO ELECTRONICS	KPM11N60F	TK8A50D	TOSHIBA	KF9N50F
RZM002P02	ROHM	KML0D3P20V	STF18NM60N	STMICRO ELECTRONICS	KPM15N60F	TK8A60DA	TOSHIBA	KF8N60F
SFF7N65E	HI SEMI	KF7N65F	STF7N80K5	STMICRO ELECTRONICS	KF7N80F	TK8A60W	TOSHIBA	KPM8N60F
SFT1452-TL-W	ONSEMI	KF5N25D	STF9N60M2	STMICRO ELECTRONICS	KPM8N60F			
SI2301	MCC	KMA2D4P20SA	STFH18N60M2	STMICRO ELECTRONICS	KPM15N60FW			
SI2301CDS	VISHAY	KMA3D7P20SA	STFH24N60M2	STMICRO ELECTRONICS	KPM20N60FW			
SI2306	MCC	KMB4D0N30SA	STP4NK80ZFP	STMICRO ELECTRONICS	KF4N80F			
SI2306BDS	VISHAY	KMB4D0N30SA	STP9NK50ZFP	STMICRO ELECTRONICS	KF9N50F			
Si2308BDS	VISHAY	KMB2D0N60SA	STS3116E	SAMHOP	KMD4D2N30S			
Si2308CDS	VISHAY	KMB2D0N60SA	STU2N62K3	STMICRO ELECTRONICS	KF3N60I			
SIF7N80C	SISEMI	KF7N80F	T2N7002AK	TOSHIBA	2N7002KB			

4



IGBT

IGBT	111~114
IGBT	113
List of Equivalent Product	114

IGBT

Type No.	AEC-Q	Built in Diode	Max. Ratings									V _{GE(Th)} [M]			V _{CE(Sat)} [M]		V _F [M]		PKG
			V _{CE(S)} [M]	V _{GES} [M]	T _J [°C]	I _C [A] @25°C	I _C [A] @100°C	I _F [A] @25°C	I _F [A] @100°C	I _{CM} [A] @25°C	P _D [W] @25°C	Min.	Max.	@I _C [mA] T _J =25°C	Typ	@I _C [A] T _J =25°C	Typ	@I _F [A] T _J =25°C	
KGF12N60FDA	●	Y	600	±20	150	12	6	12	-	24	39	5.0	7.5	1.2	1.50	12	1.70	12	TO-220IS(1)
KGT15N60FDA	●	Y	600	±20	150	15	7.5	30	-	60	41.6	4.5	7.0	2.0	1.70	15	1.60	15	TO-220IS(1)
KGF20N60FDA	●	Y	600	±20	150	40	20	40	20	60	50	4.5	7.0	2.0	1.75	20	1.75	20	TO-220IS(1)
KGF20N60KDA	●	Y	600	±20	150	40	20	-	40	60	156	4.5	7.0	2.0	1.70	20	1.65	20	TO-247 /TO-247(E)
KGF30N60KDA	●	Y	600	±20	150	60	30	30	-	90	178	4.5	7.0	3.0	1.65	30	1.70	30	TO-247 /TO-247(E)
KGF40N60KDA	●	Y	600	±20	150	80	40	-	40	120	250	4.5	7.0	4.0	1.65	40	1.70	40	TO-247
KGF50N60KDA	●	Y	600	±20	150	100	50	-	50	150	277	4.5	7.0	5.0	1.65	50	1.80	50	TO-247 /TO-247(E)
KGF75N60KDB	○	Y	600	±20	150	100	75	-	75	225	357	5.0	7.5	7.5	1.55	75	1.50	75	TO-247 /TO-247(E)
KGF05N65DDA	●	Y	650	±20	150	10	5	5	-	15	57	3.1	7.1	5.0	1.66	5	1.95	5	DKPAK(3)
KGF15N65FDA	●	Y	650	±20	150	15	10	15	-	45	32	-	6.24	1.5	1.75	15	1.87	15	TO-220IS(1)
KGF15N65DDA	●	Y	650	±20	150	30	15	15	-	45	99	3.9	5.9	2.0	1.75	15	1.87	15	DKPAK(3)
KGF15N65PDA	●	Y	650	±20	150	30	15	15	-	45	99	3.9	5.9	2.0	1.75	15	1.87	15	TO-220AB (3)
KGF30N65FDA	●	Y	650	±20	150	60	30	60	30	90	50	5.0	7.0	1.0	1.50	30	1.75	30	TO-220IS(1)
KGF40N65KDC	●	Y	650	±20	175	80	40	-	40	120	208	5.0	7.5	4.0	1.75	40	1.91	20	TO-247 /TO-247(E)
KGF50N65KDF	●	Y	650	±20	175	100	50	-	50	150	300	4.2	6.4	0.5	1.75	50	1.90	50	TO-247 /TO-247(E)
KGF60N65KDF	●	Y	650	±20	175	120	60	-	60	120	340	4.3	6.5	1.0	1.77	60	2.16	60	TO-247 /TO-247(E)
KGF75N65KDF	●	Y	650	±20	175	100	75	-	75	225	484	4.2	6.4	1.0	1.77	75	2.00	75	TO-247 /TO-247(E)
KGF15N120KDA	●	Y	1200	±20	150	30	15	30	15	45	357	4.5	7.0	15	2	15	24	15	TO-247 /TO-247(E)
*KG15N120KDN4	●	Y	1200	±20	175	30	15	-	15	45	167	4.5	7.5	15	1.90	15	2.2	15	TO-247 /TO-247(E)
KGF25N120KDA	●	Y	1200	±20	150	50	25	50	25	75	227	4.5	7.0	25	2	25	24	25	TO-247 /TO-247(E)
*KG25N120KDN4	●	Y	1200	±20	175	50	25	-	25	75	227	4.5	7.5	25	1.90	25	2.2	25	TO-247 /TO-247(E)
KGF30N120KA	○	N	1200	±20	175	60	30	-	-	90	469	4.9	6.5	1.0	1.94	30	-	-	TO-247 /TO-247(E)
KGF40N120KDA	●	Y	1200	±20	150	80	40	80	40	120	167	4.5	7.0	40	2	40	26	40	TO-247 /TO-247(E)
*KG40N120KDN4	●	Y	1200	±20	175	80	40	40	40	120	357	4.5	7.5	40	1.90	40	2.2	40	TO-247 /TO-247(E)

Note) *Under development

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
AIGW50N65F5	INFINEON	KGF50N65KDF	IKW25N120H3	INFINEON	KGF25N120KDA	IRGP4063DPbF	INFINEON	KGF50N60KDA
AIKW30N60CT	INFINEON	KGF40N60KDA	IKW25N120T2	INFINEON	KGF25N120KDA	IRGP4068D	INFINEON	KGF50N60KDA
AMBQ40T120RFR	MAGNACHIP	KGF40N120KDA	IKW25T120	INFINEON	KGF25N120KDA	IRGP4069D	INFINEON	KGF50N60KDA
AUIRGP4062D-E	INFINEON	KGF30N60KDA	IKW30N60DTP	INFINEON	KGF40N60KDA	IRGP4640D	INFINEON	KGF40N60KDA
FGA3060ADF	ONSEMI	KGF30N60KDA	IKW30N60H3	INFINEON	KGF30N60KDA	IRGP4660D	INFINEON	KGF50N60KDA
FGA4060ADF	ONSEMI	KGF40N60KDA	IKW30N60T	INFINEON	KGF30N60KDA	IRGP50B60PD	INFINEON	KGF40N60KDA
FGA40N65SMD	ONSEMI	KGF40N65KDC	IKW40N120H3	INFINEON	KGF40N120KDA	IRGP50B60PD1-E	INFINEON	KGF50N60KDA
FGA6540WDF	ONSEMI	KGF40N65KDC	IKW40N120T2	INFINEON	KGF40N120KDA	MGD623N	SANKEN	KGF50N60KDA
FGB40N60SM	ONSEMI	KGF40N60KDA	IKW40N60DTP	INFINEON	KGF50N60KDA	MGD623S	SANKEN	KGF40N60KDA
FGB40T65SPD-F085	ONSEMI	KGF40N65KDC	IKW40N60H3	INFINEON	KGF40N60KDA	NGTB03N60R2DT4G	ONSEMI	KGF05N65DDA
FGH20N60UFD	ONSEMI	KGF20N60KDA	IKW40N65F5	INFINEON	KGF40N65KDC	NGTB15N120FL2WG	ONSEMI	KGF15N120KDA
FGH25T120SMD	ONSEMI	KGF25N120KDA	IKW40T120	INFINEON	KGF40N120KDA	NGTB15N60EG	ONSEMI	KGF15N65PDA
FGH40N60SMD	ONSEMI	KGF40N60KDA	IKW50N60H3	INFINEON	KGF50N60KDA	NGTB25N120FL2WG	ONSEMI	KGF25N120KDA
FGH40N65UFD-F085	ONSEMI	KGF40N65KDC	IKW50N60T	INFINEON	KGF50N60KDA	NGTB25N120SWG	ONSEMI	KGF25N120KDA
FGH40T100SMD	ONSEMI	KGF40N120KDA	IKW50N60TA	INFINEON	KGF50N60KDA	RGCL60TK60	ROHM	KGF30N60KDA
FGH40T65UQDF	ONSEMI	KGF40N65KDC	IKW50N65WR5	INFINEON	KGF50N65KDF	RGCL80TS60D	ROHM	KGF40N60KDA
FGH60N60SMD	ONSEMI	KGF60N65KDF	IKW75N60T	INFINEON	KGF75N60KDB	RGS00TS65DHR	ROHM	KGF50N65KDF
FGH75T65SHDT	ONSEMI	KGF75N60KDB	IKW75N65EH5	INFINEON	KGF75N65KDF	RGS00TS65EHR	INFINEON	KGF50N65KDF
FGPF10N60UNDF	ONSEMI	KGF15N65FDA	IRG4BC40F	INFINEON	KGF30N60PA	RGS80TSX2DHR	ROHM	KGF40N120KDA
FGPF15N60UNDF	ONSEMI	KGF15N65FDA	IRG4IBC20FD	INFINEON	KGF15N60FDA	RGS80TSX2HRC11	ROHM	KGF30N120KA
FGW30N120H	FUJI	KGF25N120KDA	IRG4IBC20KD	INFINEON	KGF12N60FDA	RGTV60TS65D	ROHM	KGF40N65KDC
FGW60N65WD	FUJI	KGF60N65KDF	IRG4PC40FD	INFINEON	KGF30N60KDA	RGW80TS65D	ROHM	KGF40N65KDC
GT15J341	TOSHIBA	KGF15N65FDA	IRG4PC40UD	INFINEON	KGF20N60KDA	RJH1CM5DPK	RENESAS	KGF15N120KDA
GT30J341	TOSHIBA	KGF30N60KDA	IRG4PC40UDPBF	INFINEON	KGF20N60KDA	RJH1CM5DPQ	RENESAS	KGF15N120KDA
GT40J322	TOSHIBA	KGF40N60KDA	IRG4PC50FD	INFINEON	KGF40N60KDA	RJH1CM6DPK	RENESAS	KGF25N120KDA
GT50J341	TOSHIBA	KGF50N60KDA	IRG4PC50KD	INFINEON	KGF30N60KDA	RJH1CM6DPQ	RENESAS	KGF25N120KDA
IGW30N60H3	INFINEON	KGF30N60KDA	IRG4PC50SD	INFINEON	KGF40N60KDA	RJH1CM7DPK	RENESAS	KGF25N120KDA
IKA06N60T	INFINEON	KGF12N60FDA	IRG4PC50UD	INFINEON	KGF30N60KDA	RJH1CM7DPQ	RENESAS	KGF25N120KDA
IKA08N65ET6	INFINEON	KGF15N60FDA	IRG4PC50UDPbF	INFINEON	KGF30N60KDA	RJH60D2DPP-M0	RENESAS	KGT15N60FDA
IKA08N65H5	INFINEON	KGF12N60FDA	IRG4PC50UPbF	INFINEON	KGF30N60KDA	RJH60F7DPK	RENESAS	KGF50N60KDA
IKA10N60T	INFINEON	KGF12N60FDA	IRG4PC60UPbF	INFINEON	KGF40N60KDA	SKW25N120	INFINEON	KGF25N120KDA
IKA15N60T	INFINEON	KGF15N65FDA	IRG4PF50WDPbF	INFINEON	KGF30N60KDA	SKW30N60	INFINEON	KGF30N60KDA
IKA15N65ET6	INFINEON	KGF15N65FDA	IRG4PH40KD	INFINEON	KGF15N120KDA	STGD3HF60HDT4	STMICRO ELECTRONICS	KGF05N65DDA
IKA15N65F5	INFINEON	KGF15N60FDA	IRG4PH40UDPbF	INFINEON	KGF25N120KDA	STGD5H60DF	STMICRO ELECTRONICS	KGF05N65DDA
IKA15N65H5	INFINEON	KGF15N60FDA	IRG4PH50KD	INFINEON	KGF25N120KDA	STGF20H65DFB2	STMICRO ELECTRONICS	KGF40N65KDC
IKD04N60RC2	INFINEON	KGF05N65DDA	IRG4PH50UD	INFINEON	KGF25N120KDA	STGF7H60DF	STMICRO ELECTRONICS	KGT15N60FDA
IKD06N60R	INFINEON	KGF05N65DDA	IRG7PH35UD	INFINEON	KGF25N120KDA	STGW20H60DF	STMICRO ELECTRONICS	KGF20N60KDA
IKD06N60RF	INFINEON	KGF05N65DDA	IRGIB6B60KD	INFINEON	KGF12N60FDA	STGW30NC60VD	STMICRO ELECTRONICS	KGF30N60KDA
IKW15N120H3	INFINEON	KGF15N120KDA	IRGIB7B60KD	INFINEON	KGF15N60FDA	STGWA19NC60HD	STMICRO ELECTRONICS	KGF20N60KDA
IKW15N120T2	INFINEON	KGF15N120KDA	IRGP20B120UD-E	INFINEON	KGF25N120KDA	STGWA30HP65FB2	STMICRO ELECTRONICS	KGF40N65KDC
IKW15T120	INFINEON	KGF15N120KDA	IRGP20B60PD	INFINEON	KGF30N60KDA	STGWA40HP65FB2	STMICRO ELECTRONICS	KGF40N65KDC
IKW20N60H3	INFINEON	KGF20N60KDA	IRGP30B60KD-E	INFINEON	KGF30N60KDA	STGWT60H65DFB	STMICRO ELECTRONICS	KGF60N65KDF
IKW20N60T	INFINEON	KGF20N60KDA	IRGP35B60PD	INFINEON	KGF30N60KDA	TGAN60N65F2D2S	TRINNO	KGF75N65KDF
IKW20N65ET7	INFINEON	KGF40N65KDC	IRGP4062DPBF	INFINEON	KGF30N60KDA	TGAN60N65F2DS	TRINNO	KGF75N65KDF



IC	115~133
Amplifiers & Comparators	117
OP Amp.	117
Comparator	117
Power Management	118~131
Detector & Reset IC	118
1) Bipolar Voltage Detector IC (Active Low, Open Collector Output Type)	119
2) CMOS Detector IC (Active Low, CMOS/Open-drain Output Type)	119
3) CMOS External Delay Reset IC (Active Low, CMOS/Open-drain Output Type)	119
4) CMOS Internal Delay Reset IC (Active Low, CMOS/Open-drain Output Type)	119
5) CMOS Internal Delay Reset + Manual Reset IC (Active Low, CMOS/Open-drain Output Type)	119
Gate Driver	120
1) Low Voltage Gate Driver	120
2) High Voltage Gate Driver	120
Shunt Regulator	121
1) 1.24V Shunt Regulator	121
2) 2.495V Shunt Regulator	121
Regulator	122~129
1) General Purpose	122~123
1-1) 0.15A General Purpose Voltage Regulator	122
1-2) 0.5A General Purpose Voltage Regulator	123
1-2) 1A General Purpose Voltage Regulator	123
2) Negative	124~125
2-1) 0.15A Negative General Purpose Voltage Regulator	124
2-2) 1A Negative General Purpose Voltage Regulator	125
3) Bipolar LDO	126~128
3-1) 0.25A LDO Voltage Regulator	126
3-2) 1A LDO Voltage Regulator	126
3-3) 1A LDO Voltage Regulator (On/Off Controllable)	127
3-4) 2A LDO Voltage Regulator (On/Off Controllable)	127
3-5) 3A LDO Voltage Regulator (On/Off Controllable)	128
4) CMOS LDO	129
4-1) 0.25A CMOS LDO Voltage Regulator	129
4-2) 0.3A CMOS LDO Voltage Regulator (On/Off Controllable)	129
4-3) 1A CMOS LDO Adjustable Voltage Regulator (On/Off Controllable)	129
4-4) 2A CMOS LDO Adjustable Voltage Regulator (On/Off Controllable)	129
Transistor Array & Interface Driver IC	130
1) Single Driver	130
2) Darlington Driver	130
3) High Voltage Source Driver	130
Switching Regulator IC (DC/DC Converter)	131
Power Supply Controller	131
AC/DC Control IC	131
LED Driver IC	131
Audio Amplifier	131
List of Equivalent Product	132~133

Amplifiers & Comparators

■ OP Amp.

Type No.	AEC-Q	Channel No.	Supply Voltage $V_{CC}(V)$	Input Offset Voltage $V_{IO}(mV)$	Input Bias Current $I_i(nA)$	PKG
KIA75S358F	○	1	±18 or 36	2	45	TSV
KIA75S558F	○	1	±18 or 36	0.5	60	
KIA358P	○	2	±18 or 36	2	45	DIP-8
KIA4558P	○	2	±18 or 36	0.5	60	
KIA358F	○	2	±18 or 36	2	45	FLP-8
KIA4558F	○	2	±18 or 36	0.5	60	
KIA324P	○	4	±18 or 36	2	45	DIP-14
KIA324F	○	4	±18 or 36	2	45	FLP-14

Note) ○ : AEC-Q Qualified

IC

■ Comparator

Type No.	AEC-Q	Channel No.	Supply Voltage $V_{CC}(V)$	Input Offset Voltage $V_{IO}(mV)$	Input Bias Current $I_i(nA)$	PKG
KIA75S393F	○	1	±18 or 36	2	25	TSV
KIA393P	○	2	±18 or 36	2	25	DIP-8
KIA393F	○	2	±18 or 36	2	25	FLP-8
KIA339P	○	4	±18 or 36	2	25	DIP-14
KIA339F	○	4	±18 or 36	2	25	FLP-14

Note) ○ : AEC-Q Qualified

■ Detector & Reset IC

▣ Bipolar Voltage Detector IC (Active Low, Open Collector Output Type)

Type No.	AEC-Q	Max. Ratings		Detecting Volts. $V_S(V)$			Low-Level Output Volts. $V_{OL}(V)$	Hysteresis Volts. $\Delta V_S(mV)$			Circuit Current at on. $I_{CCL}(\mu A)$		Circuit Current at off. $I_{CCH}(\mu A)$		PKG
		$V_{IN}(V)$	$P_D(mW)$	Min.	Typ.	Max.	Max.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	
KIA7019AP	●	15	400	1.75	1.9	2.05	0.4	30	50	100	300	500	30	50	TO-92
KIA7021AP	●	15	400	1.95	2.1	2.25	0.4	30	50	100	300	500	30	50	
KIA7023AP	●	15	400	2.15	2.3	2.45	0.4	30	50	100	300	500	30	50	
KIA7025AP	●	15	400	2.35	2.5	2.65	0.4	30	50	100	300	500	30	50	
KIA7027AP	●	15	400	2.55	2.7	2.85	0.4	30	50	100	300	500	30	50	
KIA7029AP	●	15	400	2.75	2.9	3.05	0.4	30	50	100	300	500	30	50	
KIA7031AP	●	15	400	2.95	3.1	3.25	0.4	30	50	100	300	500	30	50	
KIA7032AP	●	15	400	3.05	3.2	3.35	0.4	30	50	100	300	500	30	50	
KIA7033AP	●	15	400	3.15	3.3	3.45	0.4	30	50	100	300	500	30	50	
KIA7034AP	●	15	400	3.25	3.4	3.55	0.4	30	50	100	300	500	30	50	
KIA7035AP	●	15	400	3.35	3.5	3.65	0.4	30	50	100	300	500	30	50	
KIA7036AP	●	15	400	3.45	3.6	3.75	0.4	30	50	100	300	500	30	50	
KIA7039AP	●	15	400	3.75	3.9	4.05	0.4	30	50	100	300	500	30	50	
KIA7042AP	●	15	400	4.05	4.2	4.35	0.4	30	50	100	300	500	30	50	
KIA7045AP	●	15	400	4.35	4.5	4.65	0.4	30	50	100	300	500	30	50	
KIA7019AF	○	15	500	1.75	1.9	2.05	0.4	30	50	100	300	500	30	50	SOT-89
KIA7021AF	○	15	500	1.95	2.1	2.25	0.4	30	50	100	300	500	30	50	
KIA7023AF	○	15	500	2.15	2.3	2.45	0.4	30	50	100	300	500	30	50	
KIA7025AF	○	15	500	2.35	2.5	2.65	0.4	30	50	100	300	500	30	50	
KIA7027AF	○	15	500	2.55	2.7	2.85	0.4	30	50	100	300	500	30	50	
KIA7029AF	○	15	500	2.75	2.9	3.05	0.4	30	50	100	300	500	30	50	
KIA7031AF	○	15	500	2.95	3.1	3.25	0.4	30	50	100	300	500	30	50	
KIA7032AF	○	15	500	3.05	3.2	3.35	0.4	30	50	100	300	500	30	50	
KIA7033AF	○	15	500	3.15	3.3	3.45	0.4	30	50	100	300	500	30	50	
KIA7034AF	○	15	500	3.25	3.4	3.55	0.4	30	50	100	300	500	30	50	
KIA7035AF	○	15	500	3.35	3.5	3.65	0.4	30	50	100	300	500	30	50	
KIA7036AF	○	15	500	3.45	3.6	3.75	0.4	30	50	100	300	500	30	50	
KIA7039AF	○	15	500	3.75	3.9	4.05	0.4	30	50	100	300	500	30	50	
KIA7042AF	○	15	500	4.05	4.2	4.35	0.4	30	50	100	300	500	30	50	
KIA7045AF	○	15	500	4.35	4.5	4.65	0.4	30	50	100	300	500	30	50	
KIA7019AT	○	15	350	1.75	1.9	2.05	0.4	30	50	100	300	500	30	50	TSM
KIA7021AT	○	15	350	1.95	2.1	2.25	0.4	30	50	100	300	500	30	50	
KIA7023AT	○	15	350	2.15	2.3	2.45	0.4	30	50	100	300	500	30	50	
KIA7025AT	○	15	350	2.35	2.5	2.65	0.4	30	50	100	300	500	30	50	
KIA7027AT	○	15	350	2.55	2.7	2.85	0.4	30	50	100	300	500	30	50	
KIA7029AT	○	15	350	2.75	2.9	3.05	0.4	30	50	100	300	500	30	50	
KIA7031AT	○	15	350	2.95	3.1	3.25	0.4	30	50	100	300	500	30	50	
KIA7032AT	○	15	350	3.05	3.2	3.35	0.4	30	50	100	300	500	30	50	
KIA7033AT	○	15	350	3.15	3.3	3.45	0.4	30	50	100	300	500	30	50	
KIA7034AT	○	15	350	3.25	3.4	3.55	0.4	30	50	100	300	500	30	50	
KIA7035AT	○	15	350	3.35	3.5	3.65	0.4	30	50	100	300	500	30	50	
KIA7036AT	○	15	350	3.45	3.6	3.75	0.4	30	50	100	300	500	30	50	
KIA7039AT	○	15	350	3.75	3.9	4.05	0.4	30	50	100	300	500	30	50	
KIA7042AT	○	15	350	4.05	4.2	4.35	0.4	30	50	100	300	500	30	50	
KIA7045AT	○	15	350	4.35	4.5	4.65	0.4	30	50	100	300	500	30	50	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

■ Detector & Reset IC

■ CMOS Detector IC (Active Low, CMOS/Open-drain Output Type)

Type No.	AEC-Q	Output Type	Max. Ratings		Reset Threshold $V_{th}(V)$			Accuracy (%)	Supply Current $I_{DD}(\mu A)$		PKG
			$V_{DD}(V)$	$I_{OUT}(mA)$	Min.	Max.	Step.		Typ.	Max.	
KIC7108~60P	●	CMOS	12	20	0.8	6	0.1	±1	0.25	1.0	TO-92
KIC7108~60T5	○		12	20	0.8	6	0.1	±1	0.25	1.0	TSV
KIC7108~60M	○		12	20	0.8	6	0.1	±1	0.25	1.0	SOT-23
KIC 7508~60P	●	Open-drain	12	20	0.8	6	0.1	±1	0.25	1.0	TO-92
KIC7508~60T5	○		12	20	0.8	6	0.1	±1	0.25	1.0	TSV
KIC7508~60M/M2	○		12	20	0.8	6	0.1	±1	0.25	1.0	SOT-23

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

■ CMOS External Delay Reset IC (Active Low, CMOS/Open-drain Output Type)

Type No.	AEC-Q	Output Type	Max. Ratings		Reset Threshold $V_{th}(V)$			Accuracy (%)	Supply Current $I_{DD}(\mu A)$		PKG
			$V_{DD}(V)$	$I_{OUT}(mA)$	Min.	Max.	Step.		Typ.	Max.	
KIC7208~60T5	○	CMOS	12	20	0.8	6	0.1	±1	0.35	1.0	TSV
KIC7608~60T5	○	Open-drain									

Note) ○ : AEC-Q Qualified

■ CMOS Internal Delay Reset IC (Active Low, CMOS/Open-drain Output Type)

Type No.	AEC-Q	Output Type	Max. Ratings		Reset Threshold $V_{th}(V)$			Accuracy (%)	Delay Time (ms)	Supply Current $I_{DD}(\mu A)$		PKG
			$V_{DD}(V)$	$I_{OUT}(mA)$	Min.	Max.	Step.			Typ.	Max.	
KIC73A~E16~50M/M2	○	CMOS	7	20	1.6	5	0.1	±1	A : 240 B : 50 C : 100 D : 200 E : 400	0.5	2.0	SOT-23
KIC73A~E16~50T/T2	●											TSM
KIC77A~E16~50M/M2	●	Open-drain										SOT-23
KIC77A~E16~50T/T2	●											TSM

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

■ CMOS Internal Delay Reset + Manual Reset IC (Active Low, CMOS/Open-drain Output Type)

Type No.	AEC-Q	Output Type	Max. Ratings		Reset Threshold $V_{th}(V)$			Accuracy (%)	Delay Time (ms)	Supply Current $I_{DD}(\mu A)$		PKG
			$V_{DD}(V)$	$I_{OUT}(mA)$	Min.	Max.	Step.			Typ.	Max.	
KIC79A~E16~50T/T2	●	Open-drain	6	20	1.6	4.6	0.1	±1.5	A : 20 B : 50 C : 100 D : 200	0.1	2.0	TSV

Note) ● : Preparing for qualification of AEC-Q

■ Gate Driver

▣ Low Voltage Gate Driver

Type No.	AEC-Q	Max. Ratings		Topology	Target Switch	Bootstrap Diode	Charge Pump Output(V)	LDO Output(V)	Protections	FAULT	PKG
		V _{IN} (V)	R _{th(j-A)} (°C/W)							Output	
KIB2070AT5 *	●	24	190	Single	IGBT	External	-	-	UVLO	-	TSV
KIB2070BT5 *					N-MOSFET						
KIB2040QN33	○	40	28	3-Phase	N-MOSFET	Internal	13	3.3	VREG/V3/VBS UVP VDS OVP OTP	Y	QFN-28
KIB2040QN50								5			

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Note) * : Under development

▣ High Voltage Gate Driver

Type No.	AEC-Q	Max. Ratings		Topology	Target Switch	Bootstrap Diode	Charge Pump Output(V)	LDO Output(V)	Protections	FAULT	PKG
		V _{IN} (V)	R _{th(j-A)} (°C/W)							Output	
KIB2642F	●	600	78	3-Phase	N-MOSFET	External	-	-	VCC / VBS UV OCP	Y	SOIC-28
KIB2645F *	●		TBD		IGBT						

Note) ● : Preparing for qualification of AEC-Q

Note) * : Under development

■ Shunt Regulator

▣ 1.24V Shunt Regulator

Type No.	AEC-Q	Max. Ratings		Voltage Reference Tolerance Vref (%)	Minimum Cathode Current Imin(mA)	PKG
		V _{KA} (V)	I _C (mW)			
KIA2431P	●	16	50	1.5	0.08	TO-92
KIA2431AP	●	16	50	1	0.08	
KIA2431S	○	16	50	1.5	0.08	TSM
KIA2431AS	○	16	50	1	0.08	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

▣ 2.495V Shunt Regulator

Type No.	AEC-Q	Max. Ratings		Voltage Reference Tolerance Vref (%)	Minimum Cathode Current Imin(mA)	PKG
		V _{KA} (V)	I _C (mW)			
KIA431A	●	37	150	1	1	TO-92
KIA431B	●	37	150	0.5	1	
KIA431ACP	●	37	150	1	0.6	
KIA431BCP	●	37	150	0.5	0.6	
KIA431AF	○	37	150	1	1	SOT-89
KIA431BF	○	37	150	0.5	1	
KIA431ACF	○	37	150	1	0.6	
KIA431BCF	○	37	150	0.5	0.6	
KIA431AM	○	37	150	1	1	SOT-23
KIA431BM	○	37	150	0.5	1	
KIA431ACM	○	37	150	1	0.6	
KIA431BCM	○	37	150	0.5	0.6	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

■ Regulator

▣ General Purpose

□ 0.15A General purpose Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage V _{OUT} (V)				Line Regulation (mV)			Load Regulation (mV)			Dropout Voltage V _D (V)		PKG
		V _{IN} (V)	I _O (A)	P _D (W)	Min.	Typ.	Max.	@V _{IN}	Max.	@V _{IN} (V)		Max.	@I _{OUT} (mA)		Typ.	@I _{OUT} (mA)	
										Min.	Max.		Min.	Max.			
KIA78L05F	○	35	0.15	0.5	4.8	5	5.2	10	150	7	20	60	1	100	1.7	40	SOT-89
KIA78L06F	○	35	0.15	0.5	5.76	6	6.24	11	150	8.1	21	70	1	100	1.7	40	
KIA78L08F	○	35	0.15	0.5	7.7	8	8.3	14	175	10.5	23	80	1	100	1.7	40	
KIA78L09F	○	35	0.15	0.5	8.64	9	9.36	15	200	11.4	24	90	1	100	1.7	40	
KIA78L10F	○	35	0.15	0.5	9.6	10	10.4	16	230	12.5	25	90	1	100	1.7	40	
KIA78L12F	○	35	0.15	0.5	11.5	12	12.5	19	250	14.5	27	100	1	100	1.7	40	
KIA78L15F	○	35	0.15	0.5	14.4	15	15.6	23	300	17.5	30	150	1	100	1.7	40	
KIA78L18F	○	40	0.15	0.5	17.3	18	18.7	27	325	21.4	33	170	1	100	1.7	40	
KIA78L20F	○	40	0.15	0.5	19.2	20	20.8	29	330	23.5	35	180	1	100	1.7	40	
KIA78L24F	●	40	0.15	0.5	23	24	25	33	350	27.5	38	200	1	100	1.7	40	
KIA78L05BP	●	35	0.15	0.8	4.8	5	5.2	10	150	7	20	60	1	100	1.7	40	TO-92L
KIA78L06BP	●	35	0.15	0.8	5.76	6	6.24	11	150	8.1	21	70	1	100	1.7	40	
KIA78L08BP	●	35	0.15	0.8	7.7	8	8.3	14	175	10.5	23	80	1	100	1.7	40	
KIA78L09BP	●	35	0.15	0.8	8.64	9	9.36	15	200	11.4	24	90	1	100	1.7	40	
KIA78L10BP	●	35	0.15	0.8	9.6	10	10.4	16	230	12.5	25	90	1	100	1.7	40	
KIA78L12BP	●	35	0.15	0.8	11.5	12	12.5	19	250	14.5	27	100	1	100	1.7	40	
KIA78L15BP	●	35	0.15	0.8	14.4	15	15.6	23	300	17.5	30	150	1	100	1.7	40	
KIA78L18BP	●	40	0.15	0.8	17.3	18	18.7	27	325	21.4	33	170	1	100	1.7	40	
KIA78L20BP	●	40	0.15	0.8	19.2	20	20.8	29	330	23.5	35	180	1	100	1.7	40	
KIA78L24BP	●	40	0.15	0.8	23	24	25	33	350	27.5	38	200	1	100	1.7	40	
KIA78S05P	●	35	0.15	0.6	4.8	5	5.2	10	150	7	20	60	1	100	1.7	40	TO-92
KIA78S06P	●	35	0.15	0.6	5.76	6	6.24	11	150	8.1	21	70	1	100	1.7	40	
KIA78S08P	●	35	0.15	0.6	7.7	8	8.3	14	175	10.5	23	80	1	100	1.7	40	
KIA78S09P	●	35	0.15	0.6	8.64	9	9.36	15	200	11.4	24	90	1	100	1.7	40	
KIA78S10P	●	35	0.15	0.6	9.6	10	10.4	16	230	12.5	25	90	1	100	1.7	40	
KIA78S12P	●	35	0.15	0.6	11.5	12	12.5	19	250	14.5	27	100	1	100	1.7	40	
KIA78S15P	●	35	0.15	0.6	14.4	15	15.6	23	300	17.5	30	150	1	100	1.7	40	
KIA78S18P	●	40	0.15	0.6	17.3	18	18.7	27	325	21.4	33	170	1	100	1.7	40	
KIA78S20P	●	40	0.15	0.6	19.2	20	20.8	29	330	23.5	35	180	1	100	1.7	40	
KIA78S24P	●	40	0.15	0.6	23	24	25	33	350	27.5	38	200	1	100	1.7	40	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Power Management

Regulator

General Purpose

0.5A General purpose Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{OUT}(V)$				Line Regulation (mV)			Load Regulation (mV)			Dropout Voltage $V_D(V)$		PKG
		$V_{IN}(V)$	$I_O(A)$	$P_D(W)$	Min.	Typ.	Max.	@ V_{IN}	Max.	@ $V_{IN}(V)$		Max.	@ $I_{OUT}(mA)$		Typ.	@ $I_{OUT}(mA)$	
										Min.	Max.		Min.	Max.			
KIA78M05PI	○	35	0.5	2	4.8	5	5.2	10	100	7.2	25	100	5	500	2	500	TO-220IS
KIA78M08PI	○	35	0.5	2	7.7	8	8.3	14	100	10.5	25	100	5	500	2	500	
KIA78M12PI	○	35	0.5	2	11.5	12	12.5	19	100	14.5	30	240	5	500	2	500	
KIA78M15PI	○	35	0.5	2	14.4	15	15.6	23	100	17.5	30	300	5	500	2	500	
KIA78M05F	○	35	0.5	1.3	4.8	5	5.2	10	100	7.2	25	100	5	500	2	500	DPAK, DPAK(3)
KIA78M08F	○	35	0.5	1.3	7.7	8	8.3	14	100	10.5	25	100	5	500	2	500	
KIA78M12F	○	35	0.5	1.3	11.5	12	12.5	19	100	14.5	30	240	5	500	2	500	
KIA78M15F	○	35	0.5	1.3	14.4	15	15.6	23	100	17.5	30	300	5	500	2	500	

Note) ○ : AEC-Q Qualified

1A General purpose Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{OUT}(V)$				Line Regulation (mV)			Load Regulation (mV)			Dropout Voltage $V_D(V)$		PKG
		$V_{IN}(V)$	$I_O(A)$	$P_D(W)$	Min.	Typ.	Max.	@ V_{IN}	Max.	@ $V_{IN}(V)$		Max.	@ $I_{OUT}(mA)$		Typ.	@ $I_{OUT}(mA)$	
										Min.	Max.		Min.	Max.			
KIA7805API	○	35	1	2	4.8	5	5.2	10	100	7	25	100	5	1400	2	1000	TO-220IS
KIA7806API	○	35	1	2	5.75	6	6.25	11	120	8	25	120	5	1400	2	1000	
KIA7807API	○	35	1	2	6.72	7	7.28	12	140	9	25	140	5	1400	2	1000	
KIA7808API	○	35	1	2	7.7	8	8.3	14	160	10.5	25	160	5	1400	2	1000	
KIA7809API	○	35	1	2	8.64	9	9.36	15	180	11.5	26	180	5	1400	2	1000	
KIA7810API	○	35	1	2	9.6	10	10.4	16	200	12.5	27	200	5	1400	2	1000	
KIA7812API	○	35	1	2	11.5	12	12.5	19	240	14.5	30	240	5	1400	2	1000	
KIA7815API	○	35	1	2	14.4	15	15.6	23	300	17.5	30	300	5	1400	2	1000	
KIA7818API	○	40	1	2	17.3	18	18.7	27	360	21	33	360	5	1400	2	1000	
KIA7820API	○	40	1	2	19.2	20	20.8	29	400	23	35	400	5	1400	2	1000	
KIA7824API	●	40	1	2	23	24	25	33	480	27	38	480	5	1400	2	1000	
KIA7805AF	○	35	1	1.3	4.8	5	5.2	10	100	7	25	100	5	1400	2	1000	DPAK, DPAK(3), DPAK(4)
KIA7806AF	○	35	1	1.3	5.75	6	6.25	11	120	8	25	120	5	1400	2	1000	
KIA7807AF	○	35	1	1.3	6.72	7	7.28	12	140	9	25	140	5	1400	2	1000	
KIA7808AF	○	35	1	1.3	7.7	8	8.3	14	160	10.5	25	160	5	1400	2	1000	
KIA7809AF	○	35	1	1.3	8.64	9	9.36	15	180	11.5	26	180	5	1400	2	1000	
KIA7810AF	○	35	1	1.3	9.6	10	10.4	16	200	12.5	27	200	5	1400	2	1000	
KIA7812AF	○	35	1	1.3	11.5	12	12.5	19	240	14.5	30	240	5	1400	2	1000	
KIA7815AF	○	35	1	1.3	14.4	15	15.6	23	300	17.5	30	300	5	1400	2	1000	
KIA7818AF	○	40	1	1.3	17.3	18	18.7	27	360	21	33	360	5	1400	2	1000	
KIA7820AF	○	40	1	1.3	19.2	20	20.8	29	400	23	35	400	5	1400	2	1000	
KIA7824AF	○	40	1	1.3	23	24	25	33	480	27	38	480	5	1400	2	1000	

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

■ Regulator

▣ Negative

□ 0.15A Negative General purpose Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{OUT}(V)$				Line Regulation (mV)			Load Regulation (mV)			Dropout Voltage $V_D (V)$		PKG
		V_{IN} (V)	I_O (A)	P_D (W)	Min.	Typ.	Max.	@ V_{IN}	Max.	@ $V_{IN}(V)$		Max.	@ $I_{OUT}(mA)$		Typ.	@ I_{OUT} (mA)	
										Min.	Max.		Min.	Max.			
KIA79L05F	○	-35	0.15	0.5	-5.2	-5	-4.8	-10	150	-20	-7	60	1	100	1.7	40	SOT-89
KIA79L06F	○	-35	0.15	0.5	-6.24	-6	-5.76	-11	150	-21	-8.1	70	1	100	1.7	40	
KIA79L08F	○	-35	0.15	0.5	-8.3	-8	-7.7	-14	175	-23	-10.5	80	1	100	1.7	40	
KIA79L09F	○	-35	0.15	0.5	-9.36	-9	-8.64	-15	200	-24	-11.4	90	1	100	1.7	40	
KIA79L10F	○	-35	0.15	0.5	-10.4	-10	-9.6	-16	230	-25	-12.5	90	1	100	1.7	40	
KIA79L12F	○	-35	0.15	0.5	-12.5	-12	-11.5	-19	250	-27	-14.5	100	1	100	1.7	40	
KIA79L15F	●	-35	0.15	0.5	-15.6	-15	-14.4	-23	300	-30	-17.5	150	1	100	1.7	40	
KIA79L18F	●	-40	0.15	0.5	-18.7	-18	-17.3	-27	325	-33	-20.7	170	1	100	1.7	40	
KIA79L20F	●	-40	0.15	0.5	-20.8	-20	-19.2	-29	330	-35	-23.5	180	1	100	1.7	40	
KIA79L24F	●	-40	0.15	0.5	-25	-24	-23	-33	350	-38	-27	200	1	100	1.7	40	
KIA79L05BP	●	-35	0.15	0.8	-5.2	-5	-4.8	-10	150	-20	-7	60	1	100	1.7	40	TO-92L
KIA79L06BP	●	-35	0.15	0.8	-6.24	-6	-5.76	-11	150	-21	-8.1	70	1	100	1.7	40	
KIA79L08BP	●	-35	0.15	0.8	-8.3	-8	-7.7	-14	175	-23	-10.5	80	1	100	1.7	40	
KIA79L09BP	●	-35	0.15	0.8	-9.36	-9	-8.64	-15	200	-24	-11.4	90	1	100	1.7	40	
KIA79L10BP	●	-35	0.15	0.8	-10.4	-10	-9.6	-16	230	-25	-12.5	90	1	100	1.7	40	
KIA79L12BP	●	-35	0.15	0.8	-12.5	-12	-11.5	-19	250	-27	-14.5	100	1	100	1.7	40	
KIA79L15BP	●	-35	0.15	0.8	-15.6	-15	-14.4	-23	300	-30	-17.5	150	1	100	1.7	40	
KIA79L18BP	●	-40	0.15	0.8	-18.7	-18	-17.3	-27	325	-33	-20.7	170	1	100	1.7	40	
KIA79L20BP	●	-40	0.15	0.8	-20.8	-20	-19.2	-29	330	-35	-23.5	180	1	100	1.7	40	
KIA79L24BP	●	-40	0.15	0.8	-25	-24	-23	-33	350	-38	-27	200	1	100	1.7	40	
KIA79S05P	●	-35	0.15	0.6	-5.2	-5	-4.8	-10	150	-20	-7	60	1	100	1.7	40	TO-92
KIA79S06P	●	-35	0.15	0.6	-6.24	-6	-5.76	-11	150	-21	-8.1	70	1	100	1.7	40	
KIA79S08P	●	-35	0.15	0.6	-8.3	-8	-7.7	-14	175	-23	-10.5	80	1	100	1.7	40	
KIA79S09P	●	-35	0.15	0.6	-9.36	-9	-8.64	-15	200	-24	-11.4	90	1	100	1.7	40	
KIA79S10P	●	-35	0.15	0.6	-10.4	-10	-9.6	-16	230	-25	-12.5	90	1	100	1.7	40	
KIA79S12P	●	-35	0.15	0.6	-12.5	-12	-11.5	-19	250	-27	-14.5	100	1	100	1.7	40	
KIA79S15P	●	-35	0.15	0.6	-15.6	-15	-14.4	-23	300	-30	-17.5	150	1	100	1.7	40	
KIA79S18P	●	-35	0.15	0.6	-18.7	-18	-17.3	-27	325	-33	-20.7	170	1	100	1.7	40	
KIA79S20P	●	-35	0.15	0.6	-20.8	-20	-19.2	-29	330	-35	-23.5	180	1	100	1.7	40	
KIA79S24P	●	-35	0.15	0.6	-25	-24	-23	-33	350	-38	-27	200	1	100	1.7	40	

Note) ○: AEC-Q Qualified, ●: Preparing for qualification of AEC-Q

Power Management

Regulator

Negative

1A Negative General purpose Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{OUT}(V)$				Line Regulation (mV)			Load Regulation (mV)			Dropout Voltage $V_D (V)$		PKG
		V_{IN} (V)	I_O (A)	P_D (W)	Min.	Typ.	Max.	@ V_{IN}	Max.	@ $V_{IN}(V)$		Max.	@ $I_{OUT}(mA)$		Typ.	@ I_{OUT} (mA)	
										Min.	Max.		Min.	Max.			
KIA7905PI	○	-35	1	2	-5.2	-5	-4.8	-10	50	-12	-8	100	5	1500	2	1000	TO-220IS
KIA7906PI	○	-35	1	2	-6.25	-6	-5.75	-11	60	-13	-9	120	5	1500	2	1000	
KIA7907PI	○	-35	1	2	-7.28	-7	-6.72	-12	70	-15	-10	140	5	1500	2	1000	
KIA7908PI	○	-35	1	2	-8.3	-8	-7.7	-14	80	-17	-11	160	5	1500	2	1000	
KIA7909PI	○	-35	1	2	-9.3	-9	-8.7	-15	90	-19	-13	150	5	1500	2	1000	
KIA7910PI	○	-35	1	2	-10.4	-10	-9.6	-16	100	-20	-14	180	5	1500	2	1000	
KIA7912PI	○	-35	1	2	-12.5	-12	-11.5	-18	120	-22	-16	240	5	1500	2	1000	
KIA7915PI	○	-35	1	2	-15.6	-15	-14.4	-23	150	-26	-20	300	5	1500	2	1000	
KIA7918PI	○	-40	1	2	-18.7	-18	-17.3	-27	180	-30	-24	360	5	1500	2	1000	
KIA7920PI	○	-40	1	2	-20.8	-20	-19.2	-30	180	-32	-26	360	5	1500	2	1000	
KIA7924PI	○	-40	1	2	-25	-24	-23	-33	240	-36	-30	480	5	1500	2	1000	
KIA7905F	○	-35	1	1.3	-5.2	-5	-4.8	-10	50	-12	-8	100	5	1500	2	1000	DPAK, DPAK(3)
KIA7906F	○	-35	1	1.3	-6.25	-6	-5.75	-11	60	-13	-9	120	5	1500	2	1000	
KIA7907F	○	-35	1	1.3	-7.28	-7	-6.72	-12	70	-15	-10	140	5	1500	2	1000	
KIA7908F	○	-35	1	1.3	-8.3	-8	-7.7	-14	80	-17	-11	160	5	1500	2	1000	
KIA7909F	○	-35	1	1.3	-9.3	-9	-8.7	-15	90	-19	-13	150	5	1500	2	1000	
KIA7910F	○	-35	1	1.3	-10.4	-10	-9.6	-16	100	-20	-14	180	5	1500	2	1000	
KIA7912F	○	-35	1	1.3	-12.5	-12	-11.5	-18	120	-22	-16	240	5	1500	2	1000	
KIA7915F	○	-35	1	1.3	-15.6	-15	-14.4	-23	150	-26	-20	300	5	1500	2	1000	
KIA7918F	○	-40	1	1.3	-18.7	-18	-17.3	-27	180	-30	-24	360	5	1500	2	1000	
KIA7920F	○	-40	1	1.3	-20.8	-20	-19.2	-30	180	-32	-26	360	5	1500	2	1000	
KIA7924F	○	-40	1	1.3	-25	-24	-23	-33	240	-36	-30	480	5	1500	2	1000	

Note) ○: AEC-Q Qualified

■ Regulator

▣ Bipolar LDO

□ 0.25A LDO Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{out}(V)$				Dropout Voltage $V_D (V)$		PKG
		V_{IN} (V)	I_O (A)	P_D (W)	Min.	Typ.	Max.	@ V_{IN}	Typ.	@ I_{OUT} (mA)	
KIA78DL05PI	○	29	0.25	2.0	4.5	5	5.5	14	0.15	50	TO-220IS
KIA78DL06PI	○	29	0.25	2.0	5.4	6	6.6	14	0.15	50	
KIA78DL08PI	○	29	0.25	2.0	7.2	8	8.8	16	0.15	50	
KIA78DL09PI	○	29	0.25	2.0	8.1	9	9.9	16	0.15	50	
KIA78DL10PI	○	29	0.25	2.0	9	10	11	16	0.15	50	
KIA78DL12PI	○	29	0.25	2.0	10.8	12	13.2	18	0.15	50	
KIA78DL15PI	○	29	0.25	2.0	13.5	15	16.5	20	0.15	50	
KIA78DL05F	○	29	0.25	1.3	4.5	5	5.5	14	0.15	50	DPAK, DPAK(3)
KIA78DL06F	○	29	0.25	1.3	5.4	6	6.6	14	0.15	50	
KIA78DL08F	○	29	0.25	1.3	7.2	8	8.8	16	0.15	50	
KIA78DL09F	○	29	0.25	1.3	8.1	9	9.9	16	0.15	50	
KIA78DL10F	○	29	0.25	1.3	9	10	11	16	0.15	50	
KIA78DL12F	○	29	0.25	1.3	10.8	12	13.2	18	0.15	50	
KIA78DL15F	○	29	0.25	1.3	13.5	15	16.5	20	0.15	50	

Note) ○ : AEC-Q Qualified

□ 1A LDO Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{out}(V)$				Dropout Voltage $V_D (V)$		PKG
		V_{IN} (V)	I_O (A)	P_D (W)	Min.	Typ.	Max.	@ V_{IN}	Typ.	@ I_{OUT} (mA)	
KIA78D15API	○	15	1	1.7	1.47	1.5	1.53	2.5	0.25	500	TO-220IS
KIA78D18API	○	15	1	1.7	1.76	1.8	1.84	2.5	0.25	500	
KIA78D20API	○	15	1	1.7	1.96	2.0	2.04	2.5	0.25	500	
KIA78D25API	○	15	1	1.7	2.45	2.5	2.55	4.5	0.25	500	
KIA78D30API	○	15	1	1.7	2.94	3.0	3.06	5.0	0.25	500	
KIA78D33API	○	15	1	1.7	3.23	3.3	3.37	5.3	0.25	500	
KIA78D35API	○	15	1	1.7	3.43	3.5	3.57	5.5	0.25	500	
KIA78D05API	○	15	1	1.7	4.9	5.0	5.1	7.0	0.25	500	
KIA78D15AF	○	15	1	1.0	1.47	1.5	1.53	2.5	0.25	500	DPAK, DPAK(3)
KIA78D18AF	○	15	1	1.0	1.764	1.8	1.836	2.5	0.25	500	
KIA78D20AF	○	15	1	1.0	1.96	2.0	2.04	2.5	0.25	500	
KIA78D25AF	○	15	1	1.0	2.45	2.5	2.55	4.5	0.25	500	
KIA78D30AF	○	15	1	1.0	2.94	3.0	3.06	5.0	0.25	500	
KIA78D33AF	○	15	1	1.0	3.234	3.3	3.366	5.3	0.25	500	
KIA78D35AF	○	15	1	1.0	3.43	3.5	3.57	5.5	0.25	500	
KIA78D05AF	○	15	1	1.0	4.9	5.0	5.1	7.0	0.25	500	

Note) ○ : AEC-Q Qualified

Power Management

■ Regulator

▣ Bipolar LDO

▣ 1A LDO Voltage Regulator (On/Off Controllable)

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{out}(V)$				Dropout Voltage $V_D(V)$		PKG
		$V_{IN}(V)$	$I_O(A)$	$P_D(W)$	Min.	Typ.	Max.	@ V_{IN}	Typ.	@ $I_{OUT}(mA)$	
KIA78R00PI	○	35	1	1.5	1.50	Adj.	30.00	-	0.5	1000	TO-220IS-4
KIA78R25PI	○	35	1	1.5	2.44	2.5	2.56	4.2	0.5	1000	
KIA78R33PI	○	35	1	1.5	3.22	3.3	3.38	5	0.5	1000	
KIA78R35PI	○	35	1	1.5	3.41	3.5	3.587	5.2	0.5	1000	
KIA78R05PI	○	35	1	1.5	4.88	5	5.12	7	0.5	1000	
KIA78R06PI	○	35	1	1.5	5.85	6	6.15	8	0.5	1000	
KIA78R08PI	○	35	1	1.5	7.8	8	8.2	10	0.5	1000	
KIA78R09PI	○	35	1	1.5	8.78	9	9.22	15	0.5	1000	
KIA78R10PI	○	35	1	1.5	9.75	10	10.25	16	0.5	1000	
KIA78R12PI	○	35	1	1.5	11.7	12	12.3	18	0.5	1000	
KIA78R15PI	○	35	1	1.5	14.7	15	15.3	21	0.5	1000	

Note) ○ : AEC-Q Qualified

IC

▣ 2A LDO Voltage Regulator (On/Off Controllable)

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{out}(V)$				Dropout Voltage $V_D(V)$		PKG
		$V_{IN}(V)$	$I_O(A)$	$P_D(W)$	Min.	Typ.	Max.	@ V_{IN}	Typ.	@ $I_{OUT}(mA)$	
KIA278R00PI	○	35	2	1.5	1.50	Adj.	30.00	-	0.5	2000	TO-220IS-4
KIA278R05PI	○	35	2	1.5	4.88	5	5.12	7	0.5	2000	
KIA278R06PI	○	35	2	1.5	5.85	6	6.15	8	0.5	2000	
KIA278R08PI	○	35	2	1.5	7.8	8	8.2	10	0.5	2000	
KIA278R09PI	○	35	2	1.5	8.78	9	9.22	15	0.5	2000	
KIA278R10PI	○	35	2	1.5	9.75	10	10.25	16	0.5	2000	
KIA278R12PI	○	35	2	1.5	11.7	12	12.3	18	0.5	2000	
KIA278R15PI	○	35	2	1.5	14.7	15	15.3	21	0.5	2000	

Note) ○ : AEC-Q Qualified

Regulator

 Bipolar LDO

 3A LDO Voltage Regulator (On/Off Controllable)

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{out}(V)$				Dropout Voltage $V_D(V)$		PKG
		$V_{IN}(V)$	$I_O(A)$	$P_D(W)$	Min.	Typ.	Max.	@ V_{IN}	Typ.	@ $I_{OUT}(mA)$	
KIA378R00PI	○	35	3	1.5	1.50	Adj.	30.00	-	0.5	3000	TO-220IS-4
KIA378R25PI	○	35	3	1.5	2.438	2.5	2.562	4.2	0.5	3000	
KIA378R33PI	○	35	3	1.5	3.22	3.3	3.38	5	0.5	3000	
KIA378R35PI	○	35	3	1.5	3.413	3.5	3.587	5.2	0.5	3000	
KIA378R05PI	○	35	3	1.5	4.88	5	5.12	7	0.5	3000	
KIA378R06PI	○	35	3	1.5	5.85	6	6.15	8	0.5	3000	
KIA378R08PI	○	35	3	1.5	7.8	8	8.2	10	0.5	3000	
KIA378R09PI	○	35	3	1.5	8.78	9	9.22	15	0.5	3000	
KIA378R10PI	○	35	3	1.5	9.75	10	10.25	16	0.5	3000	
KIA378R12PI	○	35	3	1.5	11.7	12	12.3	18	0.5	3000	
KIA378R15PI	○	35	3	1.5	14.7	15	15.3	21	0.5	3000	

Note) ○ : AEC-Q Qualified

Power Management

Regulator

CMOS LDO

0.25A LDO Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{OUT}(V)$				Line Regulation (mV)			Load Regulation (mV)			Dropout Voltage V_D (mV)		PKG
		V_{IN} (V)	I_O (A)	P_D (W)	Min.	Typ.	Max.	@ V_{IN}	Max.	@ $V_{IN}(V)$		Max.	@ $I_{OUT}(mA)$		Typ.	@ I_{OUT} (mA)	
										Min.	Max.		Min.	Max.			
KIC3252S33	●	12	0.5	0.5	3.23	3.3	3.37	$V_{OUT}+1V$	0.3	$V_{OUT}+1V$	10	90	1	80	180	80	SOT-89
KIC3252S50	●	12	0.5	0.5	4.90	5	5.10	$V_{OUT}+1V$	0.3	$V_{OUT}+1V$	10	80	1	100	120	100	

Note) ● : Preparing for qualification of AEC-Q

0.3A CMOS LDO Voltage Regulator (ON/OFF Controllable)

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{OUT}(V)$				Line Regulation (mV)			Load Regulation (mV)			Dropout Voltage V_D (mV)		PKG
		V_{IN} (V)	I_O (A)	P_D (W)	Min.	Typ.	Max.	@ V_{IN}	Max.	@ $V_{IN}(V)$		Max.	@ $I_{OUT}(mA)$		Typ.	@ I_{OUT} (mA)	
										Min.	Max.		Min.	Max.			
KIC3222T30	●	7	0.5	0.35	2.97	3	3.03	$V_{OUT}+1V$	0.2	$V_{OUT}+0.5V$	6.5	80	0	200	160	200	TSV
KIC3222T33	●	7	0.5	0.35	3.27	3.3	3.33	$V_{OUT}+1V$	0.2	$V_{OUT}+0.5V$	6.5	80	0	200	160	200	
KIC3204DN18*	●	6	0.3	0.4	1.78	1.8	1.82	$V_{OUT}+1V$	0.1 %/V	$V_{OUT}+1V$	5.25	30	1	300	300	300	UDFN 1010-4
KIC3204DN28*	●	6	0.3	0.4	2.77	2.8	2.83	$V_{OUT}+1V$	0.1 %/V	$V_{OUT}+1V$	5.25	30	1	300	250	300	
KIC3204DN33*	●	6	0.3	0.4	3.27	3.3	3.33	$V_{OUT}+1V$	0.1 %/V	$V_{OUT}+1V$	5.25	30	1	300	220	300	

Note) ● : Preparing for qualification of AEC-Q

Note) * : Under development

1A CMOS LDO Adjustable Voltage Regulator (ON/OFF Controllable)

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{OUT}(V)$				Line Regulation (mV)			Load Regulation (mV)			Dropout Voltage V_D (mV)		PKG
		V_{IN} (V)	I_O (A)	P_D (W)	Min.	Typ.	Max.	@ V_{IN}	Max.	@ $V_{IN}(V)$		Max.	@ $I_{OUT}(mA)$		Typ.	@ I_{OUT} (mA)	
										Min.	Max.		Min.	Max.			
KIC3242EF00	●	6.5	1	0.7	1.2	Adj.	5	$V_{OUT}+1V$	0.2	$V_{OUT}+1V$	6	-3mV	1	300	300	1000	eFLP-8
KIC3244F00	○	7	1	1.25	1.2	Adj.	5	$V_{OUT}+1V$	0.2	$V_{OUT}+1V$	6.5	0.002%	1	300	300	1000	DPAK-5G

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

2A CMOS LDO Adjustable Voltage Regulator (ON/OFF Controllable)

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{OUT}(V)$				Line Regulation (mV)			Load Regulation (mV)			Dropout Voltage V_D (mV)		PKG
		V_{IN} (V)	I_O (A)	P_D (W)	Min.	Typ.	Max.	@ V_{IN}	Max.	@ $V_{IN}(V)$		Max.	@ $I_{OUT}(mA)$		Typ.	@ I_{OUT} (mA)	
										Min.	Max.		Min.	Max.			
KIC3243EF00	●	6.5	2	0.7	1	Adj.	3.3	$V_{OUT}+1V$	0.25	$V_{OUT}+1V$	5.5	0.2	10	2000	400	2000	eFLP-8

Note) ● : Preparing for qualification of AEC-Q

■ Transistor Array & Interface Driver IC

▣ Single Driver

Type No.	AEC-Q	Function	Channel No.	Clamp Diode	V _{CE0} (V)	I _c (mA/ch)	PKG
KID65501P	○	Single Driver (Common Emitter)	7	-	35	200	DIP-16
KID65502P	○	Single Driver (Common Emitter)	7	-	35	200	
KID65503P	○	Single Driver (Common Emitter)	7	-	35	200	
KID65504P	○	Single Driver (Common Emitter)	7	-	35	200	
KID65505P	○	Single Driver (Common Collector)	7	-	35	200	
KID65506P	○	Single Driver (Common Collector)	7	-	35	200	
KID65507P	○	Single Driver (Isolated)	5	-	35	200	
KID65501F	○	Single Driver (Common Emitter)	7	-	35	200	FLP-16
KID65502F	○	Single Driver (Common Emitter)	7	-	35	200	
KID65503F	○	Single Driver (Common Emitter)	7	-	35	200	
KID65504F	○	Single Driver (Common Emitter)	7	-	35	200	
KID65505F	○	Single Driver (Common Collector)	7	-	35	200	
KID65506F	○	Single Driver (Common Collector)	7	-	35	200	
KID65507F	○	Single Driver (Isolated)	5	-	35	200	

Note) ○ : AEC-Q Qualified

▣ Darlington Driver

Type No.	AEC-Q	Function	Channel No.	Clamp Diode	V _{CE0} (SAS)	I _{OUT} (mA/ch)	PKG
KID65001AP	○	Darlington Driver	7	●	50	500	DIP-16
KID65002AP	○	Darlington Driver	7	●	50	500	
KID65003AP	○	Darlington Driver	7	●	50	500	
KID65004AP	○	Darlington Driver	7	●	50	500	
KID65001AF	○	Darlington Driver	7	●	50	500	FLP-16
KID65002AF	○	Darlington Driver	7	●	50	500	
KID65003AF	○	Darlington Driver	7	●	50	500	
KID65004AF	○	Darlington Driver	7	●	50	500	
KID65083AP	○	Darlington Driver	8	●	50	500	DIP-18(1)
KID65084AP	○	Darlington Driver	8	●	50	500	
KID65083AF	○	Darlington Driver	8	●	50	500	FLP-20
KID65084AF	○	Darlington Driver	8	●	50	500	
KID65083BF	○	Darlington Driver	8	●	50	500	FLP-18

Note) ○ : AEC-Q Qualified

▣ High Voltage Source Driver

Type No.	AEC-Q	Function	Channel No.	Clamp Diode	V _{CC} (V)	I _{OUT} (mA/ch)	PKG
KID65783AP	○	High Voltage Source Driver	8	●	50	-500	DIP-18(1)
KID65783AF	○	High Voltage Source Driver	8	●	50	-500	FLP-20
KID65783BF	○	High Voltage Source Driver	8	●	50	-500	FLP-18

Note) ○ : AEC-Q Qualified

Power Management

■ Switching Regulator IC (DC/DC Converter)

Type No.	AEC-Q	Max. Ratings		Threshold Voltage V _{TH} (V)	Frequency f _{osc}	PKG
		V _{CC} (V)	I _{sw} (A)			
KIA34063A	●	40	1.5	1.25	33 kHz	DIP-8
KIA34063AF	●	40	1.5	1.25	33 kHz	FLP-8

Note) ● : Preparing for qualification of AEC-Q

■ Power Supply Controller

Type No.	AEC-Q	Topology	Function	Control Mode	V _{IN} (Max.) (V)	Duty Cycle (Max.) (%)	Frequency (Max.) (kHz)	PKG
KIA494AP	●	Buck, Boost, Fly-back, Forward, Half-bridge, Full-bridge, Push-Pull	Standard PWM Controller	Voltage	40	45 ↑	300	DIP-16
KIA494AF	○	Buck, Boost, Fly-back, Forward, Half-bridge, Full-bridge, Push-Pull	Standard PWM Controller	Voltage	40	45 ↑	300	FLP-16

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

■ AC/DC Control IC

Type No.	AEC-Q	Topology	Function	Control Mode	V _{IN} (Max.) (V)	Duty Cycle (Max.) (%)	Frequency (Max.) (kHz)	Startup Current (μA)	UVLO Threshold on/off(V)	Protection	PKG
KIC3926S	●	Fly-back, SSR	Quasi- Resonant PWM Controller	Current	30	80	69	3	15.5/7.5	Input OVP Output OVP OCP OTP	SOT23-6L(1)

Note) ● : Preparing for qualification of AEC-Q

■ LED Driver IC

Type No.	AEC-Q	Topology	Function	Control Mode	V _{IN} (Max.) (V)	Current Accuracy (%)	Efficiency (%)	Protection	PKG
KIC3522F	●	Fly-back, PSR	Isolated PFC	Current	23	±2.5	90	Open/Short LED Protection	FLP-8

Note) ● : Preparing for qualification of AEC-Q

■ Audio Amplifier

Type No.	AEC-Q	Max. Ratings		Load Z(Ω)		Differential Gain (dB)	Gain Bandwidth Product (MHz)	Max. Output Power (mW)	THD(%)		PSRR (dB)	Muting (dB)	Output Offset Voltage VO1-VO2 (mV)	PKG
		V _{IN} (V)	I _{OUT} (mA)	Min.	Max.				Typ.	Max.				
KIA6419F	○	18	±250	8	100	46	1.5	400	0.5	1	52	> 70	±30	FLP-8
KIA6419P	●	18	±250	8	100	46	1.5	400	0.5	1	52	> 70	±30	DIP-8

Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
278R12L-TF4-T	UTC	KIA278R12PI	HA17L431AP	RENESAS	KIA2431AP	LM358AP	TI	KIA358P
A278R12PIC	AUK	KIA278R12PI	KA2904DTF	ONSEMI	KIA358F	LM358D	ST	KIA358F
AP358S	DIODES	KIA358F	KA431SAMF2TF	ONSEMI	KIA431AM	LM358DR	TI	KIA358F
AS331KTR-G1	DIODES	KIA75S393F	KA431SLMF2	ONSEMI	KIA431BM	LM358N	TI	KIA358P
AS358M	DIODES	KIA358F	KA7805ER	ONSEMI	KIA7805AF	LM393DR	TI	KIA393F
AS393M	DIODES	KIA393F	KA7808TU	ONSEMI	KIA7808API	LM393DRG3	TI	KIA393F
AS431AN	DIODES	KIA431BM	KA78R05	ONSEMI	KIA78R05PI	LM393DT	ST	KIA393F
AS431BNTR-G1	DIODES	KIA431AM	KA78R05C	ONSEMI	KIA78R05PI	LM431SBCML	ONSEMI	KIA431AF
AS431HMBNTR-G1	DIODES	KIA431AM	KA78R15	ONSEMI	KIA78R15PI	LP431GCSF	HTC	KIA431BM
AS7805ADTR-G1	DIODES	KIA7805AF	KA78R15C	ONSEMI	KIA278R05PI	LR2003L	LRC	KID65003AF
AS7812ADTR-G1	DIODES	KIA7812AF	L7805ABP	ST	KIA7805API	LR431APTLT1G	LRC	KIA431BM
AS78L05RTR-E1	DIODES	KIA78L05F	L7805CP	ST	KIA7805API	LTL431APTLT1G	LRC	KIA431BM
AS78L05Z	DIODES	KIA78S05P	L78M05ABDT	ST	KIA78M05F	M2904G-S08-T	UTC	KIA358F
AS78L12RTR-G1	DIODES	KIA78L12F	L79L05ABUTR	ST	KIA79L05F	MC33078D	TI	KIA4558F
AZ431AN-ATRG1	DIODES	KIA431BM	L79L05ACUTR	ST	KIA79L05F	MC33272ADR2G	ONSEMI	KIA358F
AZ431AZ-ATRE1	DIODES	KIA431B	LF50ABDT	ST	KIA78D05AF	MC34063ADR2G	ONSEMI	KIA34063AF
AZ7033RTR-E1	DIODES	KIA7033AF	LM224DR2G	ONSEMI	KIA324F	MC34063AG-S08-R	UTC	KIA34063AF
BA10324AF	ROHM	KIA324F	LM239DT	ST	KIA339F	MC34063AP1G	ONSEMI	KIA34063A
BA10339F	ROHM	KIA339F	LM258ADR	TI	KIA358F	MC4580G-S08-R	UTC	KIA4558F
BA10358F	ROHM	KIA358F	LM258ADT	ST	KIA358F	MC7809CTG	ONSEMI	KIA7809AP
BA10393F	ROHM	KIA393F	LM2901DR	TI	KIA339F	MC7812CTG	ONSEMI	KIA7812AP
BA17805CP	ROHM	KIA7805API	LM2901VQDRQ1	TI	KIA339F	MC7815BDTRKG	ONSEMI	KIA7815AF
BA17805FP	ROHM	KIA7805AF	LM2901YDT	ST	KIA339F	MC7815CTG	ONSEMI	KIA7815AP
BA17805T	ROHM	KIA7805API	LM2903DR	TI	KIA393F	MC78L05ACPG	ONSEMI	KIA78S05P
BA17812T	ROHM	KIA7812API	LM2903DR2G	ONSEMI	KIA393F	MC78L12ACPRAG	ONSEMI	KIA78S12P
BA17815T	ROHM	KIA7815AF	LM2903QDRQ1	TI	KIA393F	MC78L15ACPRAG	ONSEMI	KIA78S15P
BA17824FP	ROHM	KIA7824AF	LM2903YDT	ST	KIA393F	MC78M05BDTRKG	ONSEMI	KIA78M05F
BA178M05CP	ROHM	KIA78M05PI	LM2904D	TI	KIA358F	MC78M05CDTRKG	ONSEMI	KIA7805AF
BA178M05FP	ROHM	KIA78M05F	LM2904DR	TI	KIA358F	MC79L05ACPRAG	ONSEMI	KIA79S05P
BA178M05T	ROHM	KIA78M05PI	LM293ADR	TI	KIA393F	NCP431ACSNT1G	ONSEMI	KIA431AM
BA2901F-E2	ROHM	KIA339F	LM293AN	ST	KIA393P	NCV2902DR2G	ONSEMI	KIA324F
BA2901SF	ROHM	KIA339F	LM293DR2G	ONSEMI	KIA393F	NCV2903DR2G	ONSEMI	KIA393F
BA2902SF	ROHM	KIA324F	LM311D	ST	KIA393F	NCV2904DR2G	ONSEMI	KIA358F
BA2903F	ROHM	KIA393F	LM321	TI	KIA75S358F	NJM072CG	NJRC	KIA358F
BA2903SF	ROHM	KIA393F	LM321SN3T1G	TI	KIA75S358F	NJM1431AU	NJRC	KIA431AF
BA2904SF	ROHM	KIA393F	LM324D	ONSEMI	KIA324F	NJM2125F	NJRC	KIA75S358F
BA3472F	ROHM	KIA358F	LM324DR	TI	KIA324F	NJM2374AD	NJRC	KIA34063A
BA4558RF	ROHM	KIA4558F	LM339DBR	TI	KIA339F	NJM2374AE	NJRC	KIA34063AF
BA4560F	ROHM	KIA4558F	LM339DR	TI	KIA339F	NJM2389F	NJRC	KIA78R00PI
BA8391G	ROHM	KIA75S393F	LM358	ST	KIA358F	NJM2842DL3-012	NJRC	KIC3244F00
HA17358AF	RENESAS	KIA358F	LM358	TI	KIA358F	NJM2901N	NJRC	KIA339P
HA17431UA	RENESAS	KIA431AF	LM358A	ST	KIA358F	NJM2902CG	NJRC	KIA324F

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
NJM2903CG	NJRC	KIA393F	SJ73L39S	AUK	KIA7039AT	TL494IDR	TI	KIA494AF
NJM2903D	NJRC	KIA393P	SJ73L42M	AUK	KIA7042AP	UA78M05CKVURG3	TI	KIA78M05F
NJM2904D	NJRC	KIA358P	SJ73L42S	AUK	KIA7042AT	UA78M05IKVURG3	TI	KIA78M05F
NJM321AF	NJRC	KIA75S558F	SN321	AUK	KIA75S358F	ULN2003A	ST	KID65003AF
NJM324CG	NJRC	KIA324F	SN391	AUK	KIA75S393F	ULN2003A	TI	KID65003AF
NJM3472G	NJRC	KIA358F	SN431A	AUK	KIA431A	ULN2003ADR	TI	KID65003AF
NJM358CG	NJRC	KIA358F	SN4560	AUK	KIA4558F	ULN2003ADRG3	TI	KID65003AF
NJM391AF	NJRC	KIA75S393F	SN7805BDJ	AUK	KIA7805AF	ULN2003ADRG4	TI	KID65003AF
NJM393CG	NJRC	KIA393F	SN7805D	AUK	KIA7805AF	ULN2003ANSR	TI	KID65003AF
NJM431L	NJRC	KIA431A	SN7812D	AUK	KIA7812AF	ULN2003D1013TR	ST	KID65003AF
NJM431SU	NJRC	KIA431AF	SN7815BDJ	AUK	KIA7815AF	ULN2003G-S16	UTC	KID65003AF
NJM431U	NJRC	KIA431AF	SNF431AS	AUK	KIA431AM	ULN2003L	TI	KID65003AF
NJM431UA	NJRC	KIA431AF	SNF431BS	AUK	KIA431BM	ULN2004AFW	ST	KID65004AF
NJM4580CG	NJRC	KIA4558F	TJ358GD	HTC	KIA358F	ULN2004AP	ST	KID65004AF
NJM4580D	NJRC	KIA4558P	TL331KDBVR	TI	KIA75S393F	ULN2803ADWR	TI	KID65083BF
NJM7812DL1A	NJRC	KIA7812AF	TL3472ID	TI	KIA358F	ULN2803LW	ALLEGRO	KID65083BF
NJM78L05SU3	NJRC	KIA78L05F	TL431ACDBZR	Nexperia	KIA431AM	ULQ2003ADR	TI	KID65003AF
NJM78L06SU3	NJRC	KIA78L06F	TL431ACLPM	TI	KIA431A	ULQ2003A-Q1	TI	KID65003AF
NJM78L12SU3	NJRC	KIA78L12F	TL431ACLPRAG	ONSEMI	KIA431A	ULQ2003ATDQ1	TI	KID65003AF
NJM78M05DL1A	NJRC	KIA78M05F	TL431AIDBZR	Nexperia	KIA431AM	ULQ2003D1013TRY	ST	KID65003AF
NJM78M05FA	NJRC	KIA78M05PI	TL431AIDBZR	TI	KIA431AM	ULQ2004AN	TI	KID65004AP
NJM78M05SDL1	NJRC	KIA78M05F	TL431AILPM	TI	KIA431A	UPC1093T	RENESAS	KIA431AF
NJM78M12DL1A	NJRC	KIA78M12F	TL431AILPME3	TI	KIA431A	UPC1251G2	RENESAS	KIA358F
NJM78M12FA	NJRC	KIA78M12PI	TL431AILPRPG	ONSEMI	KIA431A	UPC324G2	RENESAS	KIA324F
NJM78M12SDL1-TE1	NJRC	KIA78M12F	TL431AIPK	TI	KIA431AF	UPC842G2	RENESAS	KIA4558F
NJM78M15DL1A	NJRC	KIA78M15F	TL431AQPK	TI	KIA431AF	ZTL431AFFTA	DIODES	KIA431ACM
NJM78M15FA	NJRC	KIA78M15PI	TL431ASA	DIODES	KIA431AM			
NJM79L05SU3	NJRC	KIA79L05F	TL431ATA	HTC	KIA431A			
NJM8087E	NJRC	KIA358F	TL431BMFDT	Nexperia	KIA431BM			
NJM842G	NJRC	KIA358F	TL431BQDBZR	TI	KIA431BM			
NJM844G	NJRC	KIA324F	TL431BQDBZRQ1	TI	KIA431BM			
NJM8801E	NJRC	KIA4558F	TL431BVLPRAG	ONSEMI	KIA431B			
NJW4104DL1-05B	NJRC	KIA78DL05F	TL431CLPM	TI	KIA431A			
OPA2131UA	TI	KIA358F	TL431CSF	HTC	KIA431BCM			
S324P	AUK	KIA324P/P	TL431G	UTC	KIA431AF			
S7805PI	AUK	KIA7805API	TL431G-AE3-R	UTC	KIA431BM			
S7812PI	AUK	KIA7812API	TL431GCSF	HTC	KIA431BM			
S78L05	AUK	KIA78S05P	TL431ILPRE3	TI	KIA431A			
SJ73L19S	AUK	KIA7019AT	TL431IPK	HTC	KIA431AF			
SJ73L25S	AUK	KIA7025AT	TL431LIAIDBZR	TI	KIA431AM			
SJ73L27F	AUK	KIA7027AF	TL432AIDBZR	TI	KIA431AM			
SJ73L33M	AUK	KIA7033AP	TL494BDR2G	ONSEMI	KIA494AF			

INDEX

INDEX

2N3904	BJT	27	BF420	BJT	45	KDR720UL	DIODE	80	KDZ13V	DIODE	62
2N3904S	BJT	26	BF421	BJT	17	KDR720V	DIODE	80	KDZ13VV+	DIODE	60
2N3904S	BJT	47	BF421	BJT	45	KDR721S	DIODE	81	KDZ13WV	DIODE	65
2N3906	BJT	27	BF422	BJT	18	KDR728E	DIODE	80	KDZ150V	DIODE	69
2N3906S	BJT	26	BF422	BJT	45	KDR729	DIODE	80	KDZ150WVA	DIODE	69
2N3906S	BJT	47	BF423	BJT	17	KDR730E	DIODE	80	KDZ15EV	DIODE	61
2N3906U	BJT	14	BF423	BJT	45	KDR730EL	DIODE	80	KDZ15FV+	DIODE	59
2N5401	BJT	17	BZX84C10	DIODE	64	KDR730F	DIODE	80	KDZ15V	DIODE	62
2N5401C	BJT	45	BZX84C11	DIODE	64	KDR730V	DIODE	80	KDZ15VV+	DIODE	60
2N5401S	BJT	15	BZX84C12	DIODE	64	KDR731	DIODE	80	KDZ15WV	DIODE	65
2N5401S	BJT	44	BZX84C13	DIODE	64	KDR731S	DIODE	81	KDZ160V	DIODE	69
2N5551	BJT	18	BZX84C15+	DIODE	64	KDR740UL	DIODE	80	KDZ160WVA	DIODE	69
2N5551	BJT	45	BZX84C16+	DIODE	64	KDR760E	DIODE	80	KDZ16EV+	DIODE	61
2N5551S	BJT	15	BZX84C18+	DIODE	64	KDS112	DIODE	55	KDZ16FV+	DIODE	59
2N5551S	BJT	44	BZX84C20	DIODE	64	KDS112E	DIODE	55	KDZ16V	DIODE	62
2N7002KA	MOSFET	102	BZX84C22+	DIODE	64	KDS114	DIODE	55	KDZ16VV+	DIODE	60
2N7002KB	MOSFET	102	BZX84C24	DIODE	64	KDS114E	DIODE	55	KDZ16WV	DIODE	65
2N7002KDU	MOSFET	102	BZX84C27+	DIODE	64	KDS115	DIODE	55	KDZ18EV	DIODE	61
2N7002KE	MOSFET	102	BZX84C2V0+	DIODE	64	KDS120	DIODE	54	KDZ18FV+	DIODE	59
2N7002KU	MOSFET	102	BZX84C2V2+	DIODE	64	KDS120E	DIODE	54	KDZ18V	DIODE	62
BAT54	DIODE	81	BZX84C2V4+	DIODE	64	KDS120V	DIODE	54	KDZ18VV+	DIODE	60
BAT54C	DIODE	81	BZX84C2V7+	DIODE	64	KDS121	DIODE	54	KDZ18WV	DIODE	65
BAT54S	DIODE	81	BZX84C30+	DIODE	64	KDS121E	DIODE	54	KDZ2.0EV	DIODE	61
BAV70	DIODE	54	BZX84C33+	DIODE	64	KDS121V	DIODE	54	KDZ2.0V	DIODE	62
BAV99	DIODE	54	BZX84C36	DIODE	64	KDS122	DIODE	54	KDZ2.2EV	DIODE	61
BAW56	DIODE	54	BZX84C3V0+	DIODE	64	KDS123E	DIODE	54	KDZ2.2V	DIODE	62
BC327	BJT	17	BZX84C3V3	DIODE	64	KDS123U	DIODE	54	KDZ2.4EV	DIODE	61
BC327	BJT	45	BZX84C3V6+	DIODE	64	KDS123V	DIODE	54	KDZ2.4V	DIODE	62
BC337	BJT	18	BZX84C3V9+	DIODE	64	KDS127E	DIODE	54	KDZ2.7EV	DIODE	61
BC337	BJT	45	BZX84C4V3	DIODE	64	KDS135	DIODE	54	KDZ2.7V	DIODE	62
BC517	BJT	25	BZX84C4V7	DIODE	64	KDS135S	DIODE	54	KDZ200V	DIODE	69
BC517	BJT	46	BZX84C5V1	DIODE	64	KDS160	DIODE	54	KDZ200WVA	DIODE	69
BC546	BJT	18	BZX84C5V6	DIODE	64	KDS160E	DIODE	54	KDZ20EV	DIODE	61
BC546	BJT	45	BZX84C6V2	DIODE	64	KDS160F	DIODE	54	KDZ20FV	DIODE	59
BC547	BJT	18	BZX84C6V8	DIODE	64	KDS160UL	DIODE	54	KDZ20V	DIODE	62
BC547	BJT	45	BZX84C7V5+	DIODE	64	KDS160V	DIODE	54	KDZ20VV+	DIODE	60
BC548	BJT	17	BZX84C8V2+	DIODE	64	KDS181	DIODE	54	KDZ20WV	DIODE	65
BC548	BJT	45	BZX84C9V1	DIODE	64	KDS184	DIODE	54	KDZ22EV+	DIODE	61
BC549	BJT	17	KCR401T	BJT	30	KDS187	DIODE	54	KDZ22FV+	DIODE	59
BC549	BJT	45	KCR402T	BJT	30	KDS193	DIODE	54	KDZ22V	DIODE	62
BC556	BJT	17	KCR405T	BJT	30	KDS196	DIODE	54	KDZ22VV+	DIODE	60
BC556	BJT	45	KDR105S	DIODE	81	KDS221E	DIODE	54	KDZ22WV	DIODE	65
BC557	BJT	17	KDR331V	DIODE	80	KDS221V	DIODE	54	KDZ24EV	DIODE	61
BC557	BJT	45	KDR357	DIODE	80	KDS226	DIODE	54	KDZ24FV+	DIODE	59
BC558	BJT	17	KDR367	DIODE	80	KDS4148E	DIODE	54	KDZ24V	DIODE	62
BC558	BJT	45	KDR367E	DIODE	80	KDS4148S	DIODE	54	KDZ24VV+	DIODE	60
BC807	BJT	14	KDR368E	DIODE	80	KDS4148U	DIODE	54	KDZ24WV	DIODE	65
BC807	BJT	44	KDR377	DIODE	80	KDS4148W	DIODE	54	KDZ27EV+	DIODE	61
BC817	BJT	15	KDR377E	DIODE	80	KDZ100V	DIODE	69	KDZ27FV	DIODE	59
BC817	BJT	44	KDR400S	DIODE	81	KDZ10EV+	DIODE	61	KDZ27V	DIODE	62
BC846	BJT	15	KDR407S	DIODE	81	KDZ10FV+	DIODE	59	KDZ27VV+	DIODE	60
BC846	BJT	44	KDR411	DIODE	80	KDZ10V	DIODE	62	KDZ27WV	DIODE	65
BC847	BJT	15	KDR411S	DIODE	81	KDZ10VV+	DIODE	60	KDZ295V	DIODE	69
BC847	BJT	44	KDR412	DIODE	80	KDZ10WV	DIODE	65	KDZ3.0EV	DIODE	61
BC847W	BJT	14	KDR505S	DIODE	81	KDZ110V	DIODE	69	KDZ3.0V	DIODE	62
BC847W	BJT	44	KDR521T	DIODE	81	KDZ110WV	DIODE	69	KDZ3.3EV	DIODE	61
BC848	BJT	15	KDR530UL	DIODE	80	KDZ110WVA	DIODE	69	KDZ3.3V	DIODE	62
BC848	BJT	44	KDR531T	DIODE	81	KDZ11EV+	DIODE	61	KDZ3.6EV	DIODE	61
BC850	BJT	15	KDR552F	DIODE	80	KDZ11FV+	DIODE	59	KDZ3.6V	DIODE	62
BC850	BJT	44	KDR582E	DIODE	80	KDZ11V	DIODE	62	KDZ3.9EV	DIODE	61
BC856	BJT	15	KDR582F	DIODE	80	KDZ11VV+	DIODE	60	KDZ3.9V	DIODE	62
BC856	BJT	44	KDR701S	DIODE	81	KDZ11WV	DIODE	65	KDZ30EV+	DIODE	61
BC857	BJT	14	KDR713W	DIODE	81	KDZ12EV	DIODE	61	KDZ30FV+	DIODE	59
BC857	BJT	44	KDR714W	DIODE	81	KDZ12FV	DIODE	59	KDZ30V	DIODE	62
BC857W	BJT	14	KDR720E	DIODE	80	KDZ12V	DIODE	62	KDZ30VV+	DIODE	60
BC857W	BJT	44	KDR720EL	DIODE	80	KDZ12VV+	DIODE	60	KDZ30WV	DIODE	65
BC860	BJT	14	KDR720EL2A	DIODE	80	KDZ12WV	DIODE	65	KDZ33EV	DIODE	61
BC860	BJT	44	KDR720F	DIODE	80	KDZ13EV+	DIODE	61	KDZ33FV+	DIODE	59
BF420	BJT	18	KDR720S	DIODE	81	KDZ13FV+	DIODE	59	KDZ33V	DIODE	62

INDEX

KIA278R06PI	IC	127	KIA7033AP	IC	118	KIA78DL10PI	IC	126	KIA7918F	IC	125
KIA278R08PI	IC	127	KIA7033AT	IC	118	KIA78DL12F	IC	126	KIA7918PI	IC	125
KIA278R09PI	IC	127	KIA7034AF	IC	118	KIA78DL12PI	IC	126	KIA7920F	IC	125
KIA278R10PI	IC	127	KIA7034AP	IC	118	KIA78DL15F	IC	126	KIA7920PI	IC	125
KIA278R12PI	IC	127	KIA7034AT	IC	118	KIA78DL15PI	IC	126	KIA7924F	IC	125
KIA278R15PI	IC	127	KIA7035AF	IC	118	KIA78L05BP	IC	122	KIA7924PI	IC	125
KIA324F	IC	117	KIA7035AP	IC	118	KIA78L05F	IC	122	KIA79L05BP	IC	124
KIA324P	IC	117	KIA7035AT	IC	118	KIA78L06BP	IC	122	KIA79L05F	IC	124
KIA339F	IC	117	KIA7036AF	IC	118	KIA78L06F	IC	122	KIA79L06BP	IC	124
KIA339P	IC	117	KIA7036AP	IC	118	KIA78L08BP	IC	122	KIA79L06F	IC	124
KIA34063A	IC	131	KIA7036AT	IC	118	KIA78L08F	IC	122	KIA79L08BP	IC	124
KIA34063AF	IC	131	KIA7039AF	IC	118	KIA78L09BP	IC	122	KIA79L08F	IC	124
KIA358F	IC	117	KIA7039AP	IC	118	KIA78L09F	IC	122	KIA79L09BP	IC	124
KIA358P	IC	117	KIA7039AT	IC	118	KIA78L10BP	IC	122	KIA79L09F	IC	124
KIA378R00PI	IC	128	KIA7042AF	IC	118	KIA78L10F	IC	122	KIA79L10BP	IC	124
KIA378R05PI	IC	128	KIA7042AP	IC	118	KIA78L12BP	IC	122	KIA79L10F	IC	124
KIA378R06PI	IC	128	KIA7042AT	IC	118	KIA78L12F	IC	122	KIA79L12BP	IC	124
KIA378R08PI	IC	128	KIA7045AF	IC	118	KIA78L15BP	IC	122	KIA79L12F	IC	124
KIA378R09PI	IC	128	KIA7045AP	IC	118	KIA78L15F	IC	122	KIA79L15BP	IC	124
KIA378R10PI	IC	128	KIA7045AT	IC	118	KIA78L18BP	IC	122	KIA79L15F	IC	124
KIA378R12PI	IC	128	KIA75S358F	IC	117	KIA78L18F	IC	122	KIA79L18BP	IC	124
KIA378R15PI	IC	128	KIA75S393F	IC	117	KIA78L20BP	IC	122	KIA79L18F	IC	124
KIA378R25PI	IC	128	KIA75S558F	IC	117	KIA78L20F	IC	122	KIA79L20BP	IC	124
KIA378R33PI	IC	128	KIA7805AF	IC	123	KIA78L24BP	IC	122	KIA79L20F	IC	124
KIA378R35PI	IC	128	KIA7805API	IC	123	KIA78L24F	IC	122	KIA79L24BP	IC	124
KIA393F	IC	117	KIA7806AF	IC	123	KIA78M05F	IC	123	KIA79L24F	IC	124
KIA393P	IC	117	KIA7806API	IC	123	KIA78M05PI	IC	123	KIA79S05P	IC	124
KIA431A	IC	121	KIA7807AF	IC	123	KIA78M08F	IC	123	KIA79S06P	IC	124
KIA431ACF	IC	121	KIA7807API	IC	123	KIA78M08PI	IC	123	KIA79S08P	IC	124
KIA431ACM	IC	121	KIA7808AF	IC	123	KIA78M12F	IC	123	KIA79S09P	IC	124
KIA431ACP	IC	121	KIA7808API	IC	123	KIA78M12PI	IC	123	KIA79S10P	IC	124
KIA431AF	IC	121	KIA7809AF	IC	123	KIA78M15F	IC	123	KIA79S12P	IC	124
KIA431AM	IC	121	KIA7809API	IC	123	KIA78M15PI	IC	123	KIA79S15P	IC	124
KIA431B	IC	121	KIA7810AF	IC	123	KIA78R00PI	IC	127	KIA79S18P	IC	124
KIA431BCF	IC	121	KIA7810API	IC	123	KIA78R05PI	IC	127	KIA79S20P	IC	124
KIA431BCM	IC	121	KIA7812AF	IC	123	KIA78R06PI	IC	127	KIA79S24P	IC	124
KIA431BCP	IC	121	KIA7812API	IC	123	KIA78R08PI	IC	127	KIB2040QN33	IC	120
KIA431BF	IC	121	KIA7815AF	IC	123	KIA78R09PI	IC	127	KIB2040QN50	IC	120
KIA431BM	IC	121	KIA7815API	IC	123	KIA78R10PI	IC	127	KIB2070AT5 *	IC	120
KIA4558F	IC	117	KIA7818AF	IC	123	KIA78R12PI	IC	127	KIB2070BT5 *	IC	120
KIA4558P	IC	117	KIA7818API	IC	123	KIA78R15PI	IC	127	KIB2642F	IC	120
KIA494AF	IC	131	KIA7820AF	IC	123	KIA78R25PI	IC	127	KIB2645F *	IC	120
KIA494AP	IC	131	KIA7820API	IC	123	KIA78R33PI	IC	127	KIC 7508~60P	IC	119
KIA6419F	IC	120	KIA7824AF	IC	123	KIA78R35PI	IC	127	KIC3204DN18*	IC	129
KIA6419P	IC	120	KIA7824API	IC	123	KIA78S05P	IC	122	KIC3204DN28*	IC	129
KIA7019AF	IC	118	KIA78D05AF	IC	126	KIA78S06P	IC	122	KIC3204DN33*	IC	129
KIA7019AP	IC	118	KIA78D05API	IC	126	KIA78S08P	IC	122	KIC3222T30	IC	129
KIA7019AT	IC	118	KIA78D15AF	IC	126	KIA78S09P	IC	122	KIC3222T33	IC	129
KIA7021AF	IC	118	KIA78D15API	IC	126	KIA78S10P	IC	122	KIC3242EF00	IC	129
KIA7021AP	IC	118	KIA78D18AF	IC	126	KIA78S12P	IC	122	KIC3243EF00	IC	129
KIA7021AT	IC	118	KIA78D18API	IC	126	KIA78S15P	IC	122	KIC3244F00	IC	129
KIA7023AF	IC	118	KIA78D20AF	IC	126	KIA78S18P	IC	122	KIC3252S33	IC	129
KIA7023AP	IC	118	KIA78D20API	IC	126	KIA78S20P	IC	122	KIC3252S50	IC	129
KIA7023AT	IC	118	KIA78D25AF	IC	126	KIA78S24P	IC	122	KIC3522F	IC	131
KIA7025AF	IC	118	KIA78D25API	IC	126	KIA7905F	IC	125	KIC3926S	IC	131
KIA7025AP	IC	118	KIA78D30AF	IC	126	KIA7905PI	IC	125	KIC7108~60M	IC	119
KIA7025AT	IC	118	KIA78D30API	IC	126	KIA7906F	IC	125	KIC7108~60P	IC	119
KIA7027AF	IC	118	KIA78D33AF	IC	126	KIA7906PI	IC	125	KIC7108~60T5	IC	119
KIA7027AP	IC	118	KIA78D33API	IC	126	KIA7907F	IC	125	KIC7208~60T5	IC	119
KIA7027AT	IC	118	KIA78D35AF	IC	126	KIA7907PI	IC	125	KIC73A~E16~50M/M2	IC	119
KIA7029AF	IC	118	KIA78D35API	IC	126	KIA7908F	IC	125	KIC73A~E16~50T/T2	IC	119
KIA7029AP	IC	118	KIA78DL05F	IC	126	KIA7908PI	IC	125	KIC7508~60M/M2	IC	119
KIA7029AT	IC	118	KIA78DL05PI	IC	126	KIA7909F	IC	125	KIC7508~60T5	IC	119
KIA7031AF	IC	118	KIA78DL06F	IC	126	KIA7909PI	IC	125	KIC7608~60T5	IC	119
KIA7031AP	IC	118	KIA78DL06PI	IC	126	KIA7910F	IC	125	KIC77A~E16~50M/M2	IC	119
KIA7031AT	IC	118	KIA78DL08F	IC	126	KIA7910PI	IC	125	KIC77A~E16~50T/T2	IC	119
KIA7032AF	IC	118	KIA78DL08PI	IC	126	KIA7912F	IC	125	KIC79A~E16~50T/T2	IC	119
KIA7032AP	IC	118	KIA78DL09F	IC	126	KIA7912PI	IC	125	KID65001AF	IC	130
KIA7032AT	IC	118	KIA78DL09PI	IC	126	KIA7915F	IC	125	KID65001AP	IC	130
KIA7033AF	IC	118	KIA78DL10F	IC	126	KIA7915PI	IC	125	KID65002AF	IC	130

INDEX

KIA78DL10PI	IC	126	KIA7918F	IC	125	KID65002AP	IC	130	KP380N60FM3	MOSFET	107
KIA78DL12F	IC	126	KIA7918PI	IC	125	KID65003AF	IC	130	KP380N60FWM3	MOSFET	107
KIA78DL12PI	IC	126	KIA7920F	IC	125	KID65003AP	IC	130	KP580N60DM3	MOSFET	107
KIA78DL15F	IC	126	KIA7920PI	IC	125	KID65004AF	IC	130	KP580N60FM3	MOSFET	107
KIA78DL15PI	IC	126	KIA7924F	IC	125	KID65004AP	IC	130	KP580N60FWM3	MOSFET	107
KIA78L05BP	IC	122	KIA7924PI	IC	125	KID65083AF	IC	130	KPM11N60D	MOSFET	107
KIA78L05F	IC	122	KIA79L05BP	IC	124	KID65083AP	IC	130	KPM11N60F	MOSFET	107
KIA78L06BP	IC	122	KIA79L05F	IC	124	KID65083BF	IC	130	KPM11N60FW	MOSFET	107
KIA78L06F	IC	122	KIA79L06BP	IC	124	KID65084AF	IC	130	KPM15N60D	MOSFET	107
KIA78L08BP	IC	122	KIA79L06F	IC	124	KID65084AP	IC	130	KPM15N60F	MOSFET	107
KIA78L08F	IC	122	KIA79L08BP	IC	124	KID65501F	IC	130	KPM15N60FW	MOSFET	107
KIA78L09BP	IC	122	KIA79L08F	IC	124	KID65501P	IC	130	KPM20N60F	MOSFET	107
KIA78L09F	IC	122	KIA79L09BP	IC	124	KID65502F	IC	130	KPM20N60FW	MOSFET	107
KIA78L10BP	IC	122	KIA79L09F	IC	124	KID65502P	IC	130	KPM8N60D	MOSFET	107
KIA78L10F	IC	122	KIA79L10BP	IC	124	KID65503F	IC	130	KPM8N60F	MOSFET	107
KIA78L12BP	IC	122	KIA79L10F	IC	124	KID65503P	IC	130	KPM8N60FW	MOSFET	107
KIA78L12F	IC	122	KIA79L12BP	IC	124	KID65504F	IC	130	KRA101	BJT	35
KIA78L15BP	IC	122	KIA79L12F	IC	124	KID65504P	IC	130	KRA101S	BJT	35
KIA78L15F	IC	122	KIA79L15BP	IC	124	KID65505F	IC	130	KRA102	BJT	35
KIA78L18BP	IC	122	KIA79L15F	IC	124	KID65505P	IC	130	KRA102S	BJT	35
KIA78L18F	IC	122	KIA79L18BP	IC	124	KID65506F	IC	130	KRA103	BJT	35
KIA78L20BP	IC	122	KIA79L18F	IC	124	KID65506P	IC	130	KRA103S	BJT	35
KIA78L20F	IC	122	KIA79L20BP	IC	124	KID65507F	IC	130	KRA104	BJT	35
KIA78L24BP	IC	122	KIA79L20F	IC	124	KID65507P	IC	130	KRA104S	BJT	35
KIA78L24F	IC	122	KIA79L24BP	IC	124	KID65783AF	IC	130	KRA105	BJT	35
KIA78M05F	IC	123	KIA79L24F	IC	124	KID65783AP	IC	130	KRA105S	BJT	35
KIA78M05PI	IC	123	KIA79S05P	IC	124	KID65783BF	IC	130	KRA106	BJT	35
KIA78M08F	IC	123	KIA79S06P	IC	124	KMA2D4P20SA	MOSFET	103	KRA106S	BJT	35
KIA78M08PI	IC	123	KIA79S08P	IC	124	KMA3D0N20SA	MOSFET	103	KRA107	BJT	35
KIA78M12F	IC	123	KIA79S09P	IC	124	KMA3D6N20SA	MOSFET	103	KRA107S	BJT	35
KIA78M12PI	IC	123	KIA79S10P	IC	124	KMA3D7P20SA	MOSFET	103	KRA108+	BJT	35
KIA78M15F	IC	123	KIA79S12P	IC	124	KMB2D0N60SA	MOSFET	103	KRA108S	BJT	35
KIA78M15PI	IC	123	KIA79S15P	IC	124	KMB3D0P30SA	MOSFET	103	KRA110	BJT	35
KIA78R00PI	IC	127	KIA79S18P	IC	124	KMB3D5N40SA	MOSFET	103	KRA110S	BJT	35
KIA78R05PI	IC	127	KIA79S20P	IC	124	KMB4D0N30SA	MOSFET	103	KRA111	BJT	35
KIA78R06PI	IC	127	KIA79S24P	IC	124	KMD4D2N30S	MOSFET	103	KRA111S	BJT	35
KIA78R08PI	IC	127	KIB2040QN33	IC	120	KML0D3P20UL	MOSFET	102	KRA113+	BJT	35
KIA78R09PI	IC	127	KIB2040QN50	IC	120	KML0D3P20V	MOSFET	102	KRA113S+	BJT	35
KIA78R10PI	IC	127	KIB2070AT5 *	IC	120	KML0D4N20E	MOSFET	102	KRA114+	BJT	35
KIA78R12PI	IC	127	KIB2070BT5 *	IC	120	KML0D4N20UL	MOSFET	102	KRA114S+	BJT	35
KIA78R15PI	IC	127	KIB2642F	IC	120	KML0D4N20V	MOSFET	102	KRA116	BJT	35
KIA78R25PI	IC	127	KIB2645F *	IC	120	KML0D4P20E	MOSFET	102	KRA116S	BJT	35
KIA78R33PI	IC	127	KIC 7508~60P	IC	119	KN2222A	BJT	18	KRA117	BJT	35
KIA78R35PI	IC	127	KIC3204DN18*	IC	129	KN2222A	BJT	45	KRA117S	BJT	35
KIA78S05P	IC	122	KIC3204DN28*	IC	129	KN2222AS	BJT	15	KRA118+	BJT	35
KIA78S06P	IC	122	KIC3204DN33*	IC	129	KN2907A	BJT	17	KRA118S	BJT	35
KIA78S08P	IC	122	KIC3222T30	IC	129	KN2907A	BJT	45	KRA119	BJT	35
KIA78S09P	IC	122	KIC3222T33	IC	129	KN2907AS	BJT	15	KRA119S	BJT	35
KIA78S10P	IC	122	KIC3242EF00	IC	129	KN3904	BJT	18	KRA222	BJT	42
KIA78S12P	IC	122	KIC3243EF00	IC	129	KN3904	BJT	45	KRA222S	BJT	42
KIA78S15P	IC	122	KIC3244F00	IC	129	KN3904	BJT	47	KRA223	BJT	42
KIA78S18P	IC	122	KIC3252S33	IC	129	KN3904S	BJT	15	KRA223S	BJT	42
KIA78S20P	IC	122	KIC3252S50	IC	129	KN3904S	BJT	44	KRA224	BJT	42
KIA78S24P	IC	122	KIC3522F	IC	131	KN3906S	BJT	14	KRA224S	BJT	42
KIA7905F	IC	125	KIC3926S	IC	131	KN3906S	BJT	44	KRA225	BJT	42
KIA7905PI	IC	125	KIC7108~60M	IC	119	KN4401	BJT	18	KRA225S	BJT	42
KIA7906F	IC	125	KIC7108~60P	IC	119	KN4401	BJT	45	KRA226	BJT	42
KIA7906PI	IC	125	KIC7108~60T5	IC	119	KN4401S	BJT	15	KRA226S	BJT	42
KIA7907F	IC	125	KIC7208~60T5	IC	119	KN4401S	BJT	44	KRA301	BJT	35
KIA7907PI	IC	125	KIC73A~E16~50M/M2	IC	119	KN4403	BJT	17	KRA301E+	BJT	34
KIA7908F	IC	125	KIC73A~E16~50T/T2	IC	119	KN4403	BJT	45	KRA301V+	BJT	34
KIA7908PI	IC	125	KIC7508~60M/M2	IC	119	KN4403S	BJT	14	KRA302	BJT	35
KIA7909F	IC	125	KIC7508~60T5	IC	119	KN4403S	BJT	44	KRA302E	BJT	34
KIA7909PI	IC	125	KIC7608~60T5	IC	119	KP125N60FM3	MOSFET	107	KRA302V	BJT	34
KIA7910F	IC	125	KIC77A~E16~50M/M2	IC	119	KP190N60FM3	MOSFET	107	KRA303	BJT	35
KIA7910PI	IC	125	KIC77A~E16~50T/T2	IC	119	KP190N60FWM3	MOSFET	107	KRA303E	BJT	34
KIA7912F	IC	125	KIC79A~E16~50T/T2	IC	119	KP280N60DM3	MOSFET	107	KRA303V+	BJT	34
KIA7912PI	IC	125	KID65001AF	IC	130	KP280N60FM3	MOSFET	107	KRA304	BJT	35
KIA7915F	IC	125	KID65001AP	IC	130	KP280N60FWM3	MOSFET	107	KRA304E	BJT	34
KIA7915PI	IC	125	KID65002AF	IC	130	KP380N60DM3	MOSFET	107	KRA304V	BJT	34

INDEX

KRA305	BJT	35	KRA564E+	BJT	36	KRA764U+	BJT	40	KRC405	BJT	35
KRA305E	BJT	34	KRA564U+	BJT	38	KRA766E+	BJT	38	KRC405E	BJT	34
KRA305V+	BJT	34	KRA566E+	BJT	36	KRA766U+	BJT	40	KRC405V	BJT	34
KRA306	BJT	35	KRA566U+	BJT	38	KRA767E+	BJT	38	KRC406	BJT	35
KRA306E	BJT	34	KRA567E+	BJT	36	KRA767U+	BJT	40	KRC406E	BJT	34
KRA306V	BJT	34	KRA567U+	BJT	38	KRA768E+	BJT	38	KRC406UL	BJT	34
KRA307	BJT	35	KRA568E+	BJT	36	KRA768U+	BJT	40	KRC406V	BJT	34
KRA307E	BJT	34	KRA568U+	BJT	38	KRA769E+	BJT	38	KRC407	BJT	35
KRA307V+	BJT	34	KRA569E+	BJT	36	KRA769U+	BJT	40	KRC407E	BJT	34
KRA308+	BJT	35	KRA569U+	BJT	38	KRC101	BJT	35	KRC407V	BJT	34
KRA308E+	BJT	34	KRA721E+	BJT	37	KRC101S	BJT	35	KRC408	BJT	35
KRA308V+	BJT	34	KRA721U+	BJT	39	KRC102	BJT	35	KRC408E	BJT	34
KRA310+	BJT	35	KRA722E+	BJT	37	KRC102S	BJT	35	KRC408V	BJT	34
KRA310E	BJT	34	KRA722T+	BJT	42	KRC103	BJT	35	KRC410	BJT	35
KRA310V	BJT	34	KRA722U+	BJT	39	KRC103S	BJT	35	KRC410E	BJT	34
KRA311	BJT	35	KRA723E+	BJT	37	KRC104	BJT	35	KRC410V	BJT	34
KRA311E+	BJT	34	KRA723T+	BJT	42	KRC104S	BJT	35	KRC411+	BJT	35
KRA311V	BJT	34	KRA723U+	BJT	39	KRC105	BJT	35	KRC411E	BJT	34
KRA313	BJT	35	KRA724E+	BJT	37	KRC105S	BJT	35	KRC411V	BJT	34
KRA313E+	BJT	34	KRA724T+	BJT	42	KRC106	BJT	35	KRC413+	BJT	35
KRA313V+	BJT	34	KRA724U+	BJT	39	KRC106S	BJT	35	KRC413E+	BJT	34
KRA314+	BJT	35	KRA725E+	BJT	37	KRC107	BJT	35	KRC413V+	BJT	34
KRA314E+	BJT	34	KRA725T+	BJT	42	KRC107S	BJT	35	KRC414	BJT	35
KRA314V+	BJT	34	KRA725U+	BJT	39	KRC108+	BJT	35	KRC414E	BJT	34
KRA316	BJT	35	KRA726E+	BJT	37	KRC108S	BJT	35	KRC414V	BJT	34
KRA316E	BJT	34	KRA726T+	BJT	42	KRC110	BJT	35	KRC416	BJT	35
KRA316V+	BJT	34	KRA726U+	BJT	39	KRC110S	BJT	35	KRC416E+	BJT	34
KRA317+	BJT	35	KRA727E+	BJT	37	KRC111	BJT	35	KRC416V+	BJT	34
KRA317E+	BJT	34	KRA727U+	BJT	39	KRC111S	BJT	35	KRC417	BJT	35
KRA317V+	BJT	34	KRA728E+	BJT	37	KRC113+	BJT	35	KRC417E+	BJT	34
KRA318	BJT	35	KRA728U+	BJT	39	KRC113S+	BJT	35	KRC417V+	BJT	34
KRA318E	BJT	34	KRA730E+	BJT	37	KRC114	BJT	35	KRC418	BJT	35
KRA318V+	BJT	34	KRA730U+	BJT	39	KRC114S	BJT	35	KRC418E+	BJT	34
KRA319	BJT	35	KRA731E+	BJT	37	KRC116	BJT	35	KRC418V+	BJT	34
KRA319E+	BJT	34	KRA731U+	BJT	39	KRC116S	BJT	35	KRC419	BJT	35
KRA319V+	BJT	34	KRA732E+	BJT	37	KRC117+	BJT	35	KRC419E+	BJT	34
KRA322V	BJT	34	KRA733E+	BJT	37	KRC117S+	BJT	35	KRC419V+	BJT	34
KRA352+	BJT	42	KRA733U+	BJT	39	KRC118	BJT	35	KRC422V+	BJT	34
KRA353+	BJT	42	KRA734E+	BJT	37	KRC118S	BJT	35	KRC452+	BJT	42
KRA354+	BJT	42	KRA734U+	BJT	39	KRC119	BJT	35	KRC453+	BJT	42
KRA356+	BJT	42	KRA736E+	BJT	37	KRC119S	BJT	35	KRC454+	BJT	42
KRA357+	BJT	42	KRA736U+	BJT	39	KRC231+	BJT	43	KRC456+	BJT	42
KRA522T+	BJT	42	KRA737E+	BJT	37	KRC231S	BJT	43	KRC457+	BJT	42
KRA523T+	BJT	42	KRA737U+	BJT	39	KRC232+	BJT	43	KRC642T+	BJT	42
KRA524T+	BJT	42	KRA738E+	BJT	37	KRC232S	BJT	43	KRC643T+	BJT	42
KRA525T+	BJT	42	KRA738U+	BJT	39	KRC242+	BJT	42	KRC644T+	BJT	42
KRA526T+	BJT	42	KRA739E+	BJT	37	KRC242S+	BJT	42	KRC645T+	BJT	42
KRA551E+	BJT	36	KRA739U+	BJT	39	KRC243	BJT	42	KRC646T+	BJT	42
KRA551U+	BJT	38	KRA751E+	BJT	38	KRC243S	BJT	42	KRC651E+	BJT	36
KRA552E+	BJT	36	KRA751U+	BJT	40	KRC244	BJT	42	KRC651U+	BJT	39
KRA552U+	BJT	38	KRA752E+	BJT	38	KRC244S	BJT	42	KRC652E+	BJT	36
KRA553E+	BJT	36	KRA752U+	BJT	40	KRC245	BJT	42	KRC652U	BJT	39
KRA553U+	BJT	38	KRA753E+	BJT	38	KRC245S	BJT	42	KRC653E	BJT	36
KRA554E+	BJT	36	KRA753U+	BJT	40	KRC246	BJT	42	KRC653U+	BJT	39
KRA554U+	BJT	38	KRA754E+	BJT	38	KRC246S	BJT	42	KRC654E+	BJT	36
KRA555E+	BJT	36	KRA754U+	BJT	40	KRC281+	BJT	43	KRC654U+	BJT	39
KRA555U	BJT	38	KRA755E+	BJT	38	KRC281S	BJT	43	KRC655E+	BJT	36
KRA556E+	BJT	36	KRA755U+	BJT	40	KRC401	BJT	35	KRC655U	BJT	39
KRA556U+	BJT	38	KRA756E+	BJT	38	KRC401E	BJT	34	KRC656E	BJT	36
KRA557E+	BJT	36	KRA756U+	BJT	40	KRC401V	BJT	34	KRC656U	BJT	39
KRA557U+	BJT	38	KRA757E+	BJT	38	KRC402	BJT	35	KRC657E	BJT	36
KRA558E+	BJT	36	KRA757U+	BJT	40	KRC402E	BJT	34	KRC657U	BJT	39
KRA558U+	BJT	38	KRA758U+	BJT	40	KRC402UL	BJT	34	KRC658E+	BJT	36
KRA560E+	BJT	36	KRA760E+	BJT	38	KRC402V	BJT	34	KRC658U+	BJT	39
KRA560U+	BJT	38	KRA760U+	BJT	40	KRC403	BJT	35	KRC660E+	BJT	36
KRA561E+	BJT	36	KRA761E+	BJT	38	KRC403E	BJT	34	KRC660U	BJT	39
KRA561U+	BJT	38	KRA761U+	BJT	40	KRC403V	BJT	34	KRC661E+	BJT	36
KRA562E+	BJT	36	KRA763E+	BJT	38	KRC404	BJT	35	KRC661U+	BJT	39
KRA563E+	BJT	36	KRA763U+	BJT	40	KRC404E	BJT	34	KRC662E+	BJT	36
KRA563U+	BJT	38	KRA764E+	BJT	38	KRC404V	BJT	34	KRC663E+	BJT	36

INDEX

KRC663U+	BJT	39	KRC864E+	BJT	38	KTA1545W	BJT	28	KTC2027	BJT	20
KRC664E+	BJT	36	KRC864U+	BJT	40	KTA1551T	BJT	28	KTC2028	BJT	20
KRC664U+	BJT	39	KRC866E+	BJT	38	KTA1552T	BJT	28	KTC2030D	BJT	16
KRC666E+	BJT	36	KRC866U+	BJT	40	KTA1572	BJT	18	KTC2036	BJT	20
KRC666U+	BJT	39	KRC867E+	BJT	38	KTA1658	BJT	19	KTC2800	BJT	19
KRC667E+	BJT	36	KRC867U+	BJT	40	KTA1659	BJT	19	KTC2800	BJT	20
KRC667U+	BJT	39	KRC868E+	BJT	38	KTA1659A	BJT	19	KTC2803	BJT	19
KRC668E+	BJT	36	KRC868U	BJT	40	KTA1661	BJT	16	KTC2814	BJT	27
KRC668U+	BJT	39	KRC869E+	BJT	38	KTA1662	BJT	16	KTC2815D	BJT	26
KRC669E+	BJT	36	KRC869U+	BJT	40	KTA1663	BJT	16	KTC2825D	BJT	16
KRC669U+	BJT	39	KRX101E	BJT	41	KTA1664	BJT	16	KTC2874	BJT	23
KRC821E+	BJT	37	KRX101U	BJT	41	KTA1666	BJT	26	KTC2875	BJT	23
KRC821U+	BJT	39	KRX102E	BJT	41	KTA1668	BJT	16	KTC2875AS	BJT	23
KRC822E+	BJT	37	KRX102U	BJT	41	KTA1695A	BJT	20	KTC2983D	BJT	16
KRC822U+	BJT	39	KRX103E	BJT	41	KTA1700	BJT	19	KTC3003	BJT	27
KRC823E+	BJT	37	KRX103U	BJT	41	KTA1700	BJT	20	KTC3072D	BJT	16
KRC823U+	BJT	39	KRX104E	BJT	41	KTA1704	BJT	19	KTC3112	BJT	24
KRC824E+	BJT	37	KRX201E	BJT	41	KTA1715	BJT	27	KTC3114	BJT	20
KRC824U+	BJT	39	KRX201U	BJT	41	KTA1718D	BJT	26	KTC3198	BJT	18
KRC825E+	BJT	37	KRX202E	BJT	41	KTA1725	BJT	19	KTC3202	BJT	17
KRC825U+	BJT	39	KRX202U	BJT	41	KTA1807A	BJT	27	KTC3203	BJT	17
KRC826E+	BJT	37	KRX203E	BJT	41	KTA1807D	BJT	26	KTC3205	BJT	18
KRC826U+	BJT	39	KRX203U	BJT	41	KTA1837	BJT	19	KTC3206	BJT	18
KRC827E+	BJT	37	KRX204E	BJT	41	KTA1862D	BJT	26	KTC3207	BJT	18
KRC827U+	BJT	39	KRX204U	BJT	41	KTA1943	BJT	20	KTC3207T	BJT	15
KRC828U+	BJT	39	KRX206E	BJT	41	KTA1943A	BJT	20	KTC3209	BJT	27
KRC830E	BJT	37	KRX207E+	BJT	41	KTA1943N	BJT	20	KTC3226	BJT	18
KRC830U+	BJT	39	KRX207U+	BJT	41	KTA1962A	BJT	20	KTC3227	BJT	18
KRC831E	BJT	37	KRX208E	BJT	41	KTA200	BJT	17	KTC3228	BJT	18
KRC831U+	BJT	39	KRX208U+	BJT	41	KTA2012E	BJT	14	KTC3229	BJT	20
KRC833E+	BJT	37	KRX209E	BJT	41	KTA2014	BJT	14	KTC3265	BJT	15
KRC833U+	BJT	39	KRX209U+	BJT	41	KTA2014E	BJT	14	KTC3266	BJT	17
KRC834E+	BJT	37	KRX210E	BJT	41	KTA2014V	BJT	14	KTC3295	BJT	24
KRC834U+	BJT	39	KTA1001	BJT	26	KTA2015	BJT	14	KTC3423	BJT	19
KRC836E+	BJT	37	KTA1023	BJT	18	KTA501U	BJT	22	KTC3503	BJT	19
KRC836U+	BJT	39	KTA1024	BJT	18	KTA539	BJT	17	KTC3531T	BJT	28
KRC837E+	BJT	37	KTA1040D	BJT	16	KTA701E	BJT	21	KTC3532T	BJT	28
KRC837U+	BJT	39	KTA1041D	BJT	16	KTA708	BJT	17	KTC3535T	BJT	28
KRC838E+	BJT	37	KTA1042D	BJT	16	KTA733	BJT	17	KTC3542T	BJT	28
KRC838U+	BJT	39	KTA1045D	BJT	16	KTA733B	BJT	17	KTC3544T	BJT	28
KRC839E+	BJT	37	KTA1046	BJT	19	KTB1124	BJT	26	KTC3551T	BJT	28
KRC839U+	BJT	39	KTA1049	BJT	19	KTB1151	BJT	19	KTC3552T	BJT	28
KRC841T+	BJT	42	KTA1070	BJT	18	KTB1241	BJT	18	KTC3572	BJT	18
KRC842T+	BJT	42	KTA1225D	BJT	16	KTB1260	BJT	16	KTC3573	BJT	28
KRC843T+	BJT	42	KTA1241	BJT	26	KTB1366	BJT	19	KTC3770S	BJT	15
KRC844T+	BJT	42	KTA1242D	BJT	16	KTB1367	BJT	19	KTC3770U	BJT	14
KRC845T+	BJT	42	KTA1243	BJT	17	KTB1368	BJT	19	KTC3770V	BJT	14
KRC846T+	BJT	42	KTA1266	BJT	17	KTB1369	BJT	19	KTC3875S	BJT	15
KRC851E+	BJT	38	KTA1270	BJT	17	KTB1370	BJT	19	KTC3876S	BJT	15
KRC851U+	BJT	40	KTA1271	BJT	17	KTB1414	BJT	25	KTC3964	BJT	20
KRC852E	BJT	38	KTA1273	BJT	18	KTB1424	BJT	25	KTC4072E	BJT	14
KRC852U	BJT	40	KTA1274	BJT	18	KTB2630	BJT	20	KTC4072V	BJT	14
KRC853E+	BJT	38	KTA1275	BJT	18	KTB2640	BJT	20	KTC4075	BJT	14
KRC853U	BJT	40	KTA1277	BJT	18	KTB631K	BJT	19	KTC4075E	BJT	14
KRC854E	BJT	38	KTA1281	BJT	27	KTB688	BJT	20	KTC4075V	BJT	14
KRC854U	BJT	40	KTA1282	BJT	17	KTB764	BJT	18	KTC4076	BJT	14
KRC855E	BJT	38	KTA1298	BJT	14	KTB772	BJT	19	KTC4217	BJT	19
KRC855U	BJT	40	KTA1360	BJT	19	KTB778	BJT	20	KTC4369	BJT	20
KRC856E+	BJT	38	KTA1381	BJT	19	KTB817	BJT	20	KTC4370	BJT	20
KRC856U+	BJT	40	KTA1385D	BJT	26	KTB985	BJT	27	KTC4370A	BJT	20
KRC857E	BJT	38	KTA1504S	BJT	14	KTC1003	BJT	20	KTC4373	BJT	16
KRC857U+	BJT	40	KTA1504UL	BJT	14	KTC1006	BJT	18	KTC4374	BJT	16
KRC858E+	BJT	38	KTA1505S	BJT	14	KTC1008	BJT	18	KTC4375	BJT	16
KRC858U+	BJT	40	KTA1531T	BJT	28	KTC1027	BJT	18	KTC4376	BJT	16
KRC860E+	BJT	38	KTA1532T	BJT	28	KTC1815	BJT	18	KTC4378	BJT	16
KRC860U	BJT	40	KTA1532U	BJT	28	KTC200	BJT	18	KTC4379	BJT	26
KRC861E	BJT	38	KTA1535T	BJT	28	KTC2020D	BJT	16	KTC4380	BJT	16
KRC861U+	BJT	40	KTA1536T	BJT	28	KTC2022D	BJT	16	KTC4468A	BJT	20
KRC863E+	BJT	38	KTA1542T	BJT	28	KTC2025D	BJT	16	KTC4793	BJT	20
KRC863U+	BJT	40	KTA1544T	BJT	28	KTC2026	BJT	20	KTC5103D	BJT	26

INDEX

KTC5200	BJT	20	KTN2907A	BJT	47	MMBTA05	BJT	15	PG15GSUSC	DIODE	75
KTC5200A	BJT	20	KTN2907AS	BJT	26	MMBTA06	BJT	15	PG15HS1610D2	DIODE	74
KTC5200N	BJT	20	KTN2907AS	BJT	47	MMBTA06	BJT	44	PG18HS1610D2	DIODE	74
KTC5242A	BJT	20	KTN2907AU	BJT	26	MMBTA13	BJT	25	PG20GS1610D2	DIODE	74
KTC601E	BJT	21	KTN2907AU	BJT	47	MMBTA13	BJT	46	PG22GS1610D2	DIODE	74
KTC701U	BJT	22	KTX101E	BJT	21	MMBTA22	BJT	15	PG24DAS23	DIODE	77
KTC801E	BJT	21	KTX101U	BJT	22	MMBTA42	BJT	44	PG24DBUL2	DIODE	74
KTC801U	BJT	22	KTX111T	BJT	22	MMBTA44	BJT	15	PG24EAS23	DIODE	77
KTC802E	BJT	21	KTX213U	BJT	30	MMBTA44	BJT	44	PG24EBUSC	DIODE	75
KTC8050S	BJT	15	KTX304S	BJT	30	MMBTA517	BJT	25	PG24FAS23	DIODE	77
KTC811E	BJT	21	KTX404S	BJT	30	MMBTA517	BJT	46	PG24FBTS6	DIODE	77
KTC811U	BJT	22	KTX711T	BJT	30	MMBTA55	BJT	14	PG24GS1610D2	DIODE	74
KTC812E	BJT	21	KTX811T	BJT	30	MMBTA56	BJT	15	PG24GSUSC	DIODE	75
KTC812T	BJT	23	KU024N03C	MOSFET	103	MMBTA56	BJT	44	PG24LSSMAF	DIODE	79
KTC812U	BJT	22	KU080P03C	MOSFET	103	MMBTA63	BJT	25	PG24LSSMB	DIODE	79
KTC815	BJT	18	KU210N20PS1	MOSFET	105	MMBTA63	BJT	46	PG24MSSMC	DIODE	79
KTC8550S	BJT	14	KU2303D	MOSFET	103	MMBTA92	BJT	15	PG26GS1610D2	DIODE	74
KTC9012S	BJT	14	KU2307D	MOSFET	103	MMBTA92	BJT	44	PG33DSTFC	DIODE	75
KTC9013S	BJT	15	KU310N10D	MOSFET	104	MPS651	BJT	18	PG36DSESC	DIODE	75
KTC9014S	BJT	15	KU310N10F	MOSFET	104	MPS651	BJT	45	PG36DSUL2	DIODE	74
KTC9015S	BJT	14	KU3600DN10CZ	MOSFET	104	MPS751	BJT	17	PG36FSS23	DIODE	77
KTC945	BJT	18	KU3600DN10RZ	MOSFET	104	MPS751	BJT	45	PG36FSUSC	DIODE	75
KTC945B	BJT	18	KU3600N10D	MOSFET	104	MPS8050S	BJT	15	PG36JSSMAF	DIODE	79
KTD1003	BJT	24	KU3600N10RZ	MOSFET	104	MPS8550S	BJT	14	PG36LSSMB	DIODE	79
KTD1028	BJT	24	KU3600N10SZA	MOSFET	104	MPSA06	BJT	18	PG36MSSMC	DIODE	79
KTD1047	BJT	20	KU3600N10WZ	MOSFET	104	MPSA13	BJT	25	PG48FSUSC	DIODE	75
KTD1302	BJT	23	KU6KDN10MZ	MOSFET	104	MPSA42	BJT	18	PG712FBS23	DIODE	77
KTD1304	BJT	23	KUS045N10FA	MOSFET	104	MPSA42	BJT	45	PS03CBEL2A	DIODE	74
KTD1347	BJT	27	KUS086N10DA	MOSFET	104	MPSA44	BJT	18	PS03CBEL2B	DIODE	74
KTD1411	BJT	25	KUS086N10FA	MOSFET	104	MPSA44	BJT	45	PS03CBUL2	DIODE	74
KTD1413	BJT	25	KUS140N10C	MOSFET	104	MPSA92	BJT	45	PS03PSUL2	DIODE	78
KTD1415	BJT	25	KUS220N10DA	MOSFET	104	MPSA94	BJT	17	PS03TBUL2	DIODE	78
KTD1423	BJT	25	MBRD10U100CT	DIODE	82	PD03TCBEL2D	DIODE	78	PS03TSEL2A	DIODE	78
KTD1624	BJT	26	MBRD10U150	DIODE	82	PD05TCBEL2D	DIODE	78	PS03VBEL2D	DIODE	78
KTD1630	BJT	20	MBRD10U200CT	DIODE	82	PG03FSESC	DIODE	75	PS03VBUL2	DIODE	78
KTD1630G	BJT	20	MBRD10U60CT	DIODE	82	PG03HSUL2	DIODE	74	PS05CBEL2A	DIODE	74
KTD1640	BJT	20	MBRD20U100CT	DIODE	82	PG03LSSMF	DIODE	76	PS05CBEL2B	DIODE	74
KTD1640G	BJT	20	MBRD20U150CT	DIODE	82	PG05BAUSM	DIODE	77	PS05CBESC	DIODE	75
KTD1691	BJT	19	MBRD20U200CT	DIODE	82	PG05BSESC	DIODE	75	PS05CBUL2	DIODE	74
KTD1863	BJT	18	MBRD20U60CT	DIODE	82	PG05DBEL2A	DIODE	74	PS05DBESC	DIODE	75
KTD1898	BJT	16	MBRD5U100D	DIODE	82	PG05DBTFC	DIODE	75	PS05DBTFC	DIODE	75
KTD1937	BJT	24	MBRD5U150	DIODE	82	PG05EAESM	DIODE	77	PS05DBUL2	DIODE	74
KTD2058	BJT	20	MBRD5U200D	DIODE	82	PG05ESEL2	DIODE	74	PS05RVS26	DIODE	78
KTD2059	BJT	20	MBRD6U60CT	DIODE	82	PG05FBESC	DIODE	75	PS05RVUS6	DIODE	78
KTD2060	BJT	20	MBRF10U100CTA	DIODE	82	PG05FSESC	DIODE	75	PS05SVU10	DIODE	78
KTD2061	BJT	20	MBRF10U150CTA	DIODE	82	PG05FSTFC	DIODE	75	PS05TBEL2D	DIODE	78
KTD2066	BJT	24	MBRF10U200	DIODE	82	PG05FSUL2	DIODE	74	PS05TBUL2	DIODE	78
KTD2092	BJT	24	MBRF10U200CTA	DIODE	82	PG05GBUSC	DIODE	75	PS05TCBUL2	DIODE	78
KTD2854	BJT	25	MBRF10U45CTA	DIODE	82	PG05GBUSV	DIODE	77	PS05TSEL2A	DIODE	78
KTD600K	BJT	19	MBRF10U60CTA	DIODE	82	PG05GSUL2	DIODE	74	PS05TSUL2	DIODE	78
KTD718	BJT	20	MBRF15U45CTA	DIODE	82	PG05GXTE6	DIODE	77	PS05TSUL2A	DIODE	78
KTD863	BJT	18	MBRF20U100CTA	DIODE	82	PG05HAS23	DIODE	77	PS05TVUL9	DIODE	78
KTD882	BJT	19	MBRF20U150CTA	DIODE	82	PG05HSUL2	DIODE	74	PS05VBEL2D	DIODE	78
KTD998	BJT	20	MBRF20U200	DIODE	82	PG05HSUSC	DIODE	75	PS05VBUL2	DIODE	78
KTJ6131E	MOSFET	102	MBRF20U200CTA	DIODE	82	PG05KS1610D2	DIODE	74	PS06CSUL2	DIODE	74
KTJ6131V	MOSFET	102	MBRF20U45CTA	DIODE	82	PG05TBUL2	DIODE	78	PXTA44	BJT	16
KTK491S	BJT	29	MBRF20U60CTA	DIODE	82	PG05TBUL2A	DIODE	78	PXTA44	BJT	45
KTK491V	BJT	29	MBRF20U80CTA	DIODE	82	PG07DBUL2	DIODE	74	SMAB110	DIODE	81
KTK5132E	MOSFET	102	MBRF30U100CTA	DIODE	82	PG08GSUL2	DIODE	74	SMAB13	DIODE	81
KTK5132S	MOSFET	102	MBRF30U45CTA	DIODE	82	PG09HS1610D2	DIODE	74	SMAB14	DIODE	81
KTK5132U	MOSFET	102	MBRF30U60CTA	DIODE	82	PG10HSUSF	DIODE	76	SMAB16	DIODE	81
KTK5132V	MOSFET	102	MJD112	BJT	25	PG12DBUL2	DIODE	74	SMAB210	DIODE	81
KTK7132E	MOSFET	102	MJD112	BJT	46	PG12ESEL2	DIODE	74	SMAB33	DIODE	81
KTN2222A	BJT	27	MJE13003	BJT	27	PG12FBUSC	DIODE	75	SMAB34	DIODE	81
KTN2222A	BJT	47	MJE13003	BJT	47	PG12GAS23	DIODE	77	SMAB36	DIODE	81
KTN2222AS	BJT	26	MJE13005D	BJT	47	PG12GCS23	DIODE	77	SMAFAB54J	DIODE	81
KTN2222AS	BJT	47	MJE13005DF	BJT	27	PG12GSUSC	DIODE	75	SMAFB24	DIODE	81
KTN2222AU	BJT	26	MJE13005DF	BJT	47	PG12HS1610D2	DIODE	74	SMAFB26	DIODE	81
KTN2222AU	BJT	47	MJE13007F	BJT	27	PG1524DBUSC	DIODE	75	SMAFB310	DIODE	81
KTN2907A	BJT	27	MJE13007F	BJT	47	PG15FBUSC	DIODE	75	SMAFB34	DIODE	81

INDEX

SMAFB36	DIODE	81	TMBRD20100CT	DIODE	83	USFZ5.1V	DIODE	67
SMAZ10V	DIODE	68	TMBRD20100D	DIODE	83	USFZ5.6V	DIODE	67
SMAZ11V	DIODE	68	TMBRD20150D	DIODE	83	USFZ6.2V	DIODE	67
SMAZ12V	DIODE	68	TMBRD30100CT	DIODE	83	USFZ6.8V	DIODE	67
SMAZ13V	DIODE	68	TMBRD30150CTA	DIODE	83	USFZ7.5V	DIODE	67
SMAZ15V	DIODE	68	TMBRF10100CT	DIODE	83	USFZ8.2V	DIODE	67
SMAZ16V	DIODE	68	TMBRF20100CT	DIODE	83	USFZ9.1V	DIODE	67
SMAZ18V	DIODE	68	TMBRF20150CT	DIODE	83	Z02W100V	DIODE	69
SMAZ20V	DIODE	68	TMBRF20150CTA	DIODE	83	Z02W10V	DIODE	63
SMAZ22V	DIODE	68	TMBRF20200CT	DIODE	83	Z02W11V	DIODE	63
SMAZ24V	DIODE	68	TMBRF20200CTA	DIODE	83	Z02W12V	DIODE	63
SMAZ27V	DIODE	68	TMBRF30100CT	DIODE	83	Z02W13V	DIODE	63
SMAZ30V	DIODE	68	TMBRF30150CT	DIODE	83	Z02W15V	DIODE	63
SMAZ33V	DIODE	68	TMBRF30150CTA	DIODE	83	Z02W16V	DIODE	63
SMAZ36V	DIODE	68	TMBRF40100CT	DIODE	83	Z02W18V	DIODE	63
SMAZ4.3V	DIODE	68	TMBRF40120CT	DIODE	83	Z02W2.0V	DIODE	63
SMAZ4.7V	DIODE	68	TMBRF40150CT	DIODE	83	Z02W2.2V+	DIODE	63
SMAZ5.1V	DIODE	68	TMBRF40150CTA	DIODE	83	Z02W2.4V	DIODE	63
SMAZ5.6V	DIODE	68	USCFZ10V	DIODE	66	Z02W2.7V	DIODE	63
SMAZ6.2V	DIODE	68	USCFZ11V	DIODE	66	Z02W20V	DIODE	63
SMAZ6.8V	DIODE	68	USCFZ12V	DIODE	66	Z02W22V	DIODE	63
SMAZ7.5V	DIODE	68	USCFZ13V	DIODE	66	Z02W24V	DIODE	63
SMAZ8.2V	DIODE	68	USCFZ15V	DIODE	66	Z02W27V	DIODE	63
SMAZ9.1V	DIODE	68	USCFZ16V	DIODE	66	Z02W3.0V	DIODE	63
SMBRF08A65BIS3	DIODE	84	USCFZ18V	DIODE	66	Z02W3.3V	DIODE	63
SMBRF10A12CIS3	DIODE	84	USCFZ2.0V+	DIODE	66	Z02W3.6V	DIODE	63
SMBRF10A65BIS3	DIODE	84	USCFZ2.2V+	DIODE	66	Z02W3.9V	DIODE	63
SMBRF12A65BIS3	DIODE	84	USCFZ2.4V+	DIODE	66	Z02W30V	DIODE	63
SMBRF15A12CIS3	DIODE	84	USCFZ2.7V+	DIODE	66	Z02W33V	DIODE	63
SMBRK20A12CIS3	DIODE	84	USCFZ20V	DIODE	66	Z02W36V	DIODE	63
SMBRK20A65BCS3	DIODE	84	USCFZ22V	DIODE	66	Z02W4.3V	DIODE	63
SMBRK20A65BIS3	DIODE	84	USCFZ24V	DIODE	66	Z02W4.7V	DIODE	63
SMBRK30A12CIS3	DIODE	84	USCFZ27V	DIODE	66	Z02W5.1V	DIODE	63
SMBRK40A65BCS	DIODE	84	USCFZ3.0V+	DIODE	66	Z02W5.6V	DIODE	63
SMBRK40A65BIS3	DIODE	84	USCFZ3.3V+	DIODE	66	Z02W6.2V	DIODE	63
SMFB13	DIODE	81	USCFZ3.6V+	DIODE	66	Z02W6.8V	DIODE	63
SMFB14	DIODE	81	USCFZ3.9V+	DIODE	66	Z02W7.5V	DIODE	63
SMFB16	DIODE	81	USCFZ30V	DIODE	66	Z02W7.5VS	DIODE	69
SMFB23H	DIODE	81	USCFZ33V	DIODE	66	Z02W8.2V	DIODE	63
SMFZ10V	DIODE	68	USCFZ36V	DIODE	66	Z02W9.1V	DIODE	63
SMFZ11V	DIODE	68	USCFZ4.3V	DIODE	66	Z02W9.1VS	DIODE	69
SMFZ12V	DIODE	68	USCFZ4.7V	DIODE	66			
SMFZ13V	DIODE	68	USCFZ5.1V	DIODE	66			
SMFZ15V	DIODE	68	USCFZ5.6V	DIODE	66			
SMFZ16V	DIODE	68	USCFZ6.2V	DIODE	66			
SMFZ18V	DIODE	68	USCFZ6.8V	DIODE	66			
SMFZ20V	DIODE	68	USCFZ7.5V	DIODE	66			
SMFZ22V	DIODE	68	USCFZ8.2V	DIODE	66			
SMFZ24V	DIODE	68	USCFZ9.1V	DIODE	66			
SMFZ27V	DIODE	68	USFB13	DIODE	81			
SMFZ30V	DIODE	68	USFB13A	DIODE	81			
SMFZ33V	DIODE	68	USFB13L	DIODE	81			
SMFZ36V	DIODE	68	USFB14	DIODE	81			
SMFZ4.3V	DIODE	68	USFB16L	DIODE	81			
SMFZ4.7V	DIODE	68	USFZ10V	DIODE	67			
SMFZ5.1V	DIODE	68	USFZ11V+	DIODE	67			
SMFZ5.6V	DIODE	68	USFZ12V+	DIODE	67			
SMFZ6.2V	DIODE	68	USFZ13V+	DIODE	67			
SMFZ6.8V	DIODE	68	USFZ15V	DIODE	67			
SMFZ7.5V	DIODE	68	USFZ16V+	DIODE	67			
SMFZ8.2V	DIODE	68	USFZ18V	DIODE	67			
SMFZ9.1V	DIODE	68	USFZ20V	DIODE	67			
TIP32CF	BJT	19	USFZ22V+	DIODE	67			
TIP35C	BJT	20	USFZ24V	DIODE	67			
TIP35C	BJT	46	USFZ27V+	DIODE	67			
TIP36C	BJT	20	USFZ30V+	DIODE	67			
TIP36C	BJT	46	USFZ33V	DIODE	67			
TIP41CF	BJT	20	USFZ36V	DIODE	67			
TIP42CF	BJT	19	USFZ4.3V	DIODE	67			
TMBRD10100CT	DIODE	83	USFZ4.7V	DIODE	67			

PACKAGE DIMENSION

Package Dimension

DFN22D	DFN1610-2L	DFN1610-2L(1)	DIP-8	DIP-14

DIP-16	DIP-18(1)	DPAK	DPAK(1)	DPAK(3)

DPAK(4)	DPAK-5G	eFLP-8	ELP-2	ELP-2A

ELP-2B	ELP-2D	ELP-2D(1)	ESC	ESM

FLP-8	FLP-8(1)	FLP-14	FLP-16	FLP-18

Package Dimension

ULP-10	US6	USC	USC(1)	USCF

USF	USM	USV	VSC	VSM

ADDRESS

KEC CORPORATION

SEOUL

5, Mabang-ro 10-gil, Seocho-gu, seoul,KOREA

TEL: 82-2-2025-5060
FAX: 82-2-529-4178
E-MAIL: sales@kec.co.kr

GUMI

41,Suchul-daero, Gumi-si, Gyeongsangbuk-do, KOREA

TEL: 82-54-467-3151~7
FAX: 82-54-467-3149
E-MAIL: sales@kec.co.kr

Authorized Agency

KOREA ELECTRONIC
SEMICONDUCTOR CO.,LTD.

15 Gyeongin-ro 53-gil, Ma-4212,
Guro-gu, Seoul, South Korea

TEL: 02-2625-4558
FAX: 02-2687-1504
E-MAIL: kesr@kec.co.kr

DONGBOOK ELECTRONICS

Na-4203, 15 Gyeongin-ro 53-gil,
Guro-gu, Seoul, South Korea

TEL: 02-2101-5000
FAX: 02-2101-5001
E-MAIL: dongbook@dongbook.co.kr

BOSEUNG
INDUSTRIAL ELECTRONICS

205 Central Distributio
Complex A, 15, Gyeongin-ro
53-gil, Guro-gu, Seoul,
South Korea

TEL: 02-6679-6653-4
FAX: 02-6679-6647
E-MAIL: bsie@semicon114.com

UNITRONTECH

9th Floor, Sambo Building,
638 Yeongdong-daero,
Gangnam-gu,
Seoul, South Korea

TEL: 02-573-6800
FAX: 02-557-6702
E-MAIL: unitrontech@unitrontech.com

OVER SEAS

Global Sales Corporation / Office

KEC SHANGHAI CO.LTD.

Room 526, Building 27, unit 73,
Alley 8633, Zhongchun Road,
Minhang District, Shanghai P.R.China.201101

TEL: +86-21-5490-2277
FAX: +86-21-5490-2128
E-MAIL: kec_sh@kec.co.kr

KEC HK CORP.LTD.

KEC 5F Kader Industrial Building,
17-19 Lok Yip Road, Fanling,
N.T. HONG KONG

TEL: +852-2249-3734
FAX: +852-2249-3771
E-MAIL: kec_hk@kec.co.kr

KEC TAIWAN CO.LTD.

6F., No.375, Songjiang Rd., Zhongshan Dist.,
Taipei City 10482, Taiwan (R.O.C.)

TEL: +886-2-2515-8359
FAX: +886-2-2515-8026
E-MAIL: kec_twn@kec.co.kr

KEC JAPAN CO.,LTD.

6F Hata bldg. 2-2-3 Higashigotanda,
Shinagawa-ku, Tokyo, JAPAN 141-0022

TEL: +81-3-5475-2691
FAX: +81-3-3449-4109
E-MAIL: kec_jp@kec.co.kr

KEC SINGAPORE PTE.LTD.

9 Tampines Grande,
#04-12/13 SINGAPORE, 528735

TEL: +65-6748-7372(#102)
FAX: +65-6748-1526
E-MAIL: kec_sg@kec.co.kr

KEC AMERICA CORP.

1701 E. Edinger Ave., Suite A5,
Santa Ana, CA 92705, USA

TEL: +1-714-259-0662
E-MAIL: kec_a@kec.co.kr
sales@kecamerica.com

KEC SHENZHEN OFFICE

Flat 801,Tower 3,Excellence Meilin CenterPlaza,
ZhongKang Road Shangmeilin,
Futian District, Shenzhen, China(518049)

TEL: +86-755-8882-9198
FAX: +86-755-8345-6991
E-MAIL: kec_hk@kec.co.kr

KEC TIANJIN OFFICE

Room 907, Caizhi Building, Unit.9,
Erwei Road, Dongli District, Tianjin city,
China.300399

TEL: +86-21-5490-2277
FAX: +86-21-5490-2128
E-MAIL: kec_sh@kec.co.kr

KEC THAILAND BANGKOK OFFICE

9th Flr..Na Nakorn bldg., 99/349 Changwattana
Road, Tungsonghong Laksi,
Bangkok, Thailand 10210

TEL: +66-2-576-1484-5
FAX: +66-2-576-1486
E-MAIL: kec_th@kec.co.kr

Authorized Agency - Japan / Türkiye

Kanaden Corporation (Tokyo)

4-22-4 Shinbashi, Minato-ku,
Tokyo 105-8687, Japan

TEL: +81-3-3433-1227
FAX: +81-3-5472-8683

Sanshin Electric Corporation (Tokyo)

4-4-12 Shiba, Minato-ku,
Tokyo 108-8404, Japan

TEL: +81-3453-5111

Nakamatsu Shokai Co.Ltd. (Tokyo)

S-GATE Otemachi Kita, 3-4-2 Nihonbashi,
Chiyoda-ku, Tokyo 101-0047, Japan

TEL: +81-3251-9541
FAX: 03-3251-9275

Unlimited Co.Ltd. (Tokyo)

Fujita Hachioji Mansion 101, 2-6-24
Motoyokoyama-cho, Hachioji-shi,
okyo 192-0063, Japan

TEL: +81-42-657-4078
FAX: +81-42-657-3319

Shinko Shoji Co.Ltd. (Tokyo)

Art Village Osaki Central Tower,
1-2-2 Osaki, Shinagawa-ku,
Tokyo 141-8540, Japan

TEL: +81-3-6361-8090
FAX: +81-3-5437-8493

Toabo Corporation (Osaka)

Crystal Tower 18F, 1-2-27 Jomei,
Chuo-ku, Osaka 540-6018, Japan

TEL: +81-6-7178-1151
FAX: +81-6-7178-1171

Mikasa Shoji Co.Ltd. (Osaka)

2-4-12 Shimacho, Chuo-ku,
Osaka 540-0034, Japan

TEL: +81-6-6946-3781

Empa Elektronik (Türkiye)

IDTM Bloklari A1 Blok No:200 Yesilkoy Istanbul,
Türkiye

TEL: +90-212-4657199
FAX: +90-212-4657188
E-MAIL: kec@empa.com