

2025 SEMICONDUCTOR PRODUCT GUIDE BOOK

World's Excellent Semiconductor Company

BJT
DIODE
MOSFET
IGBT
IC

KEC

KEC

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BJT









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Bipolar Junction Transistor






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

V_{CE0}	I_C [A]	ULP-3	VSM	ESM	TES6	USM	USV	US6	TSM	TS6
		 (1.0 X 0.6)	 (1.2 X 0.8)	 (1.6 X 0.85)	 (1.6 X 1.2)	 (2.0 X 1.25)	 (2.0 X 1.25)	 (2.0 X 1.25)	 (2.9 X 1.6)	 (2.9 X 1.6)
-12V	-500mA			KTA2012E				KTX213U		
	-1.5A					KTA1532U				
-20V	-1								KTA1531T	
	-1.5A								KTA1532T	
	-3A								KTA1535T	
	-5A								KTA1536T	
-25V	-1.5A									
	-100mA									
	-500mA					KTA2015				KTX111T
	-800mA									
	-1.5A									
	-2A								KTA1544T	
-30V	-3A								KTA1542T	
	-200mA					2N3906U				
	-600mA									
-40V	-5A									
	-100mA					BC857W				
	-200mA									
-45V	-800mA									
	-150mA	KTA1504UL	KTA2014V	KTA2014E	KTX101E KTA701E	KTA2014	KTA501U	KTA701U KTX101U		
	-500mA									
-50V	-1A								KTA1551T	
	-2A									
	-3A								KTA1552T	
	-600mA					KTN2907AU				
-60V	-1A									
	-3A									
	-5A									
	-100mA									
-65V	-100mA									


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

SOT-23	SOT-89	SOT-223(1)	DPAK	TO-92	TO-92L	TO-126	TO-220IS
 (2.93 X 1.3)	 (4.7 X 2.5)	 (6.4 X 3.5)	 (6.0 X 6.1)				
	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
		 (2.9 X 1.61)	 (2.93 X 1.3)	 (4.75 X 2.5)	 (6.6 X 6.1)		
-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	KTA1050				
	KTB1367					
	TIP42CF					
				TIP36C		
KTB631K						
KTA1704						
	KTB1423					
			KTB778	KTB688		
				KTA1695A		
				KTB817		
KTA1360						
				KTB2630	KTB2630G	
				KTB2640	KTB2640G	
KTA1700	KTA1659					
	KTA1659A					
	KTB1369					
	KTA1837					
				KTA1962A		KTA1943
				KTA1943N		KTA1943A
KTA1381						
KTA1807A						

BJT




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

V_{CEO}	I_C	VSM	ESM	TESV	TES6	USM	US6	TSM	TSV	TS6
		 (1.2 X 0.8)	 (1.6 X 0.85)	 (1.6 X 1.2)	 (1.6 X 1.2)	 (2.0 X 1.25)	 (2.0 X 1.25)	 (2.9 X 1.6)	 (2.9 X 1.6)	 (2.9 X 1.6)
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
 (2.93 X 1.3)	 (4.7 X 2.5)	 (6.0 X 6.1)				
				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	DKAK	TO-92	TO-92L
		 (2.9 X 1.61)	 (2.9 X 1.6)	 (2.93 X 1.3)	 (4.7 X 2.5)	 (6.6 X 6.1)		
80V	400mA				KTC4374			KTC3227
	500mA		KTX811T	MMBTA06			MPSA06	
	1A				KTD1898			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_{CEO} : 80V ~ 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 _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)	
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	6	2	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	USM
KTA2015	Z□	○	KTC4076	W□	-30	-0.5	0.1	70	240	-1	-100	-0.25	-0.1	-10	-	200	-6	-20	
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	
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, □ : h_{FE} Grade

Note) ◇ : Typ, ☆ : T_c=25°C, ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

■ 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)		
KN2907AS	ZHA	●	KN2222AS	ZGA	-60	-0.6	※0.35	100	300	-10	-150	-1.6	-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), □ : h_{FE} Grade
 Note) ○ : AEC-Q Qualified, ● : Preparing for qualification of AEC-Q

BJT

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	DPAK
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	20	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	-	-	-	-	
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), □ : h_{FE} 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 _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)	
KTA1243	●	-	-20	-5	0.625	100	320	-2	-500	-0.5	-3	-75	-	170	-2	-500	
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	

BJT

TO-92

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 _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)	
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	
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	
KTC1006	●	-	80	0.8	1	100	-	2	150	0.7	0.5	20	-	150	10	100	

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

BJT

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	0.4	-	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, ☆ : Tc=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	
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	
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	
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	
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	TO-3P(L)
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

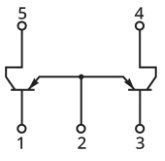
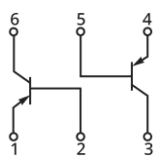
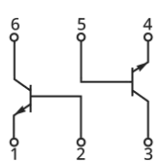
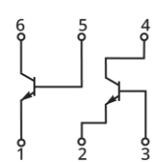
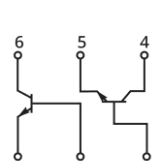
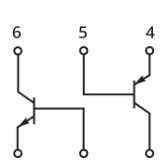
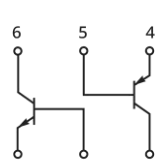
Type No.	Mark	AEC-Q	Internal Circuit (Top View)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				PKG
				V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	@V _{CE} (V)	@I _C (mA)	Max.	@I _C (A)	@I _B (mA)	Min.	Typ.	@V _{CE} (V)	@I _C (mA)	
KTC601E	L□	○		50	150	0.2	120	400	6	2	0.25	0.1	10	80	-	10	1	TESV
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) □ : h_{FE} Grade
 Note) ○ : AEC-Q Qualified

BJT

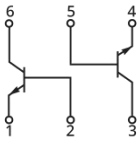
Bipolar Junction Transistor

■ Complex General Purpose Transistor

Type No.	Mark	AEC-Q	Internal Circuit (Top View)	Max. Ratings			h_{FE}				$V_{CE(sat)}(V)$			$f_T(MHz)$				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)		
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		TS6

Note) ▲ : Package Mounted on Ceramic Substrate (250mm2x0.8t), □ : 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 (600mm²x0.8mm), □ : 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}					$V_{CE(sat)}(V)$			$f_T(MHz)$				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(250mm²×0.8t), □ : h_{FE} Grade, ☆ : $T_c=25^\circ C$
 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 _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)	
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 (250mm²×0.8t), □ : 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	SOT-89
KTA1666	W□	○	KTC4379	U□	-50	-2	▼1	240	-2	-500	-0.5	-1	-50	◇120	◇100	-	-	-	◇1,000	◇100	
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	DPAK
KTA1718D	-	○	KTC2815D	-	-50	-2	☆10	240	-2	-500	-0.5	-1	-50	100	◇100	-	-	-	◇1,000	◇100	
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(250mm²×0.8t), □ : 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 _T (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	
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	TO-220IS

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}				$V_{CE(sat)}(V)$			$f_T(MHz)$			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)		
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} (uA)				C _{iss} (pF)				PKG
			V _{GD0} (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) □ : 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,D2)						COMMON	PKG	
				Max. Ratings			$h_{FE(1)}$		$V_{CE(sat)}$ (V)	$V_{BE(sat)}$ (V)	Max. Rating			$V_{F(3)}$ (V)	I_R (μ A)	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,D2)			COMMON			PKG		
				Max. Rating			$h_{FE(1)}$		$V_{CE(sat)}$ (V)	$V_{BE(sat)}$ (V)	Max. Rating	V_F (V)	Max. Rating	I_R (μ A)	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. Rating			$h_{FE(1)}$		$V_{CE(sat)}$ (V)	f_T (V)	Max. Rating			$V_{O(ON)}$ (V)	$V_{I(ON)}$ (V)		$V_{I(OFF)}$ (V)	Max. Rating
				V_{CEO} (V)	V_{EBO} (V)	I_C (A)	Min.	Max.	Max.	Max.	V_R (V)	@ I_O (mA)	@ I_{FSM} (A)	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	
			 (1.0 X 0.6)	 (1.2 X 0.8)	 (1.6 X 0.85)	 (2.0 X 1.25)		 (2.93 X 1.3)			
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 _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)			
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

BJT

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 _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)			
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	
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 _r				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 _r (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	-	
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	
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
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

BJT

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)			
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 _r								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	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	-	
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

BJT

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	TSV
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 _r				V _{O(ON)} (V)			R ₁ (kΩ)	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 _r (mA)	Typ.	Typ.	
				KRC231S	NW	○		15	600	200	200	800	5	50	0.08	
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

BJT

USA/European specification models types

■ General Purpose 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 (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

Type No.	Mark	AEC-Q	Complementary	Mark	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)	
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

BJT

USA/European specification models types

■ 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)	
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			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)			PKG
				V _{CES} (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	DPAK

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

Note) ● : Preparing for qualification of AEC-Q

■ Switching Transistor

BJT

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	TO-92
KTN2907A	-	●	KTN2222A	-	-60	-600	0.625	300	-10	-150	-1.6	-0.5	-50	200	45	100	40	80	30	
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	

Note) ※ : Package Mounted on 99.5% Alumina 10x8x0.6mm, ★ : T_c=25°C
 Note) ● : Preparing for qualification of AEC-Q

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
2N2222AS	First Silicon	KN2222AS	2SA1577	ROHM	KTA2015	2SB1124-T	ONSEMI	KTB1124-C
2N3904S	First Silicon	2N3904S	2SA1577-Q	ROHM	KTA2015-Y	2SB1132	ROHM	KTA1663-Y
2N3904TA	ONSEMI	2N3904	2SA1586	TOSHIBA	KTA2014	2SB1182	ROHM	KTA1718D-Y
2N4401TA	ONSEMI	KN4401	2SA1668	SANKEN	KTB1369-Y	2SB1188	ROHM	KTA1666
2N4403TA	ONSEMI	KN4403	2SA1673	SANKEN	KTA1695A	2SB1188-Q	ROHM	KTA1666-Y
2N5210	ONSEMI	KTC945B	2SA1721-O	TOSHIBA	MMBTA92	2SB1188-R	ROHM	KTA1666-Y
2PA1576S	NEXPERIA	KTA2014-GR	2SA1736	TOSHIBA	KTB1124-B	2SB1197K	ROHM	KTA1298-Y
2PB709ART	NEXPERIA	BC857-B	2SA1774	ROHM	KTA2014E	2SB1197K-R	ROHM	KTA1298-Y
2PB710ARL	NEXPERIA	KTN2907AS	2SA1774EB	ROHM	KTA2014E	2SB1198K	ROHM	MMBTA56
2PB710ASL	NEXPERIA	KTN2907AS	2SA1774EBHZG	ROHM	KTA2014E	2SB1198K-R	ROHM	MMBTA56
2PC4081R	NEXPERIA	KTC4075-GR	2SA1774-R	ROHM	KTA2014E-GR	2SB1202-S	ONSEMI	KTA1040D-Y
2PD601ASL	NEXPERIA	KTC3875S-GR	2SA1797	ROHM	KTB1124	2SB1260	ROHM	KTB1260-Y
2SA1015-GR	TOSHIBA	KTA1266-GR	2SA1859A	SANKEN	KTB1369	2SB1260G-Q-AB3-R	UTC	KTB1260-Y
2SA1036K	ROHM	KTA1505S	2SA1972	TOSHIBA	KTA1277	2SB1260-Q	ROHM	KTB1260-Y
2SA1036K-R	ROHM	KTA1505S-GR	2SA2029	ROHM	KTA2014V	2SB1424-R	ROHM	KTA1001-Y
2SA1037AK	ROHM	KTA1504S-GR	2SA2029-R	ROHM	KTA2014V-GR	2SB1560	SANKEN	KTB2530
2SA1037AKFRA-R	ROHM	KTA1504S-GR	2SA2056	TOSHIBA	KTA1552T	2SB1689	ROHM	KTA1532U
2SA1037AK-Q	ROHM	KTA1504S-Y	2SA2060	TOSHIBA	KTA1666-Y	2SB1708	ROHM	KTA1542T
2SA1037AK-R	ROHM	KTA1504S-GR	2SA2065	TOSHIBA	KTA1532T	2SB1709	ROHM	KTA1532T
2SA1162-GR	TOSHIBA	KTA1504S-GR	2SA2070	TOSHIBA	KTA1666-Y	2SB1710	ROHM	KTA1544T
2SA1162-Y	TOSHIBA	KTA1504S-Y	2SA2071-Q	ROHM	KTB1124	2SB624	NEC	KTA1298
2SA1182-Y	TOSHIBA	KTA1505S-Y	2SA2088	ROHM	KTN2907AU	2SB709A	PANASONIC	BC857-B
2SA1186	SANKEN	KTA1695A	2SA2088FRA-Q	ROHM	KTN2907AU	2SB800-FL	NEC	KTA1662-Y
2SA1201-Y	TOSHIBA	KTA1661-Y	2SA2097	TOSHIBA	KTA1385D-Y	2SC1623	NEC	KTC3875S
2SA1235A	ISAHAYA	KTC9015S	2SA2154MFV-GR	TOSHIBA	KTA2014V-GR	2SC1815-GR	TOSHIBA	KTC3198-GR
2SA1235A-E	ISAHAYA	KTA1504S-GR	2SA2166	ISAHAYA	KN2907AS	2SC1815L-Y-T92-K	UTC	KTC3198-Y
2SA1241-Y	TOSHIBA	KTA1718D-Y	2SA2184	TOSHIBA	KTA1807D-Y	2SC1815-Y	TOSHIBA	KTC3198-Y
2SA1298-Y	TOSHIBA	KTA1298-Y	2SA2188-F	ISAHAYA	KTA1531T-GR	2SC2411K	ROHM	KTC3876S
2SA1303	SANKEN	KTA1962A	2SA2206	TOSHIBA	KTB1260	2SC2411K-R	ROHM	KTC3876S-GR
2SA1313-Y	TOSHIBA	KTN2907AS	2SA812	RENESAS	KTA1504S	2SC2412K	ROHM	KTC3875S-GR
2SA1362-Y	TOSHIBA	KTA1298-Y	2SA812A	NEC	KTA1504S-Y	2SC2412KFRA-R	ROHM	KTC3875S-GR
2SA1365	ISAHAYA	KTA1531T-GR	2SAR293P5	ROHM	KTA1664-Y	2SC2412K-Q	ROHM	KTC3875S-Y
2SA1365-F	ISAHAYA	KTA1531T-GR	2SAR513P	ROHM	KTA1668	2SC2412K-R	ROHM	KTC3875S-GR
2SA1365-G	ISAHAYA	KTA1531T-GR	2SAR513P5	ROHM	KTA1668	2SC2412K-S	ROHM	KTC3875S-GR
2SA1413-Z	RENESAS	v	2SAR523EB	ROHM	KTA2014E	2SC2712-BL	TOSHIBA	KTC3875S-BL
2SA1576A	ROHM	KTA2014-GR	2SAR523M	ROHM	KTA2014V	2SC2712-GR	TOSHIBA	KTC3875S-GR
2SA1576A-R	ROHM	KTA2014-GR	2SAR523UB	ROHM	KTA2014	2SC2712-Y	TOSHIBA	KTC3875S-Y
2SA1576U3	ROHM	KTA2014	2SAR543R	ROHM	KTA1552T	2SC2837	SANKEN	KTC4468A
2SA1576U3HZG	ROHM	KTA2014	2SAR544P5	ROHM	KTB1260-Y	2SC2881-Y	TOSHIBA	KTC4373-Y
2SA1576UBHZG	ROHM	KTA2014	2SAR553P	ROHM	KTA1666-Y	2SC3052	ISAHAYA	KTC3875S
2SA1576UB-R	ROHM	KTA2014-GR	2SAR553P5	ROHM	KTA1666-Y	2SC3052-E	ISAHAYA	KTC3875S-Y

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
2SC3052-E/F	ISAHAYA	KTC3875S-Y/GR	2SC4617-R	ROHM	KTC4075E-GR	2SCR523UB	ROHM	KTC4075
2SC3052-F	ISAHAYA	KTC3875S-GR	2SC4672	ROHM	KTD1624-B	2SCR533P	ROHM	KTD1624
2SC3284	SANKEN	KTC5242A	2SC4672-Q	ROHM	KTD1624-B	2SCR543R	ROHM	KTC3552T
2SC3311A	PANASONIC	KTC3198-GR	2SC4883A	SANKEN	KTD2061	2SCR553P	ROHM	KTC4379-Y
2SC3325-Y	TOSHIBA	MMBTA06	2SC5053	ROHM	KTC4378-Y	2SCR553P5	ROHM	KTC4379-Y
2SC3326-B	TOSHIBA	KTC2875-B	2SC5103-Q	ROHM	KTC5103D-Y	2SD1000-LK	NEC	KTC4378-GR
2SC3444	ISAHAYA	KTC4378-Y	2SC5200-O	TOSHIBA	KTC5200-O	2SD1005-BU	RENESAS	KTD1898-Y
2SC3444-E	ISAHAYA	KTC4378-GR	2SC5209-H	ISAHAYA	KTD1003-A	2SD1484K-R	ROHM	MMBTA06
2SC3928A-Q	ISAHAYA	KTC3875S-Y	2SC5209-J	ISAHAYA	KTD1003-A	2SD1664-Q/R	ROHM	KTC4375
2SC3928A-R	ISAHAYA	KTC3875S-GR	2SC5344-Y	AUK	KTC3203-Y	2SD1766-Q	ROHM	KTC4379-Y
2SC3928A-S	ISAHAYA	KTC3875S-GR	2SC5383-E	ISAHAYA	KTC4075E-Y	2SD1781K	ROHM	KTC3265-Y
2SC4081	ROHM	KTC4075	2SC5383-F	ISAHAYA	KTC4075E-GR	2SD1781K-Q	ROHM	KTC3265-Y
2SC4081FRA	ROHM	KTC4075-Y	2SC5482	ISAHAYA	KTC1008	2SD1782K	ROHM	MMBTA06
2SC4081-Q/R	ROHM	KTC4075-Y/GR	2SC5625	ISAHAYA	KTC3207T	2SD1782KFRA-R	ROHM	MMBTA06
2SC4081-R	ROHM	KTC4075-GR	2SC5658	ROHM	KTC4075V-GR	2SD1782K-R	ROHM	MMBTA06
2SC4081U3	ROHM	KTC4075-Y	2SC5658FHA	ROHM	KTC4075V-GR	2SD1802S-TL-E	ONSEMI	KTC2825D
2SC4081U3HZG	ROHM	KTC4075	2SC5658-R	ROHM	KTC4075V-GR	2SD1819A-R/S	ROHM	KTC4075-GR
2SC4081U3HZG-Q	ROHM	KTC4075-Y	2SC5663	ROHM	KTC4072V	2SD1834	ROHM	KTD1003-B
2SC4081U3HZG-R	ROHM	KTC4075-GR	2SC5692	TOSHIBA	KTC3552T	2SD1898	ROHM	KTD1898-Y
2SC4081U3-R	ROHM	KTC4075-GR	2SC5712	TOSHIBA	KTD1624	2SD1898-Q/R	ROHM	KTD1898
2SC4081UB	ROHM	KTC4075-GR	2SC5810	TOSHIBA	KTD1003-A	2SD1898-R	ROHM	KTD1898-Y
2SC4081UB-P	ROHM	KTC4075-Y	2SC5814-R	ISAHAYA	BC846-B	2SD1950	NEC	KTD1003
2SC4081UB-R	ROHM	KTC4075-GR	2SC5825-R	ROHM	KTC2825D	2SD1980	ROHM	MJD112
2SC4097-Q	ROHM	KTC4076-Y	2SC5866-Q	ROHM	KTC3552T	2SD2012	TOSHIBA	KTD2058
2SC4097-R	ROHM	KTC4076-Y	2SC5866-R	ROHM	KTC3552T	2SD2118-R	ROHM	KTC3072D-Y
2SC4116	TOSHIBA	KTC4075	2SC6026MFV-GR	TOSHIBA	KTC4075V-GR	2SD2167	ROHM	KTC4375
2SC4116-GR	TOSHIBA	KTC4075-GR	2SC6046	ROHM	KN2222AS	2SD2351-W	ROHM	KTC4666-B
2SC4116-Y	TOSHIBA	KTC4075-Y	2SC6120	ISAHAYA	KTN2222AU	2SD2390	SANKEN	KTD1530
2SC4154-E	ISAHAYA	KTC4075-Y	2SC6126	TOSHIBA	KTD1624-C	2SD2394-E	ROHM	KTC2026-Y
2SC4154-F	ISAHAYA	KTC4075-GR	2SC945G-P-T92-B	UTC	KTC945-P	2SD2657K	ROHM	KTC3544T
2SC4155A-R	ISAHAYA	KTC4075-GR	2SCR293P	ROHM	KTC4375-Y	2SD2675	ROHM	KTC3544T
2SC4155A-S	ISAHAYA	KTC4075-GR	2SCR293P5	ROHM	KTC4375-Y	2SD669AG-D-TN3-R	UTC	KTC2983D-Y
2SC4388	SANKEN	KTC4468A	2SCR512PHZG	ROHM	KTC4375	2SD882	NEC	KTD882
2SC4468	SANKEN	KTC4468A	2SCR513P	ROHM	KTC4378-Y	2STN2540	STMICRO	KTA1545W
2SC4617EB	ROHM	KTC4075E	2SCR513P5	ROHM	KTC4378-Y	8050SG-D-AE3-R	UTC	KTC8050S-D
2SC4617EBHZG	ROHM	KTC4075E	2SCR513PFRA	ROHM	KTC4378-Y	ABCX56-16-HF	COMCHIP	KTD1898-Y
2SC4617EB-Q	ROHM	KTC4075E-Y	2SCR513R	ROHM	KTC3551T	ACX114EUQ	DIODES	KRX201U
2SC4617FRA	ROHM	KTC4075E	2SCR514P	ROHM	KTD1898-Y	ADTC114ECA-HF	COMCHIP	KRC102S
2SC4617FRA-Q	ROHM	KTC4075E-Y	2SCR514P5	ROHM	KTD1898-Y	ADTC143TCA-HF	COMCHIP	KRC110S
2SC4617-Q	ROHM	KTC4075E-Y	2SCR523EB	ROHM	KTC4075E	BC327-25	ONSEMI	BC327-25
2SC4617-R	MCC	KTC4075E-GR	2SCR523M	ROHM	KTC4075V	BC327-40	ONSEMI	BC327-40

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
BC337-25	ONSEMI	BC337-25	BC847BW	DIODES	BC847W-B	BCX17	ROHM	BC807
BC337-40	ONSEMI	BC337-40	BC847BW	NEXPERIA	BC847W-B	BCX19	ROHM	BC817
BC637	ONSEMI	KTC1008	BC847BW	PANJIT	BC847W-B	BCX19HZG	ROHM	BC817
BC807	NEXPERIA	BC807	BC847CDW1T1G	ONSEMI	KTC801U-GR	BCX52-16	NEXPERIA	KTA1668-Y
BC807-16	DIODES	BC807-25	BC847CLT1G	ONSEMI	BC847-C	BCX52-16T	NEXPERIA	KTA1668-Y
BC807-25	NEXPERIA	BC807-25	BC847PN	DIODES	KTX101U-GR	BCX53	NEXPERIA	KTB1260-Y
BC807-25	ONSEMI	BC807-25	BC847PN	INFINEON	KTX101U-GR	BCX53-16	DIODES	KTB1260-Y
BC807-40	MCC	BC807-40	BC847S	INFINEON	KTC801U	BCX53-16	NEXPERIA	KTB1260-Y
BC807-40	NEXPERIA	BC807-40	BC848-B	NEXPERIA	BC848-B	BCX54	NEXPERIA	KTC4379
BC807W	NEXPERIA	KTN2907AU	BC850C	NEXPERIA	BC850-C	BCX55-16T	NEXPERIA	KTC4378-Y
BC817	NEXPERIA	BC817	BC850CW	NEXPERIA	BC847W-C	BCX56-16	INFINEON	KTD1898-Y
BC817-16	NEXPERIA	BC817-25	BC856	NEXPERIA	BC856	BCX56-16	NEXPERIA	KTD1898-Y
BC817-25	NEXPERIA	BC817-25	BC856ALT1G	ONSEMI	BC856-B	BCX5616Q	DIODES	KTD1898-Y
BC817-25	ONSEMI	BC817-25	BC856AQ-7-F	DIODES	BC856-B	BSS4130A	ROHM	KTC8050S-D
BC817-40	MCC	BC817-40	BC856-B	NEXPERIA	BC856-B	BSS5130A	ROHM	KTA1544T
BC817-40	NEXPERIA	BC817-40	BC856BW	NEXPERIA	KTA2014-GR	DDTC143ZCA	DIODES	KRC106S
BC817-40	ONSEMI	BC817-40	BC856BWT1G	ONSEMI	KTA2014-GR	DDTC144EUA	ROHM	KRC404
BC817-40	PANJIT	BC817-40	BC857	NEXPERIA	BC857	DDTD123YC	DIODES	KRC246S
BC817W	NEXPERIA	KTN2222AU	BC857AW	DIODES	BC857W-B	DMG96403	PANASONIC	KRX203E
BC818-40LT1G	ONSEMI	KTC3876S-GR	BC857B	DIODES	BC857-B	DMG96404	PANASONIC	KRX206E
BC846	NEXPERIA	BC846	BC857B	INFINEON	BC857-B	DRA2114E0L	PANASONIC	KRA102S
BC846-A	NEXPERIA	BC846-B	BC857B	NEXPERIA	BC857-B	DRA5143E0L	PANASONIC	KRA301
BC846ALT1G	ONSEMI	BC846-B	BC857-B	NEXPERIA	BC857-B	DRC2123J0L	PANASONIC	KRC105S
BC846B	DIODES	BC846-B	BC857B HZG	ROHM	BC857-B	DRC5114E0L	PANASONIC	KRC402
BC846B	SEMTECH	BC846-B	BC857BLT1G	ONSEMI	BC857-B	DRC5143E0L	PANASONIC	KRC401
BC846B	YANGJIE	BC846-B	BC857BS	NEXPERIA	KTA701U-GR	DRC5144E0L	PANASONIC	KRC405
BC846-B	NEXPERIA	BC846-B	BC857BW	DIODES	BC857W-B	DSA2001-0	PANASONIC	KTA1504S-GR
BC846BDW1T1G	ONSEMI	KTC801U-GR	BC857BW	PANJIT	BC857W-B	DSA2001-R	PANASONIC	KTA1504S-GR
BC846BPN	NEXPERIA	KTX101U-GR	BC857C	NEXPERIA	BC857-C	DSA5001-0	PANASONIC	KTA2014-GR
BC846BS	NEXPERIA	KTC801U-GR	BC858-B	NEXPERIA	BC857-B	DSA5001-R	PANASONIC	KTA2014-GR
BC846BW	NEXPERIA	KTC4075-GR	BC860CW	NEXPERIA	BC857W-B	DSA7004-R	PANASONIC	KTA1666-Y
BC846BWT1G	ONSEMI	KTC4075-GR	BCM857BS	NEXPERIA	KTA701U	DSA7004-S	PANASONIC	KTA1666-Y
BC846S	NEXPERIA	KTC801U-Y	BCR135	INFINEON	KRC107S	DSC2001-0	PANASONIC	KTC3875S-GR
BC846W	NEXPERIA	KTC4075-Y	BCR533	INFINEON	KRC244S	DSC2001-R	PANASONIC	KTC3875S-GR
BC847	NEXPERIA	BC847	BCR555	INFINEON	KRA226S	DSC5001-0	PANASONIC	KTC4075-GR
BC847A	NEXPERIA	BC847-B	BCR562	INFINEON	KRA223S	DSC5001-R	PANASONIC	KTC4075-GR
BC847B	NEXPERIA	BC847-B	BCR583	INFINEON	KRA224S	DSC5001-S	PANASONIC	KTC4075-GR
BC847-B	NEXPERIA	BC847-B	BCV26	INFINEON	MMBTA63	DSC7003-R	PANASONIC	KTC4379-Y
BC847BPDW1T3G	ONSEMI	KTX101U	BCV71	NEXPERIA	BC846-B	DSC7004R0L	PANASONIC	KTC4379-Y
BC847BS	MCC	KTC801U-GR	BCW66GLT1G	ONSEMI	BC817	DTA014EEB	ROHM	KRA302E
BC847BS	NEXPERIA	KTC801U-GR	BCW68GLT1G	ONSEMI	BC807-25	DTA014EUB	ROHM	KRA302

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
DTA014YEB	ROHM	KRA307E	DTB143EC	ROHM	KRA223S	DTC114YU3HZG	ROHM	KRC407
DTA023JEB	ROHM	KRA305E	DTB143EK	ROHM	KRA223S	DTC114YUA	MCC	KRC407
DTA023JUB	ROHM	KRA305	DTC014EEB	ROHM	KRC402E	DTC114YUA	ROHM	KRC407
DTA024EUB	ROHM	KRA303	DTC014EM	ROHM	KRC402V	DTC114YUB	ROHM	KRC407
DTA043ZM	ROHM	KRA306V	DTC014EUB	ROHM	KRC402	DTC123EE	ROHM	KRC417E
DTA043ZUB	ROHM	KRA306	DTC014YEB	ROHM	KRC407E	DTC123EU3	ROHM	KRC417
DTA113ZUA	ROHM	KRA316	DTC014YM	ROHM	KRC407V	DTC123EUA	ROHM	KRC417
DTA114EE	ROHM	KRA302E	DTC014YUB	ROHM	KRC407	DTC123JCA	YANGJIE	KRC105S
DTA114EET1G	ONSEMI	KRA302E	DTC023EEB	ROHM	KRC417E	DTC123JEB	ROHM	KRC405E
DTA114EKA	ROHM	KRA102S	DTC023JEB	ROHM	KRC405E	DTC123JKA	BLUE ROCKET	KRC105S
DTA114EM	ROHM	KRA302V	DTC023JM	ROHM	KRC405V	DTC123JKA	ROHM	KRC105S
DTA114EU3	ROHM	KRA302	DTC023JUB	ROHM	KRC405	DTC123JUA	ROHM	KRC405
DTA114EU3HZG	ROHM	KRA302	DTC023YEB	ROHM	KRC418E	DTC123YCA	ROHM	KRC118S
DTA114EUA	ROHM	KRA302	DTC024EEB	ROHM	KRC403E	DTC123YE	ROHM	KRC418E
DTA114EUB	ROHM	KRA302	DTC024XM	ROHM	KRC408V	DTC123YKA	ROHM	KRC118S
DTA114EUBHZG	ROHM	KRA302	DTC043EEB	ROHM	KRC401E	DTC123YUA	ROHM	KRC418
DTA114YE	ROHM	KRA307E	DTC043EUB	ROHM	KRC401	DTC124EKA	ROHM	KRC103S
DTA114YKA	ROHM	KRA107S	DTC043TM	ROHM	KRC410V	DTC124EM	ROHM	KRC403V
DTA114YU3HZG	ROHM	KRA307	DTC043ZEB	ROHM	KRC406E	DTC124EU3HZG	ROHM	KRC403
DTA114YUA	MCC	KRA307	DTC043ZM	ROHM	KRC406V	DTC124EUA	GALAXY	KRC403
DTA114YUA	ROHM	KRA307	DTC043ZUB	ROHM	KRC406	DTC124EUA	ROHM	KRC403
DTA114YUB	ROHM	KRA307	DTC044EEB	ROHM	KRC404E	DTC124EUAFRA	ROHM	KRC403
DTA123JKA	ROHM	KRA105S	DTC044EM	ROHM	KRC404V	DTC124EUB	ROHM	KRC403
DTA124EE	ROHM	KRA303E	DTC044EUB	ROHM	KRC404	DTC143EE	ROHM	KRC401E
DTA124EUA	ROHM	KRA303	DTC044TEB	ROHM	KRC414E	DTC143EEB	ROHM	KRC401E
DTA124EUB	ROHM	KRA303	DTC113ZU3	ROHM	KRC416	DTC143EK	ROHM	KRC101S
DTA143ECA	ROHM	KRA101S	DTC113ZUA	ROHM	KRC416	DTC143EKA	ROHM	KRC101S
DTA143EK	ROHM	KRA101S	DTC114ECA	YANGJIE	KRC102S	DTC143EUA	ROHM	KRC401
DTA143EKA	ROHM	KRA101S	DTC114EE	ROHM	KRC402E	DTC143EUB	ROHM	KRC401
DTA143TKA	ROHM	KRA110S	DTC114EEB	ROHM	KRC402E	DTC143TE	ROHM	KRC410E
DTA143XKA	ROHM	KRA119S	DTC114EKA	ROHM	KRC102S	DTC143TKA	ROHM	KRC110S
DTA143ZKA	ROHM	KRA106S	DTC114EM	ROHM	KRC402V	DTC143TUA	ROHM	KRC410
DTA143ZMFHA	ROHM	KRA306V	DTC114EU3HZG	ROHM	KRC402	DTC143XCA	ROHM	KRC119S
DTA143ZUA	ROHM	KRA306	DTC114EUA	ROHM	KRC402	DTC143XKA	ROHM	KRC119S
DTA144EK	ROHM	KRA104S	DTC114EUAFRA	ROHM	KRC402	DTC143ZE	ROHM	KRC406E
DTA144EKA	ROHM	KRA104S	DTC114EUB	ROHM	KRC402	DTC143ZKA	ROHM	KRC106S
DTA144EM3T5G	ONSEMI	KRA304V	DTC114EUBHZG	ROHM	KRC402	DTC143ZMFHA	ROHM	KRC406V
DTA144EU3HZG	ROHM	KRA304	DTC114TKA	ROHM	KRC111S	DTC143ZU3HZG	ROHM	KRC406
DTA144EUA	ROHM	KRA304	DTC114YEB	ROHM	KRC407E	DTC143ZUA	ROHM	KRC406
DTA144EUBHZG	ROHM	KRA304	DTC114YKA	ROHM	KRC107S	DTC143ZUB	ROHM	KRC406
DTB114EK	ROHM	KRA224S	DTC114YMFHA	ROHM	KRC407V	DTC144EE	ROHM	KRC404E

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
DTC144EEB	ROHM	KRC404E	KSC2690A-Y	ONSEMI	KTC2800-Y	MMBT2907ALT1G	ONSEMI	KN2907AS
DTC144EKA	ROHM	KRC104S	KSC3503-D	ONSEMI	KTC3503-Y	MMBT2907AQ	YANGJIE	KN2907AS
DTC144EMFHA	ROHM	KRC404V	KSD1691	ONSEMI	KTD1691	MMBT3904	DIODES	2N3904S
DTC144EUA	ROHM	KRC404	KSD1691-Y	ONSEMI	KTD1691-Y	MMBT3904	MCC	2N3904S
DTC144GUA	ROHM	KRC414	KSD2012	ONSEMI	KTD2058-Y	MMBT3904	NEXPERIA	2N3904S
DTC144TE	ROHM	KRC414E	KST2222A	ONSEMI	KN2222AS	MMBT3904	ONSEMI	2N3904S
DTC144TUA	ROHM	KRC414	KST2907A	ONSEMI	KN2907AS	MMBT3904	PANJIT	2N3904S
DTD113ZC	ROHM	KRC245S	L8050HQLT1G	LRC	MPS8050S-D	MMBT3904	SEMTECH	2N3904S
DTD114EC HZG	ROHM	KRC244S	L8050QLT1G	LRC	KTC8050S-D	MMBT3904	TSC	2N3904S
DTD143EK	ROHM	KRC243S	L8550QLT1G	LRC	KTC8550S	MMBT3904LT1G	ONSEMI	2N3904S
EMD3	ROHM	KRX201E	LBC846BLT1G	LRC	BC846-B	MMBT3904Q	DIODES	2N3904S
EMD3FHA	ROHM	KRX201E	LBC856BLT1G	LRC	BC856-B	MMBT3904TB	PANJIT	2N3904S
EMD9	ROHM	KRX206E	LBSS5250Y3T1G	LRC	KTA1666-Y	MMBT3906	MCC	2N3906S
EMG5	ROHM	KRC657E	LDTC114EET1G	LRC	KRC402E	MMBT3906	NEXPERIA	2N3906S
EMH11	ROHM	KRC852E	LDTC143ZET1G	LRC	KRC406E	MMBT3906	PANJIT	2N3906S
EMX52	ROHM	KTC801E	LMBT2222ALT1G	LRC	KN2222AS	MMBT3906	SEMTECH	2N3906S
EMZ1	ROHM	KTX101E-Y	LMBT2907ALT1G	LRC	KN2907AS	MMBT3906LT1G	ONSEMI	2N3906S
EMZ52	ROHM	KTX101E-Y	LMBT3906WT1G	LRC	2N3906U	MMBT3906Q	DIODES	2N3906S
FMMT458	DIODES	MMBTA44	LMBT5401LT1G	LRC	2N5401S	MMBT3906T	MCC	2N3906S
HAA812	HOTTECH	KTA1504S	LMBT5551LT1G	LRC	2N5551S	MMBT4401	DIODES	KN4401S
HE8050G-D-AE3-R	UTC	MPS8050S-D	LMBTA44LT1G	LRC	MMBTA44	MMBT4401LT1G	ONSEMI	KN4401S
HE8550G-D-AE3-R	UTC	MPS8550S-D	LMUN2211LT1G	LRC	KRC102S	MMBT4403	DIODES	KN4403S
HN1A01FE-Y	TOSHIBA	KTA701E-GR	LMUN2213LT1G	LRC	KRC104S	MMBT4403LT1G	ONSEMI	KN4403S
HN1A01FU-GR	TOSHIBA	KTA701U-GR	LMUN2233LT1G	LRC	KRC106S	MMBT5401	DIODES	2N5401S
HN1B04FE-Y	TOSHIBA	KTX101E-Y	LMUN5213DW1T1G	LRC	KRC854U	MMBT5401	ONSEMI	2N5401S
HN1C01FE-Y	TOSHIBA	KTC801E-Y	LMUN5312DW1T1G	LRC	KRX202U	MMBT5401	TRSYS	2N5401S
HN1C01FU-GR	TOSHIBA	KTC801U-GR	MBT3904DW1T1G	ONSEMI	KTC801U	MMBT5551	DIODES	2N5551S
HN2C01FU-Y	TOSHIBA	KTC811U-GR	MBT3946DW1T1G	ONSEMI	KTX101U-Y	MMBT5551	TRSYS	2N5551S
INC2002AC1	ISAHAYA	KTC2875	MJD2873-Q	NEXPERIA	KTC2815D-Y	MMBT5551-B	BLUE ROCKET	2N5551S
INC6001AP1	ISAHAYA	KTC3573	MMBT2222A	GALAXY	KTN2222AS	MMBT5551LT1G	ONSEMI	2N5551S
INC6005AC1	ISAHAYA	MMBTA44	MMBT2222A	NEXPERIA	KTN2222AS	MMBT6427LT1G	ONSEMI	MMBTA13
ISA1235AC1	ISAHAYA	KTC9015S	MMBT2222A	TSC	KTN2222AS	MMBT6428LT1G	ONSEMI	KTC3875S-GR
ISA1235AC1-F	ISAHAYA	KTC9015S-C	MMBT2222AG	BLUE ROCKET	KTN2222AS	MMBT9015G-C-AE3-R	UTC	KTC9014S-C
ISA1530AC1	ISAHAYA	KTA1504S	MMBT2222ALT1G	ONSEMI	KTN2222AS	MMBTA05	PANJIT	MMBTA06
ISA1602AM1-E	ISAHAYA	KTA2014-Y	MMBT2222ALT3G	ONSEMI	KTN2222AS	MMBTA06	DIODES	MMBTA06
ISA1989AU1-R	ISAHAYA	KTA2014E-GR	MMBT2222AQ	YANGJIE	KTN2222AS	MMBTA06	SEMTECH	MMBTA06
ISA2166AM1	ISAHAYA	KTN2907AU	MMBT2907	ONSEMI	KN4403S	MMBTA06LT1G	ONSEMI	MMBTA06
KSA1220A-Y	ONSEMI	KTA1700-Y	MMBT2907A	DIODES	KTN2907AS	MMBTA42	DIODES	MMBTA42
KSA1381-E	ONSEMI	KTA1381-Y	MMBT2907A	PANJIT	KTN2907AS	MMBTA42	NEXPERIA	MMBTA42
KSA708-Y	ONSEMI	KTA708-Y	MMBT2907A	TSC	KN2907AS	MMBTA42LT1G	ONSEMI	MMBTA42
KSA916-Y	FAIRCHILD	KTA1023-Y	MMBT2907AG	BLUE ROCKET	KN2907AS			

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
MMBTA56	DIODES	MMBTA56	PDTC124ET	NEXPERIA	KRC103S	RN1306	TOSHIBA	KRC406
MMBTA56LT1G	ONSEMI	MMBTA56	PDTC143ET	NEXPERIA	KRC101S	RN1315	TOSHIBA	KRC418
MMBTA92	DIODES	MMBTA92	PDTC143EU	NEXPERIA	KRC401	RN1316	TOSHIBA	KRC419
MMBTA92-AU	PANJIT	MMBTA92	PDTC143TT	NEXPERIA	KRC110S	RN1401	TOSHIBA	KRC101S
MMBTA92LT1G	ONSEMI	MMBTA92	PDTC143TU	NEXPERIA	KRC410	RN1402	TOSHIBA	KRC102S
MMBTRC105SS	Diotec	KRC105S	PDTC143XT	NEXPERIA	KRC119S	RN1403	TOSHIBA	KRC103S
MMDT3946-7-F	DIODES	KTX101U	PDTC143XU	NEXPERIA	KRC419	RN1405	TOSHIBA	KRC105S
MMDTC114YE-AH	SEMTECH	KRC407E	PDTC143ZT	NEXPERIA	KRC106S	RN1406	TOSHIBA	KRC106S
MMST2907A	DIODES	KTN2907AU	PDTC143ZU	NEXPERIA	KRC406E	RN1707	TOSHIBA	KRC657U
MMST3904	DIODES	KTN2222AU	PDTC144ET	NEXPERIA	KRC104S	RN1902	TOSHIBA	KRC852U
MMUN2213LT1G	ONSEMI	KRC104S	PDTD113ZT	NEXPERIA	KRC245S	RN1902FE	TOSHIBA	KRC852E
NJVMJD112T4G	ONSEMI	MJD112	PDTD123YT	NEXPERIA	KRC246S	RN1903	TOSHIBA	KRC853U
NJVNDJ2873T4G	ONSEMI	KTC2815D	PEMD9	NEXPERIA	KRX206E	RN1905	TOSHIBA	KRC855U
NSBC114YDPXV6	ONSEMI	KRX206E	PMBT2222A	NEXPERIA	KTN2222AS	RN1907FE	TOSHIBA	KRC857E
NSV2SA2029M3T5G	ONSEMI	KTA2014V-GR	PMBT2907A	NEXPERIA	KTN2907AS	RN2104MFV	TOSHIBA	KRA304V
NSV40200LT1G	ONSEMI	KTA1552T	PMBT3904	NEXPERIA	2N3904S	RN2106MFV	TOSHIBA	KRA306V
NSVBC817-40WT1G	ONSEMI	KTN2222AU	PMBTA06	NEXPERIA	MMBTA06	RN2110MFV	TOSHIBA	KRA310V
NSVDTA114EET1G	PANJIT	KRA302E	PMBTA42	NEXPERIA	MMBTA42	RN2301	TOSHIBA	KRA301
NSVDTA143ZET1G	ONSEMI	KRA306E	PMBTA92	NEXPERIA	MMBTA92	RN2303	TOSHIBA	KRA303
NSVMMUN2112LT1G	ONSEMI	KRC103S	PN2222AL	ROHM	KTN2222A	RN2315	TOSHIBA	KRA318
NSVMMUN2133LT1G	ONSEMI	KRA106S	PUMD10	NEXPERIA	KRX204U	RN2316	TOSHIBA	KRA319
NSVMMUN2232LT1G	ONSEMI	KRC101S	PUMD12	NEXPERIA	KRX203U	RN2401	TOSHIBA	KRA101S
PBVH8540T	NEXPERIA	MMBTA44	PUMD3	NEXPERIA	KRX201U	RN2402	TOSHIBA	KRA102S
PBRN113ZT	NEXPERIA	KRC245S	PUMH10	NEXPERIA	KRC855U	RN2403	TOSHIBA	KRA103S
PBSS4160T	NEXPERIA	KTC3551T	PUMH11	NEXPERIA	KRC852U	RN2405	TOSHIBA	KRA105S
PBSS4160X	NEXPERIA	KTC4378-Y	RN1101	TOSHIBA	KRC401E	RN4902	TOSHIBA	KRX201U
PBSS4350X	NEXPERIA	KTD1624	RN1102	TOSHIBA	KRC402E	RN4903	TOSHIBA	KRX202U
PBSS5140T	NEXPERIA	KTA1551T	RN1102MFV	TOSHIBA	KRC402V	RN4904	TOSHIBA	KRX203U
PBSS5350T	NEXPERIA	KTA1552T	RN1104	TOSHIBA	KRC404E	RN4984FE	TOSHIBA	KRX203E
PBSS5540Z	NEXPERIA	KTA1545W	RN1104MFV	TOSHIBA	KRC404V	RN4985	TOSHIBA	KRX204U
PDTA114ET	NEXPERIA	KRA102S	RN1106	TOSHIBA	KRC406E	RN4985FE	TOSHIBA	KRX204E
PDTA114YU	NEXPERIA	KRA307	RN1106MFV	TOSHIBA	KRC406V	RN4987FE	TOSHIBA	KRX206E
PDTA123JT	NEXPERIA	KRC105S	RN1107MFV	TOSHIBA	KRC407V	RT1N136C	ISAHAYA	KRC116S
PDTA124ET	NEXPERIA	KRA103S	RN1108MFV	TOSHIBA	KRC408V	RT1N141C	ISAHAYA	KRC102S
PDTA143ET	NEXPERIA	KRA101S	RN1110MFV	TOSHIBA	KRC410V	RT1N141M	ISAHAYA	KRC402
PDTC114EK	NEXPERIA	KRA102S	RN1115	TOSHIBA	KRC418E	RT1N141U	ISAHAYA	KRC402E
PDTC114ET	NEXPERIA	KRC102S	RN1301	TOSHIBA	KRC401	RT1N144C	ISAHAYA	KRC107S
PDTC114EU	NEXPERIA	KRC402	RN1302	TOSHIBA	KRC402	RT1N14BM	ISAHAYA	KRC111S
PDTC114YT	NEXPERIA	KRC107S	RN1303	TOSHIBA	KRC403	RT1N231M	ISAHAYA	KRC417
PDTC123JT	NEXPERIA	KRC105S	RN1305	TOSHIBA	KRC405	RT1N234M	ISAHAYA	KRC418

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
RT1N234U	ISAHAYA	KRC418E	SBC846BDW1T1G	ONSEMI	KTC801U-GR	SMMBT5551LT1G	ONSEMI	2N5551S
RT1N237C	ISAHAYA	KRC105S	SBC846BLT1G	ONSEMI	BC846-B	SMMBTA06LT1G	ONSEMI	MMBTA06
RT1N237M	ISAHAYA	KRC405	SBC846BPDW1T1G	ONSEMI	KTX101U-GR	SMMBTA42LT1G	ONSEMI	MMBTA42
RT1N241C	ISAHAYA	KRC103S	SBC847BDW1T1G	ONSEMI	KTC801U-GR	SMMBTA92LT1G	ONSEMI	MMBTA92
RT1N241M	ISAHAYA	KRC403	SBC847BLT1G	ONSEMI	BC847-B	SMMUN2211LT1G	ONSEMI	KRC102S
RT1N430U	ISAHAYA	KRC410E	SBC847BWT1G	ONSEMI	BC847W-B	SMMUN2211LT3G	ONSEMI	KRC102S
RT1N431M	ISAHAYA	KRC401	SBC857BLT1G	ONSEMI	BC857-B	SMMUN2213LT1G	ONSEMI	KRC104S
RT1N431U	ISAHAYA	KRC401E	SBT2222A	AUK	KTN2222AS	SMMUN2214LT1G	ONSEMI	KRC107S
RT1N432C	ISAHAYA	KRC119S	SBT2907A	AUK	KTN2907AS	SMMUN2233LT1G	ONSEMI	KRC106S
RT1N432M	ISAHAYA	KRC419	SDTC114EET1G	ONSEMI	KRC402E	SMSD-602RT1G	ONSEMI	BC817
RT1N436M	ISAHAYA	KRC406	SDTC114YET1G	ONSEMI	KRC407E	SMUN5211T1G	ONSEMI	KRC402
RT1N436U	ISAHAYA	KRC406E	S-L2SC2412KRLT1G	LEIDITECH	KTC3875S-GR	SMUN5213T1G	ONSEMI	KRC404
RT1N441C	ISAHAYA	KRC104S	S-LBC807-25LT1G	LRC	BC807-25	SMUN5214T1G	ONSEMI	KRC407
RT1N441M	ISAHAYA	KRC404	S-LBC817-25LT1G	LRC	BC817-25	SMUN5311DW1T1G	ONSEMI	KRC852U
RT1N441U	ISAHAYA	KRC404E	S-LBC846AWT1G	LRC	KTC4075-Y	SS8050	GALAXY	MPS8050S-D
RT1N44BM	ISAHAYA	KRC414	S-LBC856BWT1G	LRC	KTA2014-GR	SS8550	GALAXY	MPS8550S-D
RT1P136M	ISAHAYA	KRA316	S-LDTB113ZLT1G	LRC	KRA225S	SST2222AHZG	ROHM	KTN2222AS
RT1P141C	ISAHAYA	KRA102S	S-LDTB114ELT1G	LRC	KRA224S	SST3904	ROHM	KN3904S
RT1P141M	ISAHAYA	KRA302	S-LDTB123YLT1G	LRC	KRA226S	SST3906HZG	ROHM	KN3906S
RT1P144C	ISAHAYA	KRA107S	S-LDTD113ZLT1G	LRC	KRC245S	SSTA06HZG	ROHM	MMBTA06
RT1P144U	ISAHAYA	KRA307E	S-LDTD114ELT1G	LRC	KRC244S	STN2222A	AUK	KN2222A
RT1P234U	ISAHAYA	KRA318E	S-LDTD143ELT1G	LRC	KRC243S	TBC847	TOSHIBA	KTC9014S-C
RT1P237M	ISAHAYA	KRA305	S-LMBT2907ALT1G	LRC	KTN2907AS	TBC857	TOSHIBA	KTC9015S-C
RT1P241M	ISAHAYA	KRA303	S-LMBT5401LT1G	LRC	2N5401S	TMBT3904	TOSHIBA	KN3904S
RT1P431C	ISAHAYA	KRA101S	S-LMBT5551LT1G	LRC	2N5551S	TMBT3906	TOSHIBA	KN3906S
RT1P431M	ISAHAYA	KRA301	S-LMBTA42LT1G	LRC	MMBTA42	TTC500	TOSHIBA	KTC3551T
RT1P432C	ISAHAYA	KRA119S	S-LMBTA92LT1G	LRC	MMBTA92	UMD12N	ROHM	KRX203U
RT1P441C	ISAHAYA	KRA104S	S-LMUN2131LT1G	LRC	KRA117S	UMD12NFHA	ROHM	KRX203U
RT1P441M	ISAHAYA	KRA304	S-LMUN2132LT1G	LRC	KRA101S	UMD3N	ROHM	KRX201U
RT2N12M	ISAHAYA	KRC656U	S-LMUN2235LT1G	LRC	KRC105S	UMD3NFHA	ROHM	KRX201U
RT3CLLM	ISAHAYA	KTC801U	S-LMUN5311DW1T1G	LRC	KRX201U	UMG11N	ROHM	KRC655U
RT3CLLM-F	ISAHAYA	KTC801U-GR	S-LMUN5335DW1T1G	LRC	KRX204U	UMG3N	ROHM	KRC660U
RT3WLMM	ISAHAYA	KTX101U-GR	SMBT2222A	INFINEON	KTN2222AS	UMG8N	ROHM	KRC656U
RT5N136C	ISAHAYA	KRC245S	SMMBT2222ALT1G	ONSEMI	KTN2222AS	UMH2N	ROHM	KRC854U
S8050	GALAXY	KTC9013S	SMMBT2907ALT1G	ONSEMI	KTN2907AS	UMT1N	ROHM	KTA701U
S8550	GME SEMI	KTC9012S	SMMBT3904LT1G	ONSEMI	2N3904S	UMT2907A	ROHM	KTN2907AU
S8550M-D	BLUE ROCKET	KTC8550S-D	SMMBT3904LT1G	ONSEMI	KN3904S	UMX1N	ROHM	KTC801U
SBC807-25LT1G	ONSEMI	BC807-25	SMMBT3906LT1G	ONSEMI	2N3906S	UMZ1N	ROHM	KTX101U
SBC807-40WT1G	ONSEMI	KTN2907AU	SMMBT3906LT1G	ONSEMI	KN3906S	UMZ1NFHA	ROHM	KTX101U
SBC846ALT1G	ONSEMI	BC846-B	SMMBT4401LT1G	ONSEMI	KN4401S	ZTX458	DIODES	MPSA44

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DIODE

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


Small Signal Switching Diode

Type No.	Mark	AEC-Q	Max. Ratings							V _{F1} (V)		V _{F2} (V)		V _{F3} (V)		I _R (μA)		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)		
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
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
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	VSM
KDS221E		DS	○	20	20	200	100	0.3	100	-	-	-	-	-	1	10	0.1	15	-	-	-	-	-	ESM
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	
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	ESM
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	USM
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	
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	-	-	-	USM
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	SOT-23
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

RF Diode




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, ● : Preparing for qualification of AEC-Q

Zener Voltage	TFSC	VSC	ESC	USC	SOT-23	
						
	0.8*0.6mm	1.0*0.6mm	1.2*0.8mm	1.7*1.25mm	2.93*1.3mm	
	$P_D=0.1W$	$P_D=0.15W$	$P_D=0.1W$	$P_D=0.2W$	$P_D=0.2W$	$P_D=0.3W$
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	KDZ4.3VW	KDZ4.3EV	KDZ4.3V	Z02W4.3V	BZX84C4V3
4.7V	KDZ4.7FV	KDZ4.7VW	KDZ4.7EV	KDZ4.7V	Z02W4.7V	BZX84C4V7
5.1V	KDZ5.1FV	KDZ5.1VW	KDZ5.1EV	KDZ5.1V	Z02W5.1V	BZX84C5V1
5.6V	KDZ5.6FV	KDZ5.6VW	KDZ5.6EV	KDZ5.6V	Z02W5.6V	BZX84C5V6
6.2V	KDZ6.2FV	KDZ6.2VW	KDZ6.2EV	KDZ6.2V	Z02W6.2V	BZX84C6V2
6.8V	KDZ6.8FV	KDZ6.8VW	KDZ6.8EV	KDZ6.8V	Z02W6.8V	BZX84C6V8
7.5V	KDZ7.5FV	KDZ7.5VW	KDZ7.5EV	KDZ7.5V	Z02W7.5V Z02W7.5VS	BZX84C7V5
8.2V	KDZ8.2FV	KDZ8.2VW	KDZ8.2EV	KDZ8.2V	Z02W8.2V	BZX84C8V2
9.1V	KDZ9.1FV	KDZ9.1VW	KDZ9.1EV	KDZ9.1V	Z02W9.1V Z02W9.1VS	BZX84C9V1
10V	KDZ10FV	KDZ10VW	KDZ10EV	KDZ10V	Z02W10V	BZX84C10
11V	KDZ11FV	KDZ11VW	KDZ11EV	KDZ11V	Z02W11V	BZX84C11
12V	KDZ12FV	KDZ12VW	KDZ12EV	KDZ12V	Z02W12V	BZX84C12
13V	KDZ13FV	KDZ13VW	KDZ13EV	KDZ13V	Z02W13V	BZX84C13
15V	KDZ15FV	KDZ15VW	KDZ15EV	KDZ15V	Z02W15V	BZX84C15
16V	KDZ16FV	KDZ16VW	KDZ16EV	KDZ16V	Z02W16V	BZX84C16
18V	KDZ18FV	KDZ18VW	KDZ18EV	KDZ18V	Z02W18V	BZX84C18
20V	KDZ20FV	KDZ20VW	KDZ20EV	KDZ20V	Z02W20V	BZX84C20
22V	KDZ22FV	KDZ22VW	KDZ22EV	KDZ22V	Z02W22V	BZX84C22
24V	KDZ24FV	KDZ24VW	KDZ24EV	KDZ24V	Z02W24V	BZX84C24
27V	KDZ27FV	KDZ27VW	KDZ27EV	KDZ27V	Z02W27V	BZX84C27
30V	KDZ30FV	KDZ30VW	KDZ30EV	KDZ30V	Z02W30V	BZX84C30
33V	KDZ33FV	KDZ33VW	KDZ33EV	KDZ33V	Z02W33V	BZX84C33
36V	KDZ36FV	KDZ36VW	KDZ36EV	KDZ36V	Z02W36V	BZX84C36

Zener Diode

Zener Voltage	SOD-123	SMF	SMA
			
	2.7*1.6mm	2.6*1.6mm	4.5*2.6mm
	P _D =0.5W	P _D =1W	P _D =1W
2.0V	KDZ2.0WV		
2.2V	KDZ2.2WV		
2.4V	KDZ2.4WV		
2.7V	KDZ2.7WV		
3.0V	KDZ3.0WV		
3.3V	KDZ3.3WV		
3.6V	KDZ3.6WV		
3.9V	KDZ3.9WV		
4.3V	KDZ4.3WV	SMFZ4.3V	SMAZ4.3V
4.7V	KDZ4.7WV	SMFZ4.7V	SMAZ4.7V
5.1V	KDZ5.1WV	SMFZ5.1V	SMAZ5.1V
5.6V	KDZ5.6WV	SMFZ5.6V	SMAZ5.6V
6.2V	KDZ6.2WV	SMFZ6.2V	SMAZ6.2V
6.8V	KDZ6.8WV	SMFZ6.8V	SMAZ6.8V
7.5V	KDZ7.5WV	SMFZ7.5V	SMAZ7.5V
8.2V	KDZ8.2WV	SMFZ8.2V	SMAZ8.2V
9.1V	KDZ9.1WV	SMFZ9.1V	SMAZ9.1V
10V	KDZ10WV	SMFZ10V	SMAZ10V
11V	KDZ11WV	SMFZ11V	SMAZ11V
12V	KDZ12WV	SMFZ12V	SMAZ12V
13V	KDZ13WV	SMFZ13V	SMAZ13V
15V	KDZ15WV	SMFZ15V	SMAZ15V
16V	KDZ16WV	SMFZ16V	SMAZ16V
18V	KDZ18WV	SMFZ18V	SMAZ18V
20V	KDZ20WV	SMFZ20V	SMAZ20V
22V	KDZ22WV	SMFZ22V	SMAZ22V
24V	KDZ24WV	SMFZ24V	SMAZ24V
27V	KDZ27WV	SMFZ27V	SMAZ27V
30V	KDZ30WV	SMFZ30V	SMAZ30V
33V	KDZ33WV	SMFZ33V	SMAZ33V
36V	KDZ36WV	SMFZ36V	SMAZ36V

Zener Voltage	USC	SOT-23	SOD-123
			
	1.7*1.25mm	2.93*1.3mm	2.7*1.6mm
	$P_D=0.2W$	$P_D=0.2W$	$P_D=0.5W$
39V	KDZ39VL		
82V	KDZ82V		
95V	KDZ95V		
100V	KDZ100V KDZ100VW	Z02W100V	
110V	KDZ110V		KDZ110WVA
150V	KDZ150V		KDZ150WVA
160V	KDZ160V		KDZ160WVA
200V	KDZ200V		KDZ200WVA

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)	
KDZ4.3FV+	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) ○ : AEC-Q Qualified
 Note) + : Irregular Production

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

DIODE

Zener Diode

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

■ 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) ○ : AEC-Q Qualified

DIODE

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)	
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	
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	
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	
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	
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	
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	
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	
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	
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

■ 300mW 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) ○ : AEC-Q Qualified
Note) + : Irregular Production

Zener Diode

■ 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)																																																																																																																																																																																																																																																																																																																																																																																																																																		
KDZ2.0WV	-	2A	○	500	1.85	2.15	5	100	5	1000	0.5	120	1.0	SOD-123																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Y	2A	○		1.95	2.15									KDZ2.2WV	-	2B	○	2.05	2.38	5	100	5	1000	0.5	120	1.0	Y	2B	○	2.16	2.38	KDZ2.4WV	-	2C	○	2.28	2.60	5	100	5	1000	0.5	120	1.0	Y	2C	○	2.40	2.60	KDZ2.7WV	-	2D	○	2.50	2.90	5	110	5	1000	0.5	120	1.0	Y	2D	○	2.65	2.90	KDZ3.0WV	-	30	○	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30	○	2.95	3.20	KDZ3.3WV	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6WV	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.845	KDZ3.9WV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.890	4.160	KDZ4.3WV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	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
KDZ2.2WV	-	2B	○		2.05	2.38	5	100	5	1000	0.5	120	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	2B	○		2.16	2.38									KDZ2.4WV	-	2C	○	2.28	2.60	5	100	5	1000	0.5	120	1.0	Y	2C	○	2.40	2.60	KDZ2.7WV	-	2D	○	2.50	2.90	5	110	5	1000	0.5	120	1.0	Y	2D	○	2.65	2.90	KDZ3.0WV	-	30	○	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30	○	2.95	3.20	KDZ3.3WV	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6WV	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.845	KDZ3.9WV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.890	4.160	KDZ4.3WV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	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										
KDZ2.4WV	-	2C	○		2.28	2.60	5	100	5	1000	0.5	120	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	2C	○		2.40	2.60									KDZ2.7WV	-	2D	○	2.50	2.90	5	110	5	1000	0.5	120	1.0	Y	2D	○	2.65	2.90	KDZ3.0WV	-	30	○	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30	○	2.95	3.20	KDZ3.3WV	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6WV	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.845	KDZ3.9WV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.890	4.160	KDZ4.3WV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	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																												
KDZ2.7WV	-	2D	○		2.50	2.90	5	110	5	1000	0.5	120	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	2D	○		2.65	2.90									KDZ3.0WV	-	30	○	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30	○	2.95	3.20	KDZ3.3WV	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6WV	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.845	KDZ3.9WV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.890	4.160	KDZ4.3WV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	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																																														
KDZ3.0WV	-	30	○		2.80	3.20	5	120	5	1000	0.5	50	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	30	○		2.95	3.20									KDZ3.3WV	-	33	○	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33	○	3.25	3.50	KDZ3.6WV	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.845	KDZ3.9WV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.890	4.160	KDZ4.3WV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	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																																																																
KDZ3.3WV	-	33	○		3.10	3.50	5	130	5	1000	0.5	20	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	33	○		3.25	3.50									KDZ3.6WV	-	36	○	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36	○	3.60	3.845	KDZ3.9WV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.890	4.160	KDZ4.3WV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	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																																																																																		
KDZ3.6WV	-	36	○		3.40	3.80	5	130	5	1000	0.5	10	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	36	○		3.60	3.845									KDZ3.9WV	-	39	○	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39	○	3.890	4.160	KDZ4.3WV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	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																																																																																																				
KDZ3.9WV	-	39	○		3.70	4.10	5	130	5	1000	0.5	10	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Y	39	○		3.890	4.160									KDZ4.3WV	Y	43	○	4.17	4.43	5	130	5	1000	0.5	5	1.0	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																																																																																																																						
KDZ4.3WV	Y	43	○		4.17	4.43	5	130	5	1000	0.5	5	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																		
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) ○ : AEC-Q Qualified

■ 500mW 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)	
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 (V)			I _R (μA)		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) ○ : 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)	
KDZ39VL	3A	○	200	38.03	39.98	2	300	2	450	0.5	0.05	30	USC
KDZ82V	J	●		74	90	1	700	1	700	0.5	0.1	65	
KDZ95V	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	
KDZ110WVA	RV5	●		400	104	116	1	700	1	-	-	0.1	
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) ★ : Bi-directional Zener Diode

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

DIODE

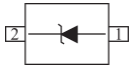
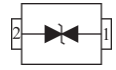
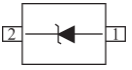
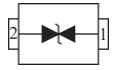
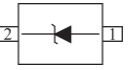
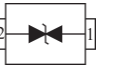
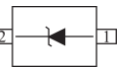
Series Type Zener Diode

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		ULP-2		DFN1610
						
V _{RWM} [V]	P _{PK} [W]	0.6*0.3mm		1.0*0.6mm		1.6*1.0mm
3	18		PS03VBEL2D ^{LOW}		PS03VBUL2 ^{LOW}	
	50	PS03TSEL2A ^{LOW}			PS03TBUL2 ^{LOW}	
	65		PD03TCBEL2D ^{LOW}	PS03PSUL2		
	70		PS03CBEL2A		PS03CBUL2	
	280			PG03HSUL2		
5	20		PS05VBEL2D ^{LOW}		PS05VBUL2 ^{LOW}	
	30		PG05DBEL2A			
	60	PS05TSEL2A ^{LOW}	PS05CBEL2A PS05TBEL2D ^{LOW}	PS05TSUL2 ^{LOW}	PS05TBUL2 ^{LOW}	
	65		PD05TCBEL2D ^{LOW}			
	75				PS05CBUL2	
	100			PG05FSUL2	PG05TBUL2A ^{LOW}	
	120				PS05TCBUL2 ^{LOW}	
	200			PG05GSUL2	PS05DBUL2	
	280			PG05HSUL2		
	1240					PG05KS1610D2
6	200			PS06CSUL2		
7	130				PG07DBUL2	
8	260			PG08GSUL2		
	1480					PG08JS1610D2
9	1150					PG09HS1610D2
12	160				PG12DBUL2	
	1050					PG12HS1610D2
15	990					PG15HS1610D2
18	825					PG18HS1610D2
20	800					PG20GS1610D2
22	940					PG22GS1610D2
24	120				PG24DBUL2	
	900					PG24GS1610D2
26	830					PG26GS1610D2
36	150			PG36DSUL2		

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

Electrical Characteristics		Single Type (SMD-Type)						
		TFSC		ESC		USC		USF
								
V_{RWM} [V]	P_{PK} [W]	0.8*0.6mm		1.2*0.8mm		1.7*1.25mm		1.9*1.25mm
3	50			PG03FEESC				
5	30			PG05BEESC				
	50		PG05DBTFC		PG05FBESC			
	75				PS05CBESC			
	80	PG05FSTFC						
	100			PG05FEESC				
	150				PS05DBESC			
	200		PS05DBTFC					
	350					PG05HSUSC	PG05GBUSC	
10	1000						PG10HSUSF	
12	350					PG12GSUSC	PG12FBUSC	
15	220						PG15EBUSC	
	350					PG15GSUSC	PG15FBUSC	
24	190						PG24DBUSC	
	350					PG24GSUSC	PG24EBUSC	
33	180	PG33DSTFC						
36	150			PG36DEESC				
	600					PG36FSUSC		
48	1200					PG48FSUSC		
15, 24	160,200						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*1.0mm	2.5*1.0mm	1.6*0.85mm	2.0*1.25mm	2.93*1.3mm		
5	10				PG05BAUSM			
	60	PS05TVUL9 ^{LOW}		PG05EAESM				
	85		PS05SVU10 ^{LOW}					
	100							
	350					PG05HAS23		
12	350					PG12GAS23		PG12GCS23
15	140					PG15ECS23		
24	120						PG24DAS23	
	350					PG24FAS23	PG24EAS23	
36	550					PG36FSS23		
7,12	400						PG712FBS23	
60	240		PS60CAU10 (Bi-directional)					

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

Electrical Characteristics		Array Type (SMD-type)		
		TES6	USV	TS6
V_{RWM} [V]	P_{PK} [W]	1.6*1.2mm	2.0*2.1mm	2.9*1.6mm
5	150	PG05GXTE6		
	200		PG05GBUSV	
24	350			PG24FBTS6

DIODE

TVS 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)			
PS03CBEL2A		M ○	70	7	3.3	3.4	50	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	5.5	50	0.05	5	12	5	9	30		
PS03PSUL2		K ●	65	7	3.3	4.5	1	0.1	3.3	9.3	7	2.0	30	ULP-2	
PG03HSUL2		3D ○	280	30	3.3	4.5	1	1	3.3	7.8 (Typ)	30	300 (Typ)	30		
PG05FSUL2		5P ○	100	10	5	6	1	5	5	10	10	80	15		
PG05GSUL2		TA ○	200	16	5	6	1	5	5	12.5	16	160	30		
PG05HSUL2		5D ○	280	25	5.5	6	1	1	5.5	9.2 (Typ)	25	240 (Typ)	30		
PS06CSUL2		6C ●	180	15	6	6.5	1	0.1	6	12	15	9	30		
PG08GSUL2		SH ○	260	20	7.6	7.9	1	0.1	7.6	13	20	200	30		
PG36DSUL2		DS ○	150	2.5	36	38	1	0.1	36	60	2.5	20	12		
PS03CBUL2			Z ○	70	7	3.3	3.4	50	0.05	3.3	10	7	9		20
PS05CBUL2	ZZ ○		75	6	5	5.5	50	0.05	5	12.5	6	9	30		
PS05DBUL2	H ○		200	12	5	5.3	50	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		
PG05KS1610D2		KA ●	1240	80	5	7	1	0.1	5	15.5	80	850	30	DFN1610	
PG08JS1610D2		KP ●	1480	80	7.6	7.9	1	0.1	7.6	18.5	80	800	30		
PG09HS1610D2		KQ ●	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 (μ 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)	Max.	Contact			
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	-	0.1	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	5.3	50	0.1	5	14	12	25	30		
PS05CBESC		C5	○	75	6	5	5.5	50	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		
PG15EBUSC		PC	○	220	5	15	17.1	1	0.05	15	44	5	32	30		
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
PG24DBUSC		PB	○	190	3.8	24	25.4	1	0.1	24	50	3.8	18	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

TVS 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.	@ $I_t(mA)$	Max.	@ $V_R(V)$	Max.	@ $I_{PP}(A)$	Max.	Contact	
PG10HSUSF		HS	○	1000	43	10	12	1	1	10	24	43	500	30	USF

Note) ○ : AEC-Q Qualified

■ General Purpose TVS (Array Type)

Type No.	Mark	AEC-Q	Max. Ratings		V_{RWM} (V)	V_{BR} (V)			I_R (μ 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)	Max.	Contact			
PG05EAESM		D4	○	80	6.7	5	6.46	5	1	5	17	5	40	8	ESM	
PG05BAUSM		BA	○	30	1.6	5	6.65	5	0.5	5	18	1.6	5	8	USM	
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	0.1	36	61	9	50	30		
PG12GCS23		12	○	350	15	12	13.3	1	0.1	12	25	15	120	8		
PG15ECS23		QC	○	140	5.2	15	17.1	1	0.1	15	26.9	5	50	30	SOT-23	
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	0.1	24	40	3	17	30		SOT-23
PG24EAS23	QA	●	330	7	24	26	1	0.1	24	47	7	30	30			
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	
PS60CAU10		60CA	○	240	2	60	65	1	0.1	60	120	2	10.5	30	ULP-10	
PG05GXTE6		5X	○	150	10	5	6.3	1	1	5	14.5	10	100	8	TES6	

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




TVS Diode

Low Cap TVS (Single / 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 _t (mA)	Max.	@V _R (V)	Max.	@I _{PP} (A)	Max.	Contact		
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	
PS05TBEL2D		S	○	60	4.0	5.0	6.0	-	0.1	5.0	15	4	0.5	20	
PD05TCBEL2D		Z	●	65	8.5	5	11.5	1	0.1	5	7.7	8.5	0.35	16	
PS05TSUL2		S2	○	60	4.0	5.0	6.0	-	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	-	0.05	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	
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	
PS05TVUL9		BY	○	60	4.0	5.0	6.0	1	0.3	5.0	15	4	0.6	20	ULP-9
PS05SVU10		SU	○	80	5.0	5.0	5.5	50	0.3	5.0	16	5	1.0	25	ULP-10

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	25.8	36	40	1	0.1	36	58.1	25.8	2000	30	
PG24MSSMC		R24	○	5000	129	24	26.7	1	0.1	24	38.9	129	5000	30	SMC
PG36MSSMC		R36	○	5000	86.1	36	40.4	1	0.1	36	58.1	86.1	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)		
KDR720EL2A		U	●	30	30	-	200	0.5	-	0.37	10	7	10	-	-	-	ELP-2A
KDR730EL2A		P	○	30	30	-	100	0.5	-	0.46	10	0.3	10	-	-	-	
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	-	-	-	
KDR552F		7	○	25	25	-	50	0.2	-	0.38	5	0.45	20	2.8	1	1	TFSC
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	-	-	-	
KDR367E		US	○	15	10	200	100	1	150	0.5	100	20	10	40	0	1	ESC
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 (Typ)	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) ○ : 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	
KDR701S		DK	○	30	30	700	5	-	0.55	700	80	30	190 (Typ)	0	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	
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	-	-	-	
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	
USFB16LA		B6	●	60	1	25	0.70	1	0.05	60	
KDR713W		W13	●	30	1	4	0.5	1	0.20	30	SOD-123
KDR714W		W14	●	40	1	4	0.6	1	0.01	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	
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} (μA)		R _{th(j-c)} (°C/W)	PKG		
		V _{RRM} (V)	I _O (A)	I _{F5M} (A)	Max.	@I _{FM} (A)	Max.	@V _{RRM} (V)	Max.			
MBRD5U100D		●	100	5	90	0.8	5	50	100	5	DPAK(3)	
MBRD5U200D		●	200	5	90	0.95	5	50	200	5		
MBRD30U45CT		○	45	30	100	0.70	15	100	45	6		
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)

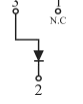
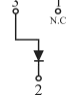
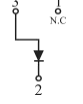


Type No.	AEC-Q	Max. Ratings			$V_{FM}(V)$		$I_{RRM}(\mu A)$		$R_{th(j-c)}$ ($^{\circ}C/W$)	PKG		
		$V_{RRM}(V)$	$I_O(A)$	$I_{FSM}(A)$	Max.	@ $I_{FM}(A)$	Max.	@ $V_{RRM}(V)$	Max.			
TMBRD10100CT		●	100	10	100	0.67	5	100	100	6	DPAK(3)	
TMBRD20100CT		●	100	20	150	0.75	10	100	100	6		
TMBRD30100CT		●	100	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		
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} (μ A)		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(3)
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	
U10A7CI		○	700	10	80	2.5	10	1	700	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} (μA)		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
0524P	YANGJIE	PS05SVU10	1SS355VM	ROHM	KDS160	BAS16HT1G	ONSEMI	KDS4148U
1KSMB33CA	Littelfuse	SMBJ26CA	1SS355VMFH	ROHM	KDS160	BAS16J	NEXPERIA	KDS4148U
1N4148W	DIODES	KDS4148W	1SS361	TOSHIBA	KDS121E	BAS16LT1G	ONSEMI	KDS4148S
1N4148W	PANJIT	KDS4148W	1SS361FV	TOSHIBA	KDS121V	BAS21	DIODES	KDS135S
1N4148W	YANGJIE	KDS4148W	1SS362	TOSHIBA	KDS123E	BAS21	NEXPERIA	KDS135S
1N4148WS	DIODES	KDS4148U	1SS362FV	TOSHIBA	KDS123V	BAS21	PANJIT	KDS135S
1N4148WS	PANJIT	KDS4148U	1SS367	TOSHIBA	KDR367	BAS21AHT1G	ONSEMI	KDS135
1N4148WS	YANGJIE	KDS4148U	1SS380	ROHM	KDS160	BAS21LT1G	ONSEMI	KDS135S
1N4148WSQ	YANGJIE	KDS4148U	1SS380TF	ROHM	KDS160	BAS21Q	DIODES	KDS135S
1N4148WSQ-7-F	DIODES	KDS4148U	1SS380VMFH	ROHM	KDS160	BAS21VM	ROHM	KDS135
1N4148WT	DIODES	KDS4148E	1SS387	TOSHIBA	KDS160E	BAS31	NEXPERIA	BAV99
1N4448HWSQ-7-F	DIODES	KDS4148U	1SS388	TOSHIBA	KDR730E	BAS316	NEXPERIA	KDS4148U
1N4448W	DIODES	KDS4148W	1SS389	TOSHIBA	KDR367E	BAS321	NEXPERIA	KDS135
1N4448W	PANJIT	KDS4148W	1SS400	PANJIT	KDS160E	BAS321-Q	NEXPERIA	KDS135
1N4448WS	PANJIT	KDS4148U	1SS400	ROHM	KDS160E	BAS35	NEXPERIA	BAV23A
1N5819HW	DIODES	KDR714W	1SS400	YANGJIE	KDS160E	BAS40	DIODES	BAT54
1PS301	NEXPERIA	KDS121	1SS400CM	ROHM	KDS160F	BAS40-04	DIODES	BAT54S
1PS302	NEXPERIA	KDS122	1SS400CSFH	ROHM	KDS160V	BAS40-04	NEXPERIA	BAT54S
1PS76SB10	NEXPERIA	KDR729	1SS400FH	ROHM	KDS160E	BAS40-04HMFH	ROHM	BAT54S
1PS76SB40	NEXPERIA	KDR357	1SS400G	ROHM	KDS160V	BAS40-04LT1G	ONSEMI	BAT54S
1PS79SB10	NEXPERIA	KDR730E	1SS400SM	ROHM	KDS160E	BAS40-05	NEXPERIA	BAT54C
1PS79SB30	NEXPERIA	KDR730E	1SS400SMFH	ROHM	KDS160E	BAS516	NEXPERIA	KDS160E
1SMA4738	PANJIT	SMAZ8.2V	1SS403	TOSHIBA	KDS135	BAS516	YANGJIE	KDS160E
1SMA4749	PANJIT	SMAZ24V	1SS413	TOSHIBA	KDR552F	BAT42WS	MCC	KDR729
1SMA5929BT3G	ONSEMI	SMAZ15V	1SS416	TOSHIBA	KDR720F	BAT43WS	DIODES	KDR729
1SMA5934BT3G	ONSEMI	SMAZ24V	1SS416CT	TOSHIBA	KDR720UL	BAT54	DIODES	BAT54
1SMB24AT3G	ONSEMI	PG24LSSMB	1SS420	TOSHIBA	KDR730E	BAT54	MCC	BAT54
1SS181	TOSHIBA	KDS181	1SS427	TOSHIBA	KDS160F	BAT54A	DIODES	KDR720S
1SS184	TOSHIBA	KDS184	AQ1005-01ETG	Littelfuse	PG07DBUL2	BAT54A	NEXPERIA	KDR720S
1SS187	TOSHIBA	KDS187	AQ24C-01FTG	Littelfuse	PG24EBUSC	BAT54AHMFH	ROHM	KDR720S
1SS193	TOSHIBA	KDS193	AQ3045-01ETG	Littelfuse	PS05TBUL2	BAT54C	DIODES	BAT54C
1SS226	TOSHIBA	KDS226	AQ36-01FTG	Littelfuse	PG36FSUSC	BAT54C	GALAXY	BAT54C
1SS250	TOSHIBA	KDS135S	B130LAW	DIODES	SMFB13	BAT54C	MCC	BAT54C
1SS294	TOSHIBA	KDR105S	B140	DIODES	SMAB14	BAT54C	NEXPERIA	BAT54C
1SS300	TOSHIBA	KDS120	B160	DIODES	SMAB16	BAT54C	PANJIT	BAT54C
1SS301	TOSHIBA	KDS121	B240A	DIODES	SMAB34	BAT54CLT1G	ONSEMI	BAT54C
1SS302	TOSHIBA	KDS122	B340A	DIODES	SMAB34	BAT54HT1G	ONSEMI	KDR729
1SS302A	TOSHIBA	KDS122	BAR43C	ONSEMI	BAT54C	BAT54J	NEXPERIA	KDR729
1SS352	TOSHIBA	KDS160	BAS116HYFH	ROHM	KDS4148S	BAT54L	NEXPERIA	KDR740UL
1SS355	PANJIT	KDS160	BAS16	NEXPERIA	KDS4148S	BAT54LP	DIODES	KDR740UL
1SS355	ROHM	KDS160	BAS16GWX	NEXPERIA	KDS4148W	BAT54S	DIODES	BAT54S
1SS355	YANGJIE	KDS160	BAS16H	NEXPERIA	KDS4148W	BAT54S	MCC	BAT54S

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
BAT54S	NEXPERIA	BAT54S	BAW56W	PANJIT	KDS120	BZX84C5V6LT1G	ONSEMI	BZX84C5V6
BAT54S	PANJIT	BAT54S	BRBZT52B9V1S	BLUE ROCKET	KDZ9.1V-Y	BZX84C6V2LT1G	ONSEMI	BZX84C6V2
BAT54S	YANGJIE	BAT54S	BX34-AU	PANJIT	SMAB34	BZX84C9V1	ONSEMI	BZX84C9V1
BAT54SHM	ROHM	BAT54S	BYV10X-600P	NEXPERIA	U10A6CI	BZX84J-xxx	NEXPERIA	KDZxxV-Y
BAT54SLT1G	ONSEMI	BAT54S	BYV29FX-600	NEXPERIA	U10A6CI	BZX84-xxx	NEXPERIA	BZX84Cxxx
BAT54SW	NEXPERIA	KDR731	BZD27C13PWH	TSC	SMFZ13V	BZX84xxxQ	YANGJIE	Z02WxxV
BAT54SWT1G	ONSEMI	KDR731	BZD27C22P	TSC	SMFZ22V	CDZCV6.8B	ROHM	PG05FSTFC
BAT54WS	DIODES	KDR729	BZT52B/CxxS	YANGJIE	KDZxxV-Y	CE5388	TOSHIBA	KDS160E
BAT54WS	MCC	KDR729	BZT52B5V1	YANGJIE	KDZ5.1WV-Y	CE520	TOSHIBA	KDR730E
BAT54WS	PANJIT	KDR729	BZT52Bxx	TSC	SMFZxxV	CR506	TOSHIBA	SMFB13
BAT54XV2T1G	ONSEMI	KDR730E	BZT52-Bxx	PANJIT	KDZxxWV-Y	CR510I30A	TOSHIBA	SMFB13
BAV170	NEXPERIA	BAV70	BZT52BxxS	TSC	KDZxxV-Y	CR510I30C	TOSHIBA	SMFB13
BAV170W	PANJIT	KDS121	BZT52BxxS	RECTRON	KDZxxV-Y	CR510I40A	TOSHIBA	SMFB14
BAV199	DIODES	BAV99	BZT52-BxxS	PANJIT	KDZxxV-Y	CR512	TOSHIBA	SMFB16
BAV199	NEXPERIA	BAV99	BZT52BxxxS	BLUE ROCKET	KDZxxV-Y	CR515	TOSHIBA	SMFB23H
BAV199WQ	DIODES	KDS122	BZT52C4V7	MCC	SMFZ4.7V	CR515I30A	TOSHIBA	SMFB23H
BAV21WS	PANJIT	KDS135	BZT52Cxx	DIODES	SMFZxxV	CR520I30B	TOSHIBA	SMFB23H
BAV21WS	YANGJIE	KDS135	BZT52Cxx	DIODES	KDZxxWV-Y	CR530I30A	TOSHIBA	SMFB23H
BAV21WSQ	YANGJIE	KDS135	BZT52CxxS	DIODES	KDZxxV-Y	CTS05S30	TOSHIBA	KDR530UL
BAV70	DIODES	BAV70	BZT52-CxxS	PANJIT	KDZxxV-Y	CUH515540	TOSHIBA	USFB14
BAV70	NEXPERIA	BAV70	BZT52Cxxx	MCC	KDZ**WV	CUS01	TOSHIBA	USFB13
BAV70	PANJIT	BAV70	BZT52Cxxx	DIODES	SMFZxxV	CUS03	TOSHIBA	USFB14
BAV70	TOSHIBA	BAV70	BZT52Cxxx	DIODES	KDZxxWV-Y	CUS10S30	TOSHIBA	KDR412
BAV70HM	ROHM	BAV70	BZT52H-xxx	NEXPERIA	SMFZxxV	CUS357	TOSHIBA	KDR357
BAV70HMFH	ROHM	BAV70	BZT52-xxx	NEXPERIA	KDZxxWV-Y	CUS521	TOSHIBA	KDR729
BAV70LT1G	ONSEMI	BAV70	BZT585BxxT	DIODES	KDZxxEV-Y	D1FH3	SHINDENGEN	SMAB33
BAV70W	NEXPERIA	KDS121	BZT585BxxxT	DIODES	KDZxxEV	D1FJ10	SHINDENGEN	SMAB110
BAV70W	PANJIT	KDS121	BZX384-xxx	NEXPERIA	KDZxxV-Y	D1FM3	SHINDENGEN	SMAB33
BAV74LT1G	ONSEMI	BAV70	BZX584BxxV	YANGJIE	KDZxxEV-Y	D1FS4	SHINDENGEN	SMAB14
BAV99	NEXPERIA	BAV99	BZX584Cxx	PANJIT	KDZxxEV-Y	D1FS6	SHINDENGEN	SMAB16
BAV99	PANJIT	BAV99	BZX585-xxx	NEXPERIA	KDZxxEV-Y	D1FT10A	SHINDENGEN	SMAB210
BAV99HM	ROHM	BAV99	BZX84B10LT1G	ONSEMI	BZX84C10	D5V0X1BA2LPQ	DIODES	PG05TBUL2A
BAV99LT1G	ONSEMI	BAV99	BZX84B10W	PANJIT	KDZ10V-Y	DA204K	ROHM	BAV99
BAV99T	DIODES	KDS123E	BZX84B12LT1G	ONSEMI	BZX84C12	DA204U	ROHM	KDS123U
BAV99W	NEXPERIA	KDS122	BZX84Bxx	DIODES	BZX84Cxx	DA221	ROHM	KDS221E
BAV99WT1G	ONSEMI	KDS122	BZX84C10LT1G	ONSEMI	BZX84C10	DA221WM	ROHM	KDS221E
BAW56	DIODES	BAW56	BZX84C12	PANJIT	BZX84C12	DA228K	ROHM	KDS226
BAW56	NEXPERIA	BAW56	BZX84C20LT1G	ONSEMI	BZX84C20	DA2J10100L	PANASONIC	KDS160
BAW56	PANJIT	BAW56	BZX84C27LT1G	ONSEMI	BZX84C27	DA2J10400L	PANASONIC	KDS160
BAW56HM	ROHM	BAW56	BZX84C3V3LT1G	ONSEMI	BZX84C3V3	DA2J10700L	PANASONIC	KDS135
BAW56W	NEXPERIA	KDS120	BZX84C4V7	PANJIT	BZX84C4V7	DA2J10800L	PANASONIC	KDS135

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
DA3J101F0L	PANASONIC	KDS122	EDZC6.8B	ROHM	PG05BSESC	LMDL914T1G	LRC	KDS4148U
DA3J102D0L	PANASONIC	KDS120	EDZV15B	ROHM	KDZ15EV-Y	LMSZ5245BT1G	LRC	KDZ15WV-Y
DA3X101F0L	PANASONIC	KDS226	EDZV18B	ROHM	KDZ18EV-Y	LMSZ5248BT1G	LRC	KDZ18WV-Y
DAN202K	ROHM	KDS184	EDZV3.0B	ROHM	KDZ3.0EV-Y	LRB520S-30T1G	LRC	KDR730E
DAN202U	ROHM	KDS121	EDZV33B	ROHM	KDZ33EV	LRB521S-30	LRC	KDR720E
DAN202U	YANGJIE	KDS121	EDZV5.1B	ROHM	KDZ5.1EV-Y	LUDZ5xxBT1G	LRC	KDZxxV-Y
DAN202UM	ROHM	KDS121	EDZV5.6B	ROHM	KDZ5.6EV-Y	M1FH3	SHINDENGEN	SMFB23H
DAN217	ROHM	KDS226	EDZV6.2B	ROHM	KDZ6.2EV	M1FS4	SHINDENGEN	SMFB14
DAN217U	ROHM	KDS122	EDZV6.2B	ROHM	KDZ6.2EV-Y	M1FS6	SHINDENGEN	SMFB16
DAN217UFH	ROHM	KDS122	EDZV9.1B	ROHM	KDZ9.1EV-Y	MA2J111	PANASONIC	KDS160
DAN217UM	ROHM	KDS122	EDZVFHxxB	ROHM	KDZxxEV-Y	MA2J1110G	PANASONIC	KDS160
DAN217WM	ROHM	KDS123E	EDZxxB	ROHM	KDZxxEV	MA3J147	PANASONIC	KDS122
DAN222	ROHM	KDS121E	ESD15VD3BQ	YANGJIE	PG15FBUSC	MA3X152E	PANASONIC	KDS184
DAN222WM	ROHM	KDS121E	ESD24VD3BQ	YANGJIE	PG24EBUSC	MAZ8xxxG	PANASONIC	KDZxxV
DAP202	YANGJIE	KDS181	ESD2CANFD24T2Q	YANGJIE	PG24DAS23	MB2H60AL-AU	PANJIT	SMFB16
DAP202K	ROHM	KDS181	ESD3V3LB	YANGJIE	PS03CBUL2	MBR0520	MCC	KDR713W
DAP202U	ROHM	KDS120	ESD3V3LBQ	YANGJIE	PS03CBUL2	MBR0520LT1G	ONSEMI	KDR713W
DAP202U	YANGJIE	KDS120	ESD5B5.0ST1G	ONSEMI	PS05CBESC	MBR0530	MCC	KDR713W
DAP202UM	ROHM	KDS120	ESD5V0D3BQ	YANGJIE	PG05GBUSC	MBR0540T1G	ONSEMI	KDR714W
DAP222	ROHM	KDS120E	ESD5V5LB	YANGJIE	PS05CBUL2	MBR0540T1G	ONSEMI	SMFB14
DAP222WM	ROHM	KDS120E	ESD5V5LZBA	YANGJIE	PS05CBEL2A	MBR140SFT1G	ONSEMI	SMFB14
DDZxxxB	DIODES	KDZxxWV-Y	ESD5Z5.0T1G	ONSEMI	PG05FSESC	MBR20150FCTS	YANGJIE	MBRF20U150CTA
DESD1CAN2SOQ	DIODES	PG24FAS23	ESD7331MUT5G	ONSEMI	PS03VBEL2D	MBR20200FCT	YANGJIE	MBRF20U200CTA
DESD2CAN2SOQ	DIODES	PG24DAS23	F1N4744	GOODARK	SMFZ15V	MBR2060FCT	YANGJIE	MBRF20U60CTA
DESD5V0S1BAQ-	DIODES	PG05GBUSC	F1N4746	GOODARK	SMFZ18V	MBR30100FCT	PANJIT	MBRF30U100CTA
DFLS160	DIODES	SMFB16	FFPF08S60STU	ONSEMI	U8A6CI	MBRA140T3G	ONSEMI	SMAB14
DG1M3	SHINDENGEN	SMFB13	FMX-1106S	SANKEN	U10A6CI	MBRA1H100T3G	ONSEMI	SMAB110
DSS14U	SMC	SMFB14	FMXA-1106S	SANKEN	U10A6CI	MBRA2H100T3G	ONSEMI	SMAB110
DUP2105SOQ	DIODES	PG24EAS23	FMX-G12S	SANKEN	MBRF10U200	MBRA340T3G	ONSEMI	SMAB34
DZ2JxxxM0L	PANASONIC	KDZxxV	KDZxxB	ROHM	SMFZxxV	MBRD10100CT	SMC	MBRD10U100CT
DZ2S062M0L	PANASONIC	KDZ6.2EV	L1N4148WT1G	LRC	KDS4148W	MBRD10200CT	SMC	MBRD10U200CT
DZ2S18000L	PANASONIC	KDZ18EV	L1SS400T1G	LRC	KDS160E	MBRD20100CT	DIODES	MBRD20U100CT
DZ2W15000L	PANASONIC	SMFZ15V	LBAS16HT1G	LRC	KDS4148U	MBRD20100CT	SMC	MBRD20U100CT
E24SBPC1A	SEMTECH	PG24DBUL2	LBAS21HT1G	LRC	KDS135	MBRD20200CT	SMC	MBRD20U200CT
E8V0HUPM1C	SEMTECH	PG09HS1610D2	LBAS40-04LT1G	LRC	BAT54S	MBRD2060CT	SMC	MBRD20U60CT
EDZ15B	ROHM	KDZ15EV-Y	LBAT54HT1G	LRC	KDR729	MBRF10100CTP	SMC	MBRF10U100CTA
EDZ18B	ROHM	KDZ18EV-Y	LBAV99LT1G	LRC	BAV99	MBRF10200CT	SMC	MBRF10U200CTA
EDZ5.1B	ROHM	KDZ5.1EV-Y	LM1MA142WAT1G	LRC	KDS120	MBRF10200D	TSC	MBRF10U200CTA
EDZ5.6B	ROHM	KDZ5.6EV-Y	LM3ZxxxT1G	LRC	KDZxxV-Y	MBRF1060	TSC	MBRF10U60CTA
EDZ6.2B	ROHM	KDZ6.2EV-Y	LMBR160FT1G	LRC	SMFB16	MBRF1060CT	SMC	MBRF10U60CTA
EDZ7.5B	ROHM	KDZ7.5EV	LMBR240FT1G	LRC	SMFB14	MBRF1060CT	TSC	MBRF10U60CTA

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
MBRF1060CTP	SMC	MBRF10U60CTA	MMSZ4697T1G	ONSEMI	KDZ10WV-Y	NRVB130T1G	ONSEMI	SMFB13
MBRF20100CT	SMC	MBRF20U100CTA	MMSZ4699T1G	ONSEMI	KDZ12WV-Y	NRVBA160T3G	ONSEMI	SMAB16
MBRF20100CT	TSC	MBRF20U100CTA	MMSZ5228BS	RECTRON	KDZ3.9V-Y	NRVBA2H100NT3G	ONSEMI	SMAB210
MBRF20100CTP	SMC	MBRF20U100CTA	MMSZ5230BT1G	ONSEMI	SMFZ4.7V	NRVBA340T3G	ONSEMI	SMAB34
MBRF20100D	TSC	MBRF20U100CTA	MMSZ5231BS	RECTRON	KDZ5.1V-Y	NRVBAF360T3G	ONSEMI	SMAFB36
MBRF20150CT	SMC	MBRF20U150CTA	MMSZ5232B	DIODES	KDZ5.6WV-Y	NRVBSS13HE	ONSEMI	USFB13
MBRF20200CT	SMC	MBRF20U200CTA	MMSZ5232BS	RECTRON	KDZ5.6V-Y	NRVBSS14HE	ONSEMI	USFB14
MBRF20200CT	TSC	MBRF20U200CTA	MMSZ5232BT1G	ONSEMI	SMFZ5.6V	NRVTS260ESFT1G	ONSEMI	SMFB16
MBRF2060CT	SMC	MBRF20U60CTA	MMSZ5234BS	RECTRON	KDZ6.2V-Y	NRVTS2H60ESFT1G	ONSEMI	SMFB16
MBRF2060CT	TSC	MBRF20U60CTA	MMSZ5234BT1G	ONSEMI	KDZ6.2WV-Y	NRVTS2H60ESFT3G	ONSEMI	SMFB16
MBRF2060CTP	SMC	MBRF20U60CTA	MMSZ5235BS	RECTRON	KDZ6.8V-Y	NSR0130P2T5G	ONSEMI	KDR720F
MBRF2060D	TSC	MBRF20U60CTA	MMSZ5236BS	RECTRON	KDZ7.5V-Y	NSVBAS21HT1G	ONSEMI	KDS135
MBRF3060CT	SMC	MBRF30U60CTA	MMSZ5237BS	RECTRON	KDZ8.2V-Y	NSVBAT54SWT1G	ONSEMI	KDR731
MBRL20100FCT	YANGJIE	TMBRF20100CT	MMSZ5239BS	RECTRON	KDZ9.1V-Y	NSVR02100HT1G	ONSEMI	KDS4148U
MC2836	ISAHAYA	KDS181	MMSZ5242BT1G	ONSEMI	KDZ12WV-Y	NSVR0240HT1G	ONSEMI	KDR357
MC2838	ISAHAYA	KDS184	MMSZ5243B	PANJIT	KDZ13WV-Y	NSVR0240V2T1G	ONSEMI	KDR760E
MC2840	ISAHAYA	KDS226	MMSZ5243BS	RECTRON	KDZ13V-Y	NSVR0340HT1G	ONSEMI	KDR729
MC2846	ISAHAYA	KDS120	MMSZ5245BS	RECTRON	KDZ15V-Y	NUG2DA	YANGJIE	ES1D
MC2848	ISAHAYA	KDS121	MMSZ5246BS	RECTRON	KDZ16V-Y	NUP2105LT1G	ONSEMI	PG24EAS23
MC2850	ISAHAYA	KDS122	MMSZ5247BT1G	ONSEMI	KDZ16WV-Y	NUP2202W1T2G	ONSEMI	PS05RVUS6
MM1S2xx	SEMTECH	SMFZxxV	MMSZ5248B	PANJIT	KDZ18WV-Y	PD3S130H	DIODES	USFB13A
MM3Zxx	SEMTECH	KDZxxV	MMSZ5248BS	RECTRON	KDZ18V-Y	PDZxxB	NEXPERIA	KDZxxV
MM3ZxxVST1G	ONSEMI	KDZxxV-Y	MMSZ5250B	DIODES	KDZ20WV-Y	PEC1605M1Q	PANJIT	PS05TBUL2
MMBD1205	ONSEMI	BAV23A	MMSZ5250BS	RECTRON	KDZ20V-Y	PEC1605M1Q-AU	PANJIT	PS05TBUL2
MMBD4148	ONSEMI	KDS4148S	MMSZ5252B	DIODES	KDZ24WV-Y	PEC3103M1Q	PANJIT	PS03CBUL2
MMBD4148	PANJIT	KDS4148S	MMSZ5252BS	RECTRON	KDZ24V-Y	PEC3124C2A-AU	PANJIT	PG24DAS23
MMBD4148SE	ONSEMI	BAV99	MMSZ5254BS	RECTRON	KDZ27V	PEC3324C2A-AU	PANJIT	PG24EAS23
MMBZ27VALQ	DIODES	PG24FAS23	MMSZ5256BS	RECTRON	KDZ30V	PESD12VS1ULD	NEXPERIA	PG12DBUL2
MMBZ27VALT1G	ONSEMI	PG24FAS23	MMSZ5V6CF	ONSEMI	SMFZ5.6V	PESD1CAN	NEXPERIA	PG24DAS23
MMBZ27VCL	NEXPERIA	PG24FAS23	MUR1060DS	GALAXY	U10A6CDC	PESD11VN24-AX	NEXPERIA	PG24EBUSC
MMBZ27VCLQ-7	DIODES	PG24FAS23	MUR1060F	GOODARK	U10A6CI	PESD11VN27-A	NEXPERIA	PG24EBUSC
MMBZ27VCLYFH	ROHM	PG24FAS23	MUR2060FCT	GOODARK	U20A6CIC	PESD1LIN	NEXPERIA	PG1524DBUSC
MMBZ5232B	PANJIT	BZX84C5V6	MUR860F	GOODARK	U8A6CI	PESD24VL1BA	NEXPERIA	PG24EBUSC
MMBZ5240BLT1G	ONSEMI	BZX84C10	MURA110T3G	ONSEMI	SMAB110	PESD24VS1UA	NEXPERIA	PG24GSUSC
MMBZ5245BLT1G	ONSEMI	Z02W15V-Y	MURF1060	SMC	U10A6CI	PESD24VS2UAT	NEXPERIA	PG24FAS23
MMBZ5256BLT1G	ONSEMI	Z02W30V	MURF1560G	ONSEMI	U10A6CI	PESD2CAN	NEXPERIA	PG24EAS23
MMBZ9V1AL	NEXPERIA	PG05HAS23	MURF1660CT	TSC	U20A6CIC	PESD2CANFD24L-T	NEXPERIA	PG24DAS23
MMDL6050T1G	ONSEMI	KDS4148U	MURS860FL	YANGJIE	U8A6CI	PESD21VN24-T	NEXPERIA	PG24DAS23
MMSD4148T1G	ONSEMI	KDS4148W	NBRD5H100	ONSEMI	MBRD5U150	PESD21VN27-T	NEXPERIA	PG24DAS23
MMSZ15T1G	ONSEMI	SMFZ15V	NRVB0530T1G	ONSEMI	KDR713W	PESD36VS2UT	NEXPERIA	PG36FSS23
MMSZ4688T1G	ONSEMI	KDZ4.7WV-Y	NRVB0530T1G	ONSEMI	SMFB13	PESD3V3X1BL	NEXPERIA	PS03VBUL2

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
PESD5V0C1BLS-Q	NEXPERIA	PS05TBUL2	PMEG60T20ELR	NEXPERIA	SMFB16	RB098BM100FH	ROHM	MBRD10U100CT
PESD5V0C1BSF	NEXPERIA	PS05TBEL2D	PMEG60T30ELP	NEXPERIA	SMAFB36	RB160L-40	ROHM	SMAB14
PESD5V0F1BL	NEXPERIA	PS05TBUL2	PTVS4V5D1BL	NEXPERIA	PG03HSUL2	RB160L-60	ROHM	SMAB16
PESD5V0F1BLD	NEXPERIA	PG05TBUL2	PTZ22B	ROHM	SMAZ22V	RB160L-90	ROHM	SMAB110
PESD5V0L1BA	NEXPERIA	PG05GBUSC	PTZxxB	ROHM	SMAZxxV	RB160M-30	ROHM	KDR713W
PESD5V0L1UL	NEXPERIA	PG05FSUL2	PZ1ALxxB	PANJIT	SMFZxxV	RB160M-30	ROHM	SMFB13
PESD5V0S1BA	NEXPERIA	PG05GBUSC	PZS115V1BES	PANJIT	KDZ5.1EV-Y	RB160M-40	ROHM	KDR714W
PESD5V0S1BB	NEXPERIA	PS05DBESC	PZS5218BCH	PANJIT	USFZ18V	RB160M-40	ROHM	SMFB14
PESD5V0S1BL	NEXPERIA	PS05DBUL2	PZUxxBA	NEXPERIA	KDZxxV-Y	RB160M-60	ROHM	SMFB16
PESD5V0S1UB	NEXPERIA	PG05FSESC	RB050L-40	ROHM	SMAB34	RB160MM-30	ROHM	SMFB13
PESD5V0S1ULS	NEXPERIA	PG05GSUL2	RB050L-60	ROHM	SMAB36	RB160MM-40	ROHM	SMFB14
PESD5V0U1BB	NEXPERIA	PG05FBESC	RB050L-60DD	ROHM	SMAB36	RB160MM-60	ROHM	SMFB16
PESD5V0V1BB	NEXPERIA	PS05CBESC	RB050LA-30	ROHM	SMAB33	RB160VA-40	ROHM	USFB14
PESD5V0V1BLD	NEXPERIA	PS05CBUL2	RB050LA-40	ROHM	SMAB34	RB160VYM-40FH	ROHM	USFB14
PESD5V0X1BCAL	NEXPERIA	PS05TBUL2	RB050LAM-60	ROHM	SMAFB36	RB161L-40	ROHM	SMAB14
PESD5V0X1BCL	NEXPERIA	PS05TBUL2	RB051L-40	ROHM	SMAB34	RB161M-20	ROHM	KDR713W
PESD5V2S2UT	NEXPERIA	PG05HAS23	RB051LA-40	ROHM	SMAB34	RB161M-20	ROHM	SMFB13
PJEC2415VM1WS	PANJIT	PG1524DBUSC	RB051LAM-40	ROHM	SMAFB34	RB162L-40	ROHM	SMAB14
PJEC24MTA	PANJIT	PG24DAS23	RB055L-30	ROHM	SMAB33	RB162M-40	ROHM	SMFB14
PJMBZ27V	PANJIT	PG24EAS23	RB055L-40	ROHM	SMAB34	RB162M-60	ROHM	SMFB16
PJSD05TS	PANJIT	PG05FSESC	RB055L-60	ROHM	SMAB36	RB162MM-40	ROHM	KDR714W
PMEG3002AEB	NEXPERIA	KDR720E	RB055LA-40	ROHM	SMAB34	RB162MM-40	ROHM	SMFB14
PMEG3005EJ	NEXPERIA	KDR412	RB055LAM-40	ROHM	SMAFB34	RB162MM-60	ROHM	SMFB16
PMEG3010CEH	NEXPERIA	SMFB13	RB056L-40	ROHM	SMAB34	RB168M-60	ROHM	SMFB16
PMEG3010ER	NEXPERIA	SMFB13	RB060L-40	ROHM	SMAB34	RB168MM-40	ROHM	SMFB14
PMEG3010ER	NEXPERIA	SMFB13	RB060LAM-40	ROHM	SMAFB34	RB215T-90	ROHM	MBRF20U100CTA
PMEG3020BER	NEXPERIA	SMFB23H	RB060M-60	ROHM	SMFB16	RB400D	ROHM	KDR400S
PMEG3020EH	NEXPERIA	SMFB23H	RB060MM-30	ROHM	SMFB23H	RB420D	ROHM	KDR105S
PMEG3030EP	NEXPERIA	SMAFB34	RB060MM-40	ROHM	SMFB14	RB421D	ROHM	KDR105S
PMEG4002EB	NEXPERIA	KDR730E	RB060MM-60	ROHM	SMFB16	RB491D	ROHM	KDR521T
PMEG4002EL	NEXPERIA	KDR740UL	RB068L100	ROHM	SMAB210	RB500V-40	ROHM	KDR357
PMEG4020ER	NEXPERIA	SMFB14	RB068L-60DD	ROHM	SMAB36	RB500VM-40	ROHM	KDR357
PMEG4030EP	NEXPERIA	SMAFB34	RB068LAM100	ROHM	SMAFB310	RB501SM-30	ROHM	KDR720E
PMEG6010CEH	NEXPERIA	SMFB16	RB068MM-60	ROHM	SMFB16	RB501V-40	ROHM	KDR357
PMEG6010CEH-Q	NEXPERIA	SMFB16	RB070M-30	ROHM	SMFB13	RB501VM-40	ROHM	KDR357
PMEG6010ELRX	NEXPERIA	SMFB16	RB070MM-30	ROHM	SMFB13	RB510SM-30	ROHM	KDR720E
PMEG6010EP	NEXPERIA	SMAFB26	RB080L-30	ROHM	SMAB33	RB511SM-30	ROHM	KDR720E
PMEG6020AELR	NEXPERIA	SMFB16	RB085T-60	ROHM	MBRF10U60CTA	RB511VM-30	ROHM	KDR357
PMEG6020AELRX	NEXPERIA	SMFB16	RB088BM100	ROHM	MBRD10U100CT	RB520CS-30	ROHM	KDR730V
PMEG6030EP	NEXPERIA	SMAFB36	RB095B-60	ROHM	MBRD6U60CT	RB520CS3002L	NEXPERIA	KDR740UL
PMEG6030ETP-Q	NEXPERIA	SMAFB36	RB095BM-60	ROHM	MBRD6U60CT	RB520G-30	ROHM	KDR730V

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
RB520S-30	ROHM	KDR730E	RBQ30T65A	ROHM	MBRF30U60CTA	SBA140AS	PANJIT	KDR714W
RB520S-30Q	YANGJIE	KDR730E	RBQ30T65ANZ	ROHM	MBRF30U60CTA	SBA230AL	PANJIT	SMFB23H
RB520S30T1G	ONSEMI	KDR730E	RBR1MM60A	ROHM	SMFB16	SBA330AL	PANJIT	SMFB23H
RB520S-40Q	YANGJIE	KDR760E	RBR20T60AHZ	ROHM	MBRF20U60CTA	SBA5116LT1G	ONSEMI	KDS4148S
RB520SM-30	ROHM	KDR730E	RBR2L40ADD	ROHM	SMAB34	SBA516HT1G	ONSEMI	KDS4148U
RB520SM-40	ROHM	KDR760E	RBR2MM30A	ROHM	SMFB23H	SBA516HT3G	ONSEMI	KDS4148U
RB520VM-40FH	ROHM	KDR357	RBR2MM60C	ROHM	SMFB16	SBAT54CLT1G	ONSEMI	BAT54C
RB520ZS-30	ROHM	KDR730EL	RBR3L40B	ROHM	SMAB34	SBAT54SLT1G	ONSEMI	BAT54S
RB521AS-40	ROHM	KDR740UL	RBR3L60B	ROHM	SMAB36	SBAV199LT3G	ONSEMI	BAV99
RB521CM-30	ROHM	KDR720F	RBR5L60ADD	ROHM	SMAB36	SBAV70LT1G	ONSEMI	BAV70
RB521CM-40	ROHM	KDR730F	RCLAMP0502B	SEMTECH	PG05EAESM	SBAV70WT1G	ONSEMI	KDS121
RB521S30	NEXPERIA	KDR720E	RCLAMP0504F	SEMTECH	PS05RVUS6	SBAV99LT3G	ONSEMI	BAV99
RB521S30	PANJIT	KDR720E	RClamp0521Z	SEMTECH	PS05TBEL2D	SBAV99WT1G	ONSEMI	KDS122
RB521S30	YANGJIE	KDR720E	RClamp0531T	SEMTECH	PS05TBUL2	SBR0560S1	DIODES	SMFB16
RB521S-30	ROHM	KDR720E	RD5.1M-B1	NEC	BZX84C5V1	SBR20A200CTFP	DIODES	MBRF20U200CTA
RB521S-40	ROHM	KDR720E	RD6.2UM-B1	NEC	KDZ6.2EV	SBR2U150SA	DIODES	SMAB210
RB521SM-30	ROHM	KDR720E	RD6.8FM-B	NEC	SMAZ6.8V	SBR2U30SA	DIODES	SMAB33
RB521SM-40	ROHM	KDR720E	RD6.8UM-B1	NEC	KDZ6.8EV	SD05C-01FTG	Littelfuse	PG05GBUSC
RB521SM-60	ROHM	KDR760E	RD9.1M-B	NEC	BZX84C9V1	SD103AWS	DIODES	KDR357
RB530S-30	ROHM	KDR720E	RDxxS-B	NEC	KDZxxV	SD103AWS	YANGJIE	KDR357
RB530SM-30	ROHM	KDR730E	RESD1CAN	ROHM	PG24EAS23	SD12C-01FTG	Littelfuse	PG12FBUSC
RB530SM-30FH	ROHM	KDR730E	RF01VM2S	ROHM	KDS135	SD15C-01FTG	Littelfuse	PG15FBUSC
RB530VM-30	ROHM	KDR357	RF01VM2SFH	ROHM	KDS135	SDC15	SEMTECH	PG12GC523
RB531SM-30	ROHM	KDR720E	RHRD660S9A	ONSEMI	U8A6CD	SDM02U30LP3	DIODES	KDR720EL
RB550VA-30	ROHM	USFB13A	RSB16V	ROHM	PG12GSUSC	SDURD1060B	SMC	U8A6CD
RB550VAM-30	ROHM	USFB13A	RSB18V	ROHM	PG15FBUSC	SDURD560A	SMC	U5A6CD
RB550VYM-30FH	ROHM	USFB13A	RSB6.8S	ROHM	PG05FBESC	SDURF1060	SMC	U10A6CI
RB551V-30	PANJIT	KDR412	RSB6.8SFH	ROHM	PG05FBESC	SDURF1060CT	SMC	U10A6CIC
RB551V-30	ROHM	KDR412	RSB6.8SM	ROHM	PG05FBESC	SDURF10H60	SMC	U10A6CI
RB551VM-30	ROHM	KDR412	RSX101M-30	ROHM	SMFB13	SDURF10H60CT	SMC	U10A6CIC
RB551VU-30	ROHM	KDR412	RSX101MM-30	ROHM	SMFB13	SDURK1060	SMC	U10A6CI
RB751SM-40	ROHM	KDR720E	RSX201L-30	ROHM	SMAB33	SESDONCAN1LT1G	ONSEMI	PG24DAS23
RB751V-40	ROHM	KDR377	RSX301L-30	ROHM	SMAB33	SF10KC60M	SHINDENGEN	U10A6CIC
RB751VM-40	ROHM	KDR377	S14	YANGJIE	SMFB14	SG10SC9M	SHINDENGEN	MBRF10U100CTA
RBQ10B65A	ROHM	MBRD10U60CT	S14Q	YANGJIE	SMFB14	SG10TC15M	SHINDENGEN	MBRF10U150CTA
RBQ10BGE65A	ROHM	MBRD10U60CT	S210F	YANGJIE	SMAFB310	SG20SC6M	SHINDENGEN	MBRF20U60CTA
RBQ10BM100AFH	ROHM	MBRD10U100CT	S23	YANGJIE	SMFB23H	SG30SC6M	SHINDENGEN	MBRF30U60CTA
RBQ10BM65A	ROHM	MBRD10U60CT	S34	YANGJIE	SMFB14	SK34A	TSC	SMAB34
RBQ10T65A	ROHM	MBRF10U60CTA	S36F	YANGJIE	SMAB36	S-L1N4148WT1G	LRC	KDS4148W
RBQ20BM45AFH	ROHM	MBRD30U45CT	SB54AFC-AU	PANJIT	SMAFAB54J	S-L1SS355T1G	LRC	KDS160
RBQ20T65A	ROHM	MBRF20U60CTA	SBA130AS	PANJIT	KDR713W	SL26	YANGJIE	SMFB16

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
SL26F	YANGJIE	SMAFB26	SS24A	YANGJIE	SMAB34	SZMMSZ5248BT1G	ONSEMI	SMFZ18V
SL54F	YANGJIE	SMAFB34	SS26A	YANGJIE	SMAB36	SZMMSZ5255BT1G	ONSEMI	KDZ27WV
S-LBAS21HT1G	LRC	KDS135	SS32A	TSC	SMAB33	SZMMSZ5257BT1G	ONSEMI	KDZ33WV
S-LBAT54SWT1G	LRC	KDR731	SS345A	GALAXY	SMAB34	SZMMSZxxT1G	ONSEMI	SMFZxxV
S-LDAN202KLT1G	LRC	KDS184	SS34A	YANGJIE	SMAB34	SZNUPT105LT1G	ONSEMI	PG24FAS23
S-LM3ZxxxT1G	LRC	KDZxxV-Y	SS34AQ	YANGJIE	SMAB34	SZNUPT2105LT1G	ONSEMI	PG24EAS23
S-LUDZS5.1BT1G	LRC	KDZ5.1V-Y	SS36A	YANGJIE	SMAB36	TBAT54	TOSHIBA	BAT54
SM1MA142WAT1G	ONSEMI	KDS120	SSA210	ONSEMI	SMAB210	TBAT54A	TOSHIBA	KDR720S
SM1MA142WKT1G	ONSEMI	KDS121	STF20100C	SMC	TMBRF20100CT	TBAT54C	TOSHIBA	BAT54C
SM24CANA-02HTG	Littelfuse	PG24DAS23	STF20100CE	SMC	TMBRF20100CT	TFZxxB	ROHM	USFZxxV
SM340A	LRC	SMAB34	STTH10LCD06CFP	STMICRO	U10A6CIC	TPSMA6L24A	Littelfuse	PG24LSSMAF
SM36-02HTG	Littelfuse	PG36FSS23	STTH10LCD06FP	STMICRO	U10A6CI	TPSMA6L33A	Littelfuse	PG36JSSMAF
SM5818PL	MCC	SMFB13	STTH15L06FP	STMICRO	U20A6CIC	TPSMB33A	Littelfuse	PG24LSSMB
SM712	SEMTECH	PG712FBS23	SURA8105T3G	ONSEMI	SMAB16	TPSMC27A	Littelfuse	PG24MSSMC
SM712-02HTG	Littelfuse	PG712FBS23	SURA8110T3G	ONSEMI	SMAB110	TPSMD28A	Littelfuse	PG24MSSMC
SMA4746A	YANGJIE	SMAZ18V	SURA8210T3G	ONSEMI	SMAB210	TSF20L100C	TSC	TMBRF20100CT
SMA4749A	YANGJIE	SMAZ24V	SX34	PANJIT	SMAB34	TSF20U60C	TSC	MBRF20U60CTA
SMAJ28A	Littelfuse	PG24LSSMAF	SX36	PANJIT	SMAB36	TSH54A	GALAXY	SMAB34
SMAZ24	DIODES	SMAZ24V	SXM36VF-AU	PANJIT	SMAB36	UCLAMP0301PQ	SEMTECH	PS03CBUL2
SMAZ27	DIODES	SMAZ27V	SZ1SMA5919BT3G	ONSEMI	SMAZ5.6V	uClamp0511PQ	SEMTECH	PS05DBUL2
SMBJ20A	DIODES	PG24LSSMB	SZ1SMA5927BT3G	ONSEMI	SMAZ12V	uCLAMP1871P	SEMTECH	PG18HS1610D2
SMBJ24A	DIODES	PG24LSSMB	SZ1SMA5931BT3G	ONSEMI	SMAZ18V	UDZSTFxxB	ROHM	KDZxxV-Y
SMBJ24A	Littelfuse	PG24LSSMB	SZ1SMA5937BT3G	ONSEMI	SMAZ33V	UDZSxxB	ROHM	KDZxxV-Y
SMBJ30CA	DIODES	PG24LSSMB	SZBZX84CxxxLT1G	ONSEMI	BZX84Cxxx	UDZVFHxxB	ROHM	KDZxxV-Y
SMCJ28A	Littelfuse	PG24MSSMC	SZESD7551MXWT5G	ONSEMI	PS03TBUL2	UDZVxxB	ROHM	KDZxxV-Y
SMD24PL	MCC	SMFB14	SZESD8011MUT5G	ONSEMI	PS05VBEL2D	UDZxxB	ROHM	KDZxxV-Y
SMF05	SEMTECH	PG05GBUSV	SZESD8104MUTAG	ONSEMI	PS05SVU10	UF4007	TSC	UF4007G
SMMBD7000LT3G	ONSEMI	BAV99	SZESD8551MXWT5G	ONSEMI	PS03TBUL2	UF4007	ONSEMI	UF4007G
SMMBD914LT3G	ONSEMI	KDS193	SZESD9X5.0ST5G	ONSEMI	PG05FSTFC	UFZVxxB	ROHM	KDZxxV
SMMDL914T1G	ONSEMI	KDS4148U	SZMM3ZxxxT1G	ONSEMI	KDZxxV-Y	UGF1008G	TSC	U10A6CIC
SP3021-01ETG	Littelfuse	PS05TBUL2	SZMM5ZxxxT1G	ONSEMI	KDZxxEV	UGF10J	TSC	U10A6CI
SP4021-01FTG	Littelfuse	PG05GBUSC	SZMMBZ27VALT1G	ONSEMI	PG24FAS23	UGF8JD	TSC	U8A6CI
SS1040FL	PANJIT	SMFB14	SZMMBZ27VCLT1G	ONSEMI	PG24FAS23	YFZVFHxxB	ROHM	USFZxxV
SS1060FL	PANJIT	SMFB16	SZMMSZ4688T1G	ONSEMI	KDZ4.7WV-Y	YG802C09R	FUJI	MBRF10U100CTA
SS14	ONSEMI	SMAB14	SZMMSZ4689T1G	ONSEMI	KDZ5.1WV-Y	YG805C04R	FUJI	MBRF20U45CTA
SS14	PANJIT	SMAB14	SZMMSZ4690ET1G	ONSEMI	SMFZ5.6V	YG865C04R	FUJI	MBRF20U45CTA
SS14A	YANGJIE	SMAB14	SZMMSZ4702T1G	ONSEMI	KDZ15WV-Y	YG865C15R	FUJI	MBRF20U150CTA
SS14FL	ONSEMI	SMFB14	SZMMSZ4713T1G	ONSEMI	KDZ30WV	YG902C2R	FUJI	MBRF10U200CTA
SS14L	TSC	SMFB14	SZMMSZ4715T1G	ONSEMI	SMFZ36V	YG975C6R	FUJI	U20A6CIC
SS2040FL	PANJIT	SMFB14	SZMMSZ5232BT1G	ONSEMI	KDZ5.6WV-Y	YG982S6R	FUJI	U10A6CI
SS210A	YANGJIE	SMAB210	SZMMSZ5246BT1G	ONSEMI	KDZ16WV-Y	YG985C6R	FUJI	U20A6CIC











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MOSFET








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V_{DSS} : 20V ~ 60V







V _{DSS} [V]	I _D [A]	ULP-3 ULP-3(1)	VSM	ESM	TES6	USM	US6	SOT-23	PDFN56	DPAK(1) DPAK(3)	TO-220IS(1)
		 (1.0 X 0.6)	 (1.2 X 0.8)	 (1.6 X 0.85)	 (1.6 X 1.2)	 (2.0 X 1.25)	 (2.0 X 1.25)	 (2.93 X 1.3)	 (4.9 X 6.0)	 (6.6 X 6.1)	
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			
-24	-6							KU390P02SZ			
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			
-40	-39.5										KU170P04FT2
	-50									KU170P04DT2	
60	0.3			2N7002KE		2N7002KU	2N7002KDU (Dual)	2N7002KA 2N7002KB			
	2							KMB2D0N60SA			
-60	-33									KU350P06DT2	

MOSFET

$V_{DSS} : 100V$





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)
		 (2.93 X 1.3)	 (2.0 X 2.0)	 (3.15 X 3.1)	 (4.9 X 6.0)	 (6.5 X 3.5)	 (6.6 X 6.1)	
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	
	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)
		 (3.15 X 3.1)	 (4.9 X 6.0)	 (6.5 X 3.5)	 (6.6 X 6.1)		
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	
	5					KF5N53FS (525V)	
	5.5				KF7N50D		
	7					KF7N50F	
	9					KF9N50F	
	11					KF11N50F	
13					KF13N50F		

MOSFET

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

V_{DSS} [V]	I_D [A]	SOT-23	DPAK(1) DPAK(3)	IPAK(2)	TO-220IS(1)	TO-220ISW	TO-247
		 (2.93 X 1.3)	 (6.6 X 6.1)				
600	0.02	KF500KN60SP2Z*					
	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		
	10		KP580N60DM3 KP580N60DM3Z		KP580N60FM3	KP580N60FWM3 KP580N60FWM3Z	
	11		KP380N60DM3 KP380N60DM3Z		KP380N60FM3	KP380N60FWM3 KP380N60FWM3Z	
	12				KF12N60F		
	15		KP280N60DM3 KP280N60DM3Z		KP280N60FM3	KP280N60FWM3 KP280N60FWM3Z	
	20				KP190N60FM3	KP190N60FWM3 KP190N60FWM3Z	
30				KP125N60FM3			
38						KP099N60KM3*	
650	3.6				KF4N65F		
	4.4		KF5N65D				
	5				KF5N65F		
	7				KF7N65F		
	8		KP580N65DM3		KP580N65FM3		
	11				KP380N65FM3		
	15				KP280N65FM3		
20				KP190N65FM3			
680	7				KF7N68F		
	10				KF10N68F		
	12				KF12N68F		
700	6			KF6N70F			
800	2.7		KF3N80D				
	3				KF3N80F		
	4				KF4N80F		
	7				KF7N80F		

Note) * : Under development

■ S-MOSFET

Type No.	Mark	AEC-Q	Internal circuit	Max. Ratings				I _{DSS} (μA)			V _{th} (V)				R _{DS(ON)} (mΩ)				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 (μA)	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	

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

MOSFET

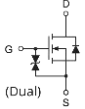
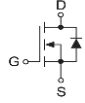
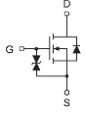
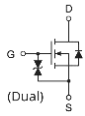
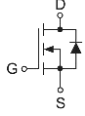
MOSFET

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 _{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)	
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
KU390P02SZ	SP1	●		-24	±8	-6	2	-0.3	-0.9	V _{GS}	-250	42	55	-4.5	-4	12.4	-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)
												5.7	6.8	10	30	18.4	10	
KU2307D	-	●		30	±20	79	57	1	3	V _{GS}	250	8.4	10.1	4.5	30	13.1	4.5	DPAK(1) DPAK(3)
												4.5	5.4	10	30	24.6	10	
KU024N03C	-	●		30	±20	100	40	1.2	2.5	V _{GS}	250	2.6	3.3	4.5	20	74	10	PDFN56
												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	-	●		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
KU170P04FT2	-	●		-40	±20	-39.5	44.6	-1	-3	V _{GS}	-250	12	17	-10	-20	51	-10	TO-220IS(1)
KU170P0DT2	-	●		-40	±20	-50	104	-1	-3	V _{GS}	-250	12	17	-10	-20	51	-10	DPAK(3)
KMB2D0N60SA	KND	●		60	±20	2	1.25	1.5	3	V _{GS}	250	125	160	10	2	4.8	10	SOT-23
KU350P06DT2	-	●		-60	±20	-33	69.4	-1.5	-2.5	V _{GS}	-250	28	35	-10	-20	35	-10	DPAK(3)

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

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
KU3600DN10CZ	●	100		±16	4.7	16.5	1	2.5	V _{GS}	250	300	360	10	2.3	4.5	10	PDFN56D PDFN56D(1)
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)
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) ○ : 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)	
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

■ 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)	
KF500KN60SP2Z*	●	600	±20	0.021	0.5	1.4	2.6	V _{GS}	8	195Ω	500Ω	10	0.016	1.3	10	SOT-23
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)
KP099N60KM3*	●	600	±30	38	277	3	5	V _{GS}	250	92	99	10	19	47	10	TO-247
KP580N60DM3Z	●	600	±25	8	56	2	4	V _{GS}	250	510	580	10	4	12	10	DPAK(3)
KP580N60FWM3Z	●	600	±25	8	39	2	4	V _{GS}	250	510	580	10	4	12	10	TO-220ISW
KP380N60DM3Z	●	600	±25	11	78	2	4	V _{GS}	250	330	380	10	5.5	17	10	DPAK(3)
KP380N60FWM3Z	●	600	±25	11	36	2	4	V _{GS}	250	330	380	10	5.5	17	10	TO-220ISW
KP280N60DM3Z	●	600	±25	15	83	2	4	V _{GS}	250	245	280	10	7.5	21	10	DPAK(3)
KP280N60FWM3Z	●	600	±25	15	50	2	4	V _{GS}	250	245	280	10	7.5	21	10	TO-220ISW
KP190N60FWM3Z	●	600	±25	20	59	2	4	V _{GS}	250	165	190	10	10	31	10	TO-220ISW
KP580N65DM3	●	650	±30	8	69	2	4	V _{GS}	250	510	580	10	4	12	10	DPAK(3)
KP580N65FM3	●	650	±30	8	43	2	4	V _{GS}	250	510	580	10	4	12	10	TO-220IS(1)
KP380N65FM3	●	650	±30	11	48	2	4	V _{GS}	250	330	380	10	5.5	19	10	TO-220IS(1)
KP280N65FM3	●	650	±30	15	52	2	4	V _{GS}	250	245	280	10	7.5	24	10	TO-220IS(1)
KP190N65FM3	●	650	±30	20	59	2	4	V _{GS}	250	165	190	10	10	35	10	TO-220IS(1)

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

Note) * : Under development

*LV, MV MOSFET

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
2N7002	DIODES	2N7002KB	AOD409G	AOSMD	KU350P06DT2	DMN65D9L	DIODES	2N7002KB
2N7002	NEXPERIA	2N7002KB	AOD66920	AOSMD	KUS086N10DA	DMP2110U	DIODES	KMA3D7P20SA
2N7002	ONSEMI	2N7002KB	AONS21357	AOSMD	KU080P03C	DMP2160U	DIODES	KMA3D7P20SA
2N7002	PANJIT	2N7002KB	AOSS32338C	AOSMD	KMD4D2N30S	DMP3098L	DIODES	KMB3D0P30SA
2N7002	RECTRON	2N7002KB	AOTF66920L	AOSMD	KUS086N10FA	DMP3099LQ	DIODES	KMB3D0P30SA
2N7002	VISAHY	2N7002KB	AP10N012H	APEC	KUS086N10DA	DMP3130LQ-7	DIODES	KMA3D7P20SA
2N7002AQ	DIODES	2N7002KB	AP10N012I	APEC	KUS086N10FA	FDN338P	ONSEMI	KMA2D4P20SA
2N7002BK	NEXPERIA	2N7002KB	AP10N7R5H	APEC	KUS086N10DA	FDN340P	ONSEMI	KMA3D7P20SA
2N7002BKS	NEXPERIA	2N7002KDU	AP30T10GH-HF	APEC	KU310N10D	FDV301N	ONSEMI	KTK5132S
2N7002BKW	NEXPERIA	2N7002KU	AP9561GI-HF	APEC	KU170P04FT2	INK0010AC1	ISAHAYA	2N7002KB
2N7002CK	NEXPERIA	2N7002KB	ATP202-TL-H	ONSEMI	KU2303D	INK0010AM1	ISAHAYA	2N7002KU
2N7002DW	DIODES	2N7002KDU	ATP405-TL-H	ONSEMI	KU310N10D	INK0302AC1	ISAHAYA	KMB4D0N30SA
2N7002DWQ	DIODES	2N7002KDU	BR2N7002K2	BLUE ROCKET	2N7002KB	IPA045N10N3G	INFINEON	KUS045N10FA
2N7002E	ONSEMI	2N7002KB	BRCS050N03DP	BLUE ROCKET	KU2307D	IPA050N10NM5S	INFINEON	KUS045N10FA
2N7002K	DIODES	2N7002KB	BRCS3407MC	BLUE ROCKET	KMB3D0P30SA	IPA083N10N5	INFINEON	KUS086N10FA
2N7002K	MCC	2N7002KB	BSS138	DIODES	2N7002KB	IPA086N10N3 G	INFINEON	KUS086N10FA
2N7002K	PANJIT	2N7002KB	BSS138	ONSEMI	2N7002KB	IPD060N03LG	INFINEON	KU2303D
2N7002KT1G	ONSEMI	2N7002KB	BSS138	TSC	2N7002KB	IPD082N10N3G	INFINEON	KUS086N10DA
2N7002LT1G	ONSEMI	2N7002KB	BSS138AKA	NEXPERIA	2N7002KB	IPD35N10S3L-26	INFINEON	KUS220N10DA
2N7002NXBK	NEXPERIA	2N7002KB	BSS138BK	NEXPERIA	2N7002KB	IRFB4127PbF	INFINEON	KU210N20PS1
2N7002P	NEXPERIA	2N7002KB	BSS138BKS	NEXPERIA	2N7002KDU	IRFR3710ZPBF	INFINEON	KUS220N10DA
2N7002Q	DIODES	2N7002KB	BSS138DW	DIODES	2N7002KDU	IRLML2502PBF	INFINEON	KMA3D6N20SA
2N7002WT1G	ONSEMI	2N7002KU	BSS138N	INFINEON	2N7002KB	IRLML6402PBF	INFINEON	KU390P02SZ
2SK1062	TOSHIBA	2N7002KB	BSS138P	NEXPERIA	2N7002KB	IRLR8726PbF	INFINEON	KU2307D
2SK3018	ROHM	KTK5132U	BSS138PW	NEXPERIA	2N7002KU	L2N7002KLT1G	LRC	2N7002KB
2SK3019	ROHM	KTK5132E	BSS138W	ROHM	2N7002KU	LP3407LT1G	LRC	KMB3D0P30SA
2SK3599-01MR	FUJI	KU310N10F	BSS205N	INFINEON	KMA3D6N20SA	MCU20N10A	MCC	KU310N10D
2V7002KT1G	ONSEMI	2N7002KB	BSS308PE	INFINEON	KMA3D7P20SA	MDD08N067RH	MAGNACHIP	KUS086N10DA
2V7002WT1G	ONSEMI	2N7002KU	BVSS138LT1G	ONSEMI	2N7002KB	MDF1921	MAGNACHIP	KUS045N10FA
7N10G-TN3-R	UTC	KU3600N10D	DMG2302UK	DIODES	KMA3D0N20SA	MDF3752	MAGNACHIP	KU170P04FT2
AO3415	AOSMD	KU390P02SZ	DMNS53D0L	DIODES	2N7002KB	MMBT7002K	SEMTECH	2N7002KB
AO3423	AOSMD	KMA2D4P20SA	DMN5L06KQ	DIODES	2N7002KB	NTK3134NT1G	ONSEMI	KML0D4N20V
AO3435	AOSMD	KMA3D7P20SA	DMN65D8L	DIODES	2N7002KB	NTR4501NT1G	ONSEMI	KMA3D0N20SA
AOD296A	AOSMD	KUS086N10DA	DMN65D8LW	DIODES	2N7002KU	NTRV4101PT1G	ONSEMI	KMA3D7P20SA

MOSFET

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
NVD6824NL	ONSEMI	KUS220N10DA	RK7002	ROHM	2N7002KB	SSM3J377R	TOSHIBA	KMA3D7P20SA
NVR5198NLT1G	ONSEMI	KMB2D0N60SA	RK7002A	ROHM	2N7002KB	SSM3K15AFS	TOSHIBA	KTk5132E
NX2301P	NEXPERIA	KMA2D4P20SA	RK7002B	ROHM	2N7002KB	SSM3K15AMFV	TOSHIBA	KTk5132V
NX3020NAK	NEXPERIA	KTk5132S	RK7002BM	ROHM	2N7002KB	SSM3K15FS	TOSHIBA	KTk5132E
NX3020NAKW	NEXPERIA	KTk5132U	RK7002BMHZG	ROHM	2N7002KB	SSM3K2615R	TOSHIBA	KMB2D0N60SA
PDD0976B	POTENS	KUS086N10DA	RQ5A025ZP	ROHM	KMA3D7P20SA	SSM3K324R	TOSHIBA	KMD4D2N30S
PDD0982B	POTENS	KUS086N10DA	RQ5C020TP	ROHM	KMA2D4P20SA	SSM3K335R	TOSHIBA	KMB4D0N30SA
PJA138K	PANJIT	2N7002KB	RQ5E035AT	ROHM	KMB3D0P30SA	SSM3K357R	TOSHIBA	2N7002KB
PJA3400	PANJIT	KMD4D2N30S	RQ5E035BN	ROHM	KMD4D2N30S	SSM3K376R	TOSHIBA	KMD4D2N30S
PJA3401	PANJIT	KMB3D0P30SA	RQ5L020SN	ROHM	KMB2D0N60SA	SSM3K44FS	TOSHIBA	KTk5132E
PJA3404-AU	PANJIT	KMD4D2N30S	RQ5P010SN	ROHM	KU3600N10SZ	SSM3K44MFV	TOSHIBA	KTk5132V
PJA3407	PANJIT	KMB3D0P30SA	RRR015P03	ROHM	KMB3D0P30SA	SSM3K48FU	TOSHIBA	KTk5132U
PJA3412	PANJIT	KMA3D6N20SA	RRR030P03	ROHM	KMB3D0P30SA	SSM3K7002CFU	TOSHIBA	2N7002KU
PJA3413	PANJIT	KMA3D7P20SA	RSD201N10	ROHM	KU310N10D	SSM3K7002KFU	TOSHIBA	2N7002KU
PJA3414	PANJIT	KMA3D6N20SA	RSE002P03	ROHM	KML0D4P20E	STF100N10F7	STMICRO	KUS086N10FA
PJA3415AE	PANJIT	KU390P02SZ	RSR020N06	ROHM	KMB2D0N60SA	STN2NF10	STMICRO	KU3600N10WZ
PJA3440	PANJIT	KMB3D5N40SA	RSR020N06FRA	ROHM	KMB2D0N60SA	SUD23N06-31	VISAHY	KU310N10D
PJA3457	PANJIT	KU390P02SZ	RSR025N03	ROHM	KMB4D0N30SA	TBL2301	GALAXY	KMA2D4P20SA
PJE138K	PANJIT	2N7002KE	RSR025P03	ROHM	KMB3D0P30SA	TK110A10PL	TOSHIBA	KUS086N10FA
PMV120ENEA	NEXPERIA	KMB2D0N60SA	RTR020P02	ROHM	KMA3D7P20SA	TK25A10K3	TOSHIBA	KU310N10F
PMV27UPEA	NEXPERIA	KU390P02SZ	RTR025N03	ROHM	KMB4D0N30SA	TK40A10N1	TOSHIBA	KUS086N10FA
PMV280ENEA	NEXPERIA	KU3600N10SZ	RTR030P02HZG	ROHM	KMA3D7P20SA	TK46A08N1	TOSHIBA	KUS086N10FA
PMV30UN2	NEXPERIA	KMA3D6N20SA	RU1L002SN	ROHM	2N7002KU	TK50P03M1	TOSHIBA	KU2303D
PMV50ENEA	NEXPERIA	KMD4D2N30S	RUC002N05	ROHM	2N7002KB	TK65A10N1	TOSHIBA	KUS045N10FA
PMV50UPE	NEXPERIA	KU390P02SZ	RZM001P02	ROHM	KML0D3P20V	TK72A08N1	TOSHIBA	KUS045N10FA
PMZ600UNE	NEXPERIA	KML0D4N20UL	SI2305B-TP	MCC	KU390P02SZ	TK7R7P10PL	TOSHIBA	KUS086N10DA
RD3P200SNFRA	ROHM	KU310N10D	SIR470DP-T1-GE3	VISAHY	KU016N06CS1	TK80A08K3	TOSHIBA	KUS045N10FA
RE1C001UN	ROHM	KML0D4N20E	S-L2N7002SDW1T1G	LRC	2N7002KDU	TPH2R903PL	TOSHIBA	KU024N03C
RE1C002UN	ROHM	KML0D4N20E	S-L2N7002SLT1G	LRC	2N7002KB	TSM650P03CX	TSC	KMB3D0P30SA
RE1C002ZP	ROHM	KML0D4P20E	SN7002N	INFINEON	2N7002KB	UT2302G	UTC	KMA3D0N20SA
RE1L002SN	ROHM	2N7002KE	SQ2351ES	VISAHY	KMA2D4P20SA	ZXMN6A07FQTA	DIODES	KMB2D0N60SA
RHK003N06FRA	ROHM	2N7002KB	SSM3J15FV	TOSHIBA	KTJ6131V			
RHU002N06FRA	ROHM	2N7002KU	SSM3J332R	TOSHIBA	KU390P02SZ			
RJU002N06	ROHM	2N7002KU	SSM3J36FS	TOSHIBA	KML0D4P20E			

*HV, SJ MOSFET

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
13NM60G-TN3	UTC	KP380N60DM3	JCS10N60FC	JSMC	KF10N60F	SMK0780FD	AUK	KF7N80F
13NM60L-TF1	UTC	KP380N60FM3	JCS12N60FT	JSMC	KF12N60F	SMK0825D	AUK	KF9N25D
18NM60G-TN3	UTC	KP280N60DM3	JCS1N60RC	JSMC	KF1N60D	SMK1265F	AUK	KF12N68F
18NM60L-TF1	UTC	KP280N60FM3	JCS5N50FTR	JSMC	KF5N50DZ	SMK830F	AUK	KF5N50FZA
2SK2865	TOSHIBA	KF2N60D	MDD4N25RH	MAGNACHIP	KF5N25D	STD10N60M2	STMICRO	KP580N60DM3Z
2SK3561	TOSHIBA	KF9N50F	MDD5N40RH	MAGNACHIP	KF5N40D	STD13N60M2	STMICRO	KP380N60DM3Z
2SK3607-01MR	FUJI	KF19N20F	MDD7N25RH	MAGNACHIP	KF9N25D	STD16N60M2	STMICRO	KP280N60DM3Z
8N50F	PINGWEI	KF9N50F	MDD9N40	MAGNACHIP	KF9N40D	STF10N60M2	STMICRO	KP580N60FM3Z
9NM60L-TF1	UTC	KP580N60FM3	MDF11N65B	MAGNACHIP	KF12N68F	STF10NM60N	STMICRO	KP580N60FM3
AOD2N60A	AOSMD	KF2N60D	MDF5N50	MAGNACHIP	KF5N50FZA	STF11N65M2	STMICRO	KP580N65FM3
CPA60R280G2	COOLSEMI	KP280N60FM3	MDHT4N20Y	MAGNACHIP	KF4N20LW	STF13N60M2	STMICRO	KP380N60FM3Z
CPA65R340G2	COOLSEMI	KP380N65FM3	MMD60R360P	MAGNACHIP	KP380N60DM3	STF13NM60N	STMICRO	KP380N60FM3
CPD65R650G2	COOLSEMI	KP580N65DM3	MMD60R360Q	MAGNACHIP	KP380N60DM3	STF18N60M2	STMICRO	KP280N60FM3Z
CRJF125N60G2F	CRMICRO	KP125N60FM3	MMD60R580Q	MAGNACHIP	KP580N60DM3	STF18NM60N	STMICRO	KP280N60FM3
F2460K8	STMICRO	KP190N60FM3	MMF60R190Q	MAGNACHIP	KP190N60FM3	STF22NM60N	STMICRO	KP190N60FM3
FCPF190N60	ONSEMI	KP190N60FM3	MMF60R280Q	MAGNACHIP	KP280N60FM3	STF24N60M2	STMICRO	KP190N60FM3Z
FMV20N60S1	FUJI	KP190N60FM3	MMF60R280RZ	MAGNACHIP	KP280N60FM3Z	SVF830D	SILAN	KF5N50DZ
FMV60N190S2HF	FUJI	KP190N60FM3	MMF60R290P	MAGNACHIP	KP280N60FM3	SVF840F	SILAN	KF9N50F
FQD2N60CTM	ONSEMI	KF2N60D	MMF60R360P	MAGNACHIP	KP380N60FM3	SVS7N65FJD2	SILAN	KP580N65FM3
HFS12N65S	SEMIHOW	KF12N68F	MMF60R360Q	MAGNACHIP	KP380N60FM3	TK10A50D	TOSHIBA	KF9N50F
HFS4N65	SEMIHOW	KF4N65F	MMF60R580P	MAGNACHIP	KP580N60FM3	TK10A60D	TOSHIBA	KF10N60F
HFS7N80	SEMIHOW	KF7N80F	MMF60R580Q	MAGNACHIP	KP580N60FM3	TK10A60W	TOSHIBA	KP380N60FM3
IPA60R180C7	INFINEON	KP190N60FM3Z	MMF65R380Q	MAGNACHIP	KP380N65FM3	TK12A50D	TOSHIBA	KF11N50F
IPA60R180P7S	INFINEON	KP190N60FM3Z	MMF65R600Q	MAGNACHIP	KP580N65FM3	TK12P60W	TOSHIBA	KP380N60DM3
IPA60R190E6	INFINEON	KP190N60FM3	MMFT60R195P	MAGNACHIP	KP190N60FM3	TK13A50D	TOSHIBA	KF13N50F
IPA60R280E6	INFINEON	KP280N60FM3	MMSF60R190Q	MAGNACHIP	KP190N60FWM3	TK16A60W	TOSHIBA	KP190N60FM3
IPA60R280P7S	INFINEON	KP280N60FM3Z	MMSF60R360Q	MAGNACHIP	KP380N60FWM3	TK20A60U	TOSHIBA	KP190N60FM3
IPA60R360P7S	INFINEON	KP380N60FM3Z	NCE65T180F	NCEPOWER	KP190N65FM3	TK290A60Y	TOSHIBA	KP280N60FM3
IPA60R400CE	INFINEON	KP380N60FM3	P5F50HP2	SHINDENGEN	KF5N50FZA	TK290A65Y	TOSHIBA	KP280N65FM3
IPA60R600P7S	INFINEON	KP580N60FM3Z	PFF5N50E	WING ON	KF5N50FZA	TK3P80E	TOSHIBA	KF3N80D
IPA60R650CE	INFINEON	KP580N60FM3	PJD1NA60B	PANJIT	KF1N60D	TK5A50D	TOSHIBA	KF5N50FZA
IPD60R280P7S	INFINEON	KP280N60DM3Z	R6011ENX	ROHM	KP380N60FM3	TK5P50D	TOSHIBA	KF5N50DZ
IPD60R360P7S	INFINEON	KP380N60DM3Z	R6011KNX	ROHM	KP380N60FM3	TK6A80E	TOSHIBA	KF7N80F
IPD60R385CP	INFINEON	KP380N60DM3	R6020ENX	ROHM	KP190N60FM3	TK7A60W	TOSHIBA	KP580N60FM3
IPD60R400CE	INFINEON	KP380N60DM3	R6020KNX	ROHM	KP190N60FM3	TK7P50D	TOSHIBA	KF7N50D
IPD60R460CE	INFINEON	KP380N60DM3	R6511KNX	ROHM	KP380N65FM3	TK7P60W	TOSHIBA	KP580N60DM3
IPD60R600E6	INFINEON	KP580N60DM3	RD3U060CNTL1	ROHM	KF9N25D	TK8A50D	TOSHIBA	KF9N50F
IPD60R600P7S	INFINEON	KP580N60DM3Z	RJK6002DPD	RENESAS	KF2N60D	TK8A60W	TOSHIBA	KP580N60FM3
IPD60R650CE	INFINEON	KP580N60DM3	SIHFR214TRL	VISAHY	KF5N25D	TSM2NB60CP	TSC	KF2N60D
IRFR420TRPbF	VISAHY	KF3N50DZ	SMK0765F	AUK	KF7N65F	WML20N60C2	WAYON	KP280N60FM3
IRFR812TRPbF	INFINEON	KF5N50DZ						

4 >>>

IGBT

IGBT	112~114
IGBT	112
List of Equivalent Product	113~114

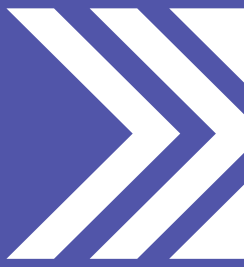
IGBT

Type No.	AEC-Q	Built in Diode	Max. Ratings									V _{GEth} [V]			V _{CEsat} [V]		V _F [V]		PKG
			V _{CEs} [M]	V _{GES} [M]	T _J [°C]	I _C [A] @25°C	I _C [A] @100°C	I _H [A] @25°C	I _H [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 _H [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)
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	57.1	3.1	7.1	5.0	1.66	5	1.95	5	DPAK(3)
KGF05N65DDE (Zener built-in type)	●	Y	650	±20	150	10	5	10	5	20	57.1	4.0	6.5	5.0	1.65	5	1.95	5	DPAK(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	DPAK(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)
KGF40N65KDCA	●	Y	650	±20	175	80	40	80	40	120	187	5.0	7.5	4.0	1.65	40	1.98	40	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)
KGF75N65KDFA	●	Y	650	±20	175	150	75	150	75	225	517	4.5	6.5	7.5	1.75	75	1.70	75	TO-247
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)
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)
KGF30N120KAA	○	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)

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

Type No.	Maker	KEC	Type No.	Maker	KEC
AIGW50N65F5	INFINEON	KGF50N65KDF	IRG4PC50UD	INFINEON	KGF30N60KDA
AIKW30N60CT	INFINEON	KGF40N60KDA	IRG4PC50UDPbF	INFINEON	KGF30N60KDA
AMBQ40T120RFR	MAGNACHIP	KGF40N120KDA	IRG4PC50UPbF	INFINEON	KGF30N60KDA
AUIRGP4062D-E	INFINEON	KGF30N60KDA	IRG4PC60UPbF	INFINEON	KGF40N60KDA
FGH40N60SMD	ONSEMI	KGF40N60KDA	IRG4PF50WDPbF	INFINEON	KGF30N60KDA
FGH40T100SMD	ONSEMI	KGF40N120KDA	IRG4PH40UDPbF	INFINEON	KGF25N120KDA
FGH40T65UQDF	ONSEMI	KGF40N65KDC	IRGP20B60PD	INFINEON	KGF30N60KDA
FGH60N60SMD	ONSEMI	KGF60N65KDF	IRGP4062DPBF	INFINEON	KGF30N60KDA
FGPF10N60UNDF	ONSEMI	KGF15N65FDA	IRGP4063DPbF	INFINEON	KGF50N60KDA
FGPF15N60UNDF	ONSEMI	KGF15N65FDA	IRGP4068D	INFINEON	KGF50N60KDA
FGW30N120H	FUJI	KGF25N120KDA	MGD623N	SANKEN	KGF50N60KDA
FGW60N65WD	FUJI	KGF60N65KDF	MGD623S	SANKEN	KGF40N60KDA
GT15J341	TOSHIBA	KGF15N65FDA	RGCL60TK60	ROHM	KGF30N60KDA
IGW30N60H3	INFINEON	KGF30N60KDA	RGS00TS65DHR	ROHM	KGF50N65KDF
IKA15N60T	INFINEON	KGF15N65FDA	RGS00TS65EHR	INFINEON	KGF50N65KDF
IKA15N65ET6	INFINEON	KGF15N65FDA	RGS80TSX2DHR	ROHM	KGF40N120KDA
IKD04N60RC2	INFINEON	KGF05N65DDA	RGS80TSX2HRC11	ROHM	KGF30N120KA
IKD06N60R	INFINEON	KGF05N65DDA	RGTV60TS65D	ROHM	KGF40N65KDC
IKD06N60RF	INFINEON	KGF05N65DDA	RJH1CM5DPK	RENESAS	KGF15N120KDA
IKW15N120H3	INFINEON	KGF15N120KDA	RJH1CM5DPQ	RENESAS	KGF15N120KDA
IKW15N120T2	INFINEON	KGF15N120KDA	RJH1CM6DPK	RENESAS	KGF25N120KDA
IKW20N60H3	INFINEON	KGF20N60KDA	RJH1CM6DPQ	RENESAS	KGF25N120KDA
IKW20N65ET7	INFINEON	KGF40N65KDC	RJH1CM7DPK	RENESAS	KGF25N120KDA
IKW25N120H3	INFINEON	KGF25N120KDA	RJH1CM7DPQ	RENESAS	KGF25N120KDA
IKW25N120T2	INFINEON	KGF25N120KDA	RJH60D2DPP-M0	RENESAS	KGT15N60FDA
IKW30N60H3	INFINEON	KGF30N60KDA	RJH60F7DPK	RENESAS	KGF50N60KDA
IKW40N120H3	INFINEON	KGF40N120KDA	SKW30N60	INFINEON	KGF30N60KDA
IKW40N60H3	INFINEON	KGF40N60KDA	STGD3HF60HDT4	STMICRO	KGF05N65DDA
IKW50N60H3	INFINEON	KGF50N60KDA	STGD5H60DF	STMICRO	KGF05N65DDA
IKW50N60TA	INFINEON	KGF50N60KDA	STGF20H65DFB2	STMICRO	KGF40N65KDC
IKW50N65WR5	INFINEON	KGF50N65KDF	STGF7H60DF	STMICRO	KGT15N60FDA
IKW75N60T	INFINEON	KGF75N60KDB	STGW20H60DF	STMICRO	KGF20N60KDA
IKW75N65EH5	INFINEON	KGF75N65KDF	STGW30NC60VD	STMICRO	KGF30N60KDA
IRG4BC40F	INFINEON	KGF30N60PA	STGWA19NC60HD	STMICRO	KGF20N60KDA
IRG4PC40UDPBF	INFINEON	KGF20N60KDA	STGWA30HP65FB2	STMICRO	KGF40N65KDC

Type No.	Maker	KEC	Type No.	Maker	KEC
STGWA40HP65FB2	STMICRO	KGF40N65KDC	IRGP30B60KD-E	INFINEON	KGF30N60KDA
STGWT60H65DFB	STMICRO	KGF60N65KDF	FGA3060ADF	ONSEMI	KGF30N60KDA
TGAN60N65F2D2S	TRINNO	KGF75N65KDF	GT30J341	TOSHIBA	KGF30N60KDA
TGAN60N65F2DS	TRINNO	KGF75N65KDF	IKW40T120	INFINEON	KGF40N120KDA
NGTB03N60R2DT4G	ONSEMI	KGF05N65DDA	IKW40N120T2	INFINEON	KGF40N120KDA
IKA08N65H5	INFINEON	KGF12N60FDA	RGCL80TS60D	ROHM	KGF40N60KDA
IKA10N60T	INFINEON	KGF12N60FDA	IKW30N60DTP	INFINEON	KGF40N60KDA
IKA06N60T	INFINEON	KGF12N60FDA	IRGP4640D	INFINEON	KGF40N60KDA
IRGIB6B60KD	INFINEON	KGF12N60FDA	IRG4PC50SD	INFINEON	KGF40N60KDA
IRG4IBC20KD	INFINEON	KGF12N60FDA	IRG4PC50FD	INFINEON	KGF40N60KDA
IKW15T120	INFINEON	KGF15N120KDA	IRGP50B60PD	INFINEON	KGF40N60KDA
IRG4PH40KD	INFINEON	KGF15N120KDA	FGA4060ADF	ONSEMI	KGF40N60KDA
NGTB15N120FL2WG	ONSEMI	KGF15N120KDA	FGB40N60SM	ONSEMI	KGF40N60KDA
IKA08N65ET6	INFINEON	KGF15N60FDA	GT40J322	TOSHIBA	KGF40N60KDA
IKA15N65H5	INFINEON	KGF15N60FDA	RGW80TS65D	ROHM	KGF40N65KDC
IKA15N65F5	INFINEON	KGF15N60FDA	IKW40N65F5	INFINEON	KGF40N65KDC
IRGIB7B60KD	INFINEON	KGF15N60FDA	FGA40N65SMD	ONSEMI	KGF40N65KDC
IRG4IBC20FD	INFINEON	KGF15N60FDA	FGA6540WDF	ONSEMI	KGF40N65KDC
NGTB15N60EG	ONSEMI	KGF15N65PDA	FGB40T65SPD-F085	ONSEMI	KGF40N65KDC
IKW20N60T	INFINEON	KGF20N60KDA	FGH40N65UFD-F085	ONSEMI	KGF40N65KDC
IRG4PC40UD	INFINEON	KGF20N60KDA	IKW40N60DTP	INFINEON	KGF50N60KDA
FGH20N60UFD	ONSEMI	KGF20N60KDA	IKW50N60T	INFINEON	KGF50N60KDA
IRG7PH35UD	INFINEON	KGF25N120KDA	IRGP4660D	INFINEON	KGF50N60KDA
IKW25T120	INFINEON	KGF25N120KDA	IRGP4069D	INFINEON	KGF50N60KDA
IRGP20B120UD-E	INFINEON	KGF25N120KDA	IRGP50B60PD1-E	INFINEON	KGF50N60KDA
IRG4PH50UD	INFINEON	KGF25N120KDA	GT50J341	TOSHIBA	KGF50N60KDA
IRG4PH50KD	INFINEON	KGF25N120KDA	FGH75T65SHDT	ONSEMI	KGF75N60KDB
SKW25N120	INFINEON	KGF25N120KDA	RGS80TSX2DHRC11	ROHM	KGF40N120KDA
FGH25T120SMD	ONSEMI	KGF25N120KDA	RGTH00TS65DGC13	ROHM	KGF50N65KDF
NGTB25N120FL2WG	ONSEMI	KGF25N120KDA	STGF20H60DF	STMICRO	KGF20N60KDA
NGTB25N120SWG	ONSEMI	KGF25N120KDA	STGF30H60DF	STMICRO	KGF30N60KDA
IKW30N60T	INFINEON	KGF30N60KDA	STGWA60H65DFB	STMICRO	KGF60N65KDF
IRGP35B60PD	INFINEON	KGF30N60KDA	JT05N065RAD	JILIN SINO	KGF05N65DDA
IRG4PC40FD	INFINEON	KGF30N60KDA	AOD5B65MQ1E	ALPHA & OMEGA	KGF05N65DDE
IRG4PC50KD	INFINEON	KGF30N60KDA	JT075N065WED	JILIN SINO	KGF75N65KDA



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■ OP Amp.

Type No.	AEC-Q	Channel No.	Supply Voltage $V_{CC}(V)$	Input Offset Voltage $V_{IO}(mV)$	Input Bias Current $I_I(nA)$	Slew Rate (V/us)	PKG
KIA75S358F	○	1	±18 or 36	2	45	0.4	TSV
KIA75S558F	○	1	±18 or 36	0.5	60	1.0	
KIA358P	○	2	±18 or 36	2	45	0.4	DIP-8
KIA4558P	○	2	±18 or 36	0.5	60	1.0	
KIA358F	○	2	±18 or 36	2	45	0.4	FLP-8
KIA2904F	●	2	±18 or 36	2	45	0.8	
KIA4558F	○	2	±18 or 36	0.5	60	1.0	
KIA324P	○	4	±18 or 36	2	45	0.4	DIP-14
KIA324F	○	4	±18 or 36	2	45	0.4	FLP-14

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

■ 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

Power Management

■ 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	Hysteresis Volts. $\Delta V_S(mV)$			Circuit Current at on. $I_{CC}(μA)$		Circuit Current at off. $I_{CCH}(μA)$		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

Power Management

■ Gate Driver

▣ Low Voltage Gate Driver

Type No.	AEC-Q	Max. Ratings		Topology	Target Switch	Bootstrap Diode	Charge Pump	LDO	Protections	FAULT Output	PKG
		V _{IN} (V)	R _{th(J-A)} (°C/W)				Output(V)	Output(V)			
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

▣ High Voltage Gate Driver

Type No.	AEC-Q	Max. Ratings		Topology	Target Switch	Bootstrap Diode	Protections	FAULT Output	PKG
		V _{IN} (V)	R _{th(J-A)} (°C/W)						
KIB2642F	●	600	78	3-Phase	N-MOSFET IGBT	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

Power Management

Regulator

General Purpose

0.15A General purpose Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage V _{OUT} (V)				Reg Line (mV)			Reg Load (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

Regulator

General Purpose

0.5A General purpose Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{OUT}(V)$				Reg Line (mV)			Reg Load (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 $V_{OUT}(V)$				Reg Line (mV)			Reg Load (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

Power Management

Regulator

Negative

0.15A Negative General purpose Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage V _{OUT} (V)				Reg Line (mV)			Reg Load (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

■ Regulator

■ Negative

□ 1A Negative General purpose Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{OUT}(V)$				Reg Line (mV)			Reg Load (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

Power Management

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

■ 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

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

Power Management

■ 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

Regulator

CMOS LDO

0.25A LDO Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{OUT}(V)$				Reg Line (V)			Reg Load (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 $V_{OUT}(V)$				Reg Line (%/V)			Reg Load (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	

Note) ● : Preparing for qualification of AEC-Q

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

Type No.	AEC-Q	Max. Ratings			Output Voltage $V_{OUT}(V)$				Reg Line (%/V)			Reg Load (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	20mV	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 $V_{OUT}(V)$				Reg Line (%/V)			Reg Load (%)			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

Power Management

■ 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} (V)	@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	
KID65003FT	●	Darlington Driver	7	●	50	500	TSSOP-16
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, ● : Preparing for qualification of AEC-Q

■ 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

■ 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	PKG
		V _{IN} (V)	I _{OUT} (mA)	Min.	Max.				Typ.	Max.			VO1-VO2 (mV)	
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.ⅱ	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
278R12L-TF4-T	UTC	KIA278R12PI	KA358	ONSEMI	KIA358P	LM393DRG3	TI	KIA393F
78D05G-TN3-R	UTC	KIA78M05F	KA431AZTA	ONSEMI	KIA431A	LM393DT	STMICRO	KIA393F
78D15AG-TN3-R	UTC	KIA7815AF	KA431SLMF2	ONSEMI	KIA431BM	LM393G-S08-R	UTC	KIA393F
78D15LG-AB3-B-R	UTC	KIA78L15F	L78M05CDT-TR	STMICRO	KIA78M05F	LM7915AG-TF3-T	UTC	KIA7915PI
AS7812ADTR-G1	DIODES	KIA7812AF	L78M10ABDT-TR	STMICRO	KIA78M05F	LP2950CDT-5.0	ONSEMI	KIA78DL05F
AZ34063UMTR-G1	DIODES	KIA34063AF	L78M15CDT-TR	STMICRO	KIA78M15F	LP2981-33DBVR	TI	KIC3222T33
BA10358F	ROHM	KIA358F	LD1117AG-50-TN3	UTC	KIA78D05AF	LP2985AIM5-3.3	TI	KIC3222T33
BA10393F	ROHM	KIA393F	LDK220M33R	STMICRO	KIC3222T33	LP339MX	TI	KIA339F
BA12003BF	ROHM	KID65003AF	LF33CDT	STMICRO	KIA78D33AF	LR431APLT1G	LRC	KIA431BM
BA17805CP	ROHM	KIA7805API	LF50CDT	STMICRO	KIA78D05AF	LT1469CS8#PBF	ANALOG DEVICES	KIA358F
BA2901SF	ROHM	KIA339F	LM124DR	TI	KIA324F	LT1469IS8#PBF	ANALOG DEVICES	KIA358F
BA2902SF	ROHM	KIA324F	LM224DR2G	ONSEMI	KIA324F	MC33063ADR2G	ONSEMI	KIA34063AF
BA2903SF	ROHM	KIA393F	LM224WDT	STMICRO	KIA324F	MC33063AQDRQ1	TI	KIA34063AF
BA2904SF	ROHM	KIA358F	LM258DR2G	ONSEMI	KIA358F	MC33174VDR2G	ONSEMI	KIA324F
BA3472F	ROHM	KIA358F	LM2902DR2G	ONSEMI	KIA324F	MC34072G-S08-R	UTC	KIA358F
BA4558F	ROHM	KIA4558F	LM2903	STMICRO	KIA393F/KIA393P	MC7805BDTRKG	ONSEMI	KIA7805AF
BA8391G	ROHM	KIA75S393F	LM2903DR	TI	KIA393F	MC78M05ACDTRKG	ONSEMI	KIA78M05F
BD2222G-GTR	ROHM	KIC6961T	LM2903DR2G	ONSEMI	KIA393F	MC78M05BDTRKG	ONSEMI	KIA78M05F
BD2244G-MGTR	ROHM	KIC6961T	LM2903WYDT	STMICRO	KIA393F	MC78M12BDTRKG	ONSEMI	KIA78M12F
BD4827G	ROHM	KIC7527T5	LM2904BAQDRQ1	TI	KIA358F	MC78M12CDTRKG	ONSEMI	KIA78M12F
BD5240G	ROHM	KIC7640T5	LM2904D	TI	KIA358F	MC78M15BDTRKG	ONSEMI	KIA78M15F
BD5243G	ROHM	KIC7643T5	LM2904DR2G	ONSEMI	KIA358F	MCP111T-300E	MICROCHIP	KIC7530M
BD52E27G	ROHM	KIC7627T5	LM2904S	DIODES	KIA358F	NCP431ACSNT1G	ONSEMI	KIA431AM
BD5330G	ROHM	KIC7230T5	LM2904WYDT	STMICRO	KIA358F	NCV2903DR2G	ONSEMI	KIA393F
BU33SD2MG-M	ROHM	KIC3222T33	LM321MFX	TI	KIA75S358F	NCV2904DR2G	ONSEMI	KIA358F
BU33TD3WG	ROHM	KIC3222T33	LM321SN3T1G	TI	KIA75S358F	NCV303LSN30T1G	ONSEMI	KIC7630T5
BU33TD3WG-TR	ROHM	KIC3222T33	LM358DR	TI	KIA358F	NCV78M08BDTRKG	ONSEMI	KIA78M08F
BU4242G	ROHM	KIC7642T5	LM358DR2G	ONSEMI	KIA358F	NJM2068D	NJRC	KIA4558P
BY4558YF-M	ROHM	KIA4558F	LM358DT	STMICRO	KIA358F	NJM2125F	NJRC	KIA75S358F
HA178L05A-TZ	RENESAS	KIA78L05BP	LM393DR	TI	KIA393F	NJM2388F33	NJRC	KIA78R33PI

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
NJM2389F	NJRC	KIA78R00PI	NJM78M05FA	NJRC	KIA78M05PI	TL431BQDBZRQ1	TI	KIA431BM
NJM2845DL1-05	NJRC	KIA78D05AF	NJM78M05SDL1	NJRC	KIA78M05F	TL431G-AE2-R	UTC	KIA431BCM
NJM2845DL1-33	NJRC	KIA78D33AF	NJM78M12FA	NJRC	KIA78M12PI	TL431G-AE3-R	UTC	KIA431BCM
NJM2901CG	NJRC	KIA339F	NJM78M15DL1A	NJRC	KIA78M15F	TL431IPK	TI	KIA431AF
NJM2901N	NJRC	KIA339P	NJM78M15FA	NJRC	KIA78M15PI	TL431K-T92-B	UTC	KIA431A
NJM2902CG	NJRC	KIA324F	NJM78M18FA	NJRC	KIA7818API	TL431LIBQDBZR	TI	KIA431BM
NJM2903CG	NJRC	KIA393F	NJM7906FA	NJRC	KIA7906PI	TL432AQDBZRQ1	TI	KIA431ACM
NJM2904CG	NJRC	KIA358F	NJM8068G-TE2	NJRC	KIA4558F	TL432B	TI	KIA431BCM
NJM2904D	NJRC	KIA358P	NJM8080G	NJRC	KIA4558F	TLV73333PQDBVRQ1	TI	KIC3222T33
NJM324CG	NJRC	KIA324F	NJM8087E	NJRC	KIA358F	TPS7A2433DBVR	TI	KIC3222T33
NJM3472G	NJRC	KIA358F	NJW4104DL1-05B	NJRC	KIA78DL05F	UA78M08CKVURG3	TI	KIA78M08F
NJM358CG	NJRC	KIA358F	R3111N271A-TR-FE	NISSHINBO	KIC7527T5	UA79M08CKVURG3	TI	KIA7908F
NJM393CG	NJRC	KIA393F	R431APTL1G	LRC	KIA431BCM	ULN2003A	TI	KID65003AF
NJM431U	NJRC	KIA431AF	S-80842CNY-B2-U	ABLIC	KIA7042AP	ULN2003AD	TI	KID65003AF
NJM4580CG	NJRC	KIA4558F	SCV431BSN1T1G	ONSEMI	KIA2431AP	ULN2003ADR	TI	KID65003AF
NJM5532CG	NJRC	KIA4558F	TA75S01F	TOSHIBA	KIA75S358F	ULN2003AN	TI	KID65003AP
NJM7805DL1A	NJRC	KIA7805AF	TA75S393F	TOSHIBA	KIA75S393F	ULN2003AS16	DIODES	KID65003AF
NJM7805FA	NJRC	KIA7805API	TA76431F	TOSHIBA	KIA431F	ULN2003D1013TR	STMICRO	KID65003AF
NJM7805SDL1	NJRC	KIA7805AF	TBD62003AFWG	TOSHIBA	KID65003AF	ULN2003G-S16	UTC	KID65003AF
NJM7808FA	NJRC	KIA7808API	TBD62083AFWG	TOSHIBA	KID65083BF	ULN2003L-S16-R	UTC	KID65003AF
NJM7808SDL1	NJRC	KIA7808AF	TBD62783AFWG	TOSHIBA	KID65783BF	ULN2004ADR	TI	KID65004AF
NJM7809FA	NJRC	KIA7809API	TL072BIYDT	STMICRO	KIA4558F	ULN2004AIDR	TI	KID65004AF
NJM7812FA	NJRC	KIA7812API	TL331KDBVR	TI	KIA75S393F	ULQ2003ADR	TI	KID65003AF
NJM7818FA	NJRC	KIA7818API	TL3472ID	TI	KIA358F	UPC1251G2	RENESAS	KIA358F
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NJM78L12SU3	NJRC	KIA78L12F	TL431ATA	HTC	KIA431A	UPC451G2	RENESAS	KIA324F
NJM78L15UA	NJRC	KIA78L15F	TL431BIPK	TI	KIA431BF	XC6223H331MR-G	TOREX	KIC3222T33
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KIA7035AF	IC	118	KIA78DL08F	IC	126	KIA7905PI	IC	125	KIC3244F00	IC	129
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KRX101E	BJT	41	KTA1545W	BJT	28	KTC1003	BJT	20	KTC4072E	BJT	14
KRX101U	BJT	41	KTA1551T	BJT	28	KTC1006	BJT	18	KTC4072V	BJT	14
KRX102E	BJT	41	KTA1552T	BJT	28	KTC1008	BJT	18	KTC4075	BJT	14
KRX102U	BJT	41	KTA1572	BJT	18	KTC1027	BJT	18	KTC4075E	BJT	14
KRX103E	BJT	41	KTA1658	BJT	19	KTC1815	BJT	18	KTC4075V	BJT	14
KRX103U	BJT	41	KTA1659	BJT	19	KTC200	BJT	18	KTC4076	BJT	14
KRX104E	BJT	41	KTA1659A	BJT	19	KTC2020D	BJT	16	KTC4217	BJT	19
KRX201E	BJT	41	KTA1661	BJT	16	KTC2022D	BJT	16	KTC4369	BJT	20
KRX201U	BJT	41	KTA1662	BJT	16	KTC2025D	BJT	16	KTC4370	BJT	20
KRX202E	BJT	41	KTA1663	BJT	16	KTC2026	BJT	20	KTC4370A	BJT	20
KRX202U	BJT	41	KTA1664	BJT	16	KTC2027	BJT	20	KTC4373	BJT	16
KRX203E	BJT	41	KTA1666	BJT	26	KTC2028	BJT	20	KTC4374	BJT	16
KRX203U	BJT	41	KTA1668	BJT	16	KTC2030D	BJT	16	KTC4375	BJT	16
KRX204E	BJT	41	KTA1695A	BJT	20	KTC2036	BJT	20	KTC4376	BJT	16
KRX204U	BJT	41	KTA1700	BJT	19	KTC2800	BJT	19	KTC4378	BJT	16
KRX206E	BJT	41	KTA1700	BJT	20	KTC2800	BJT	20	KTC4379	BJT	26
KRX207E+	BJT	41	KTA1704	BJT	19	KTC2803	BJT	19	KTC4380	BJT	16
KRX207U+	BJT	41	KTA1715	BJT	27	KTC2814	BJT	27	KTC4468A	BJT	20
KRX208E	BJT	41	KTA1718D	BJT	26	KTC2815D	BJT	26	KTC4793	BJT	20
KRX208U+	BJT	41	KTA1725	BJT	19	KTC2825D	BJT	16	KTC5103D	BJT	26
KRX209E	BJT	41	KTA1807A	BJT	27	KTC2874	BJT	23	KTC5200	BJT	20
KRX209U+	BJT	41	KTA1807D	BJT	26	KTC2875	BJT	23	KTC5200A	BJT	20
KRX210E	BJT	41	KTA1837	BJT	19	KTC2875AS	BJT	23	KTC5200N	BJT	20
KTA1001	BJT	26	KTA1862D	BJT	26	KTC2983D	BJT	16	KTC5242A	BJT	20
KTA1023	BJT	18	KTA1943	BJT	20	KTC3003	BJT	27	KTC601E	BJT	21
KTA1024	BJT	18	KTA1943A	BJT	20	KTC3072D	BJT	16	KTC701U	BJT	22
KTA1040D	BJT	16	KTA1943N	BJT	20	KTC3112	BJT	24	KTC801E	BJT	21
KTA1041D	BJT	16	KTA1962A	BJT	20	KTC3114	BJT	20	KTC801U	BJT	22
KTA1042D	BJT	16	KTA200	BJT	17	KTC3198	BJT	18	KTC802E	BJT	21
KTA1045D	BJT	16	KTA2012E	BJT	14	KTC3202	BJT	17	KTC8050S	BJT	15
KTA1046	BJT	19	KTA2014	BJT	14	KTC3203	BJT	17	KTC811E	BJT	21
KTA1049	BJT	19	KTA2014E	BJT	14	KTC3205	BJT	18	KTC811U	BJT	22
KTA1070	BJT	18	KTA2014V	BJT	14	KTC3206	BJT	18	KTC812E	BJT	21
KTA1225D	BJT	16	KTA2015	BJT	14	KTC3207	BJT	18	KTC812T	BJT	23
KTA1241	BJT	26	KTA501U	BJT	22	KTC3207T	BJT	15	KTC812U	BJT	22
KTA1242D	BJT	16	KTA539	BJT	17	KTC3209	BJT	27	KTC815	BJT	18
KTA1243	BJT	17	KTA701E	BJT	21	KTC3226	BJT	18	KTC8550S	BJT	14
KTA1266	BJT	17	KTA708	BJT	17	KTC3227	BJT	18	KTC9012S	BJT	14
KTA1270	BJT	17	KTA733	BJT	17	KTC3228	BJT	18	KTC9013S	BJT	15
KTA1271	BJT	17	KTA733B	BJT	17	KTC3229	BJT	20	KTC9014S	BJT	15
KTA1273	BJT	18	KTB1124	BJT	26	KTC3265	BJT	15	KTC9015S	BJT	14
KTA1274	BJT	18	KTB1151	BJT	19	KTC3266	BJT	17	KTC945	BJT	18
KTA1275	BJT	18	KTB1241	BJT	18	KTC3295	BJT	24	KTC945B	BJT	18
KTA1277	BJT	18	KTB1260	BJT	16	KTC3423	BJT	19	KTD1003	BJT	24
KTA1281	BJT	27	KTB1366	BJT	19	KTC3503	BJT	19	KTD1028	BJT	24
KTA1282	BJT	17	KTB1367	BJT	19	KTC3531T	BJT	28	KTD1047	BJT	20
KTA1298	BJT	14	KTB1368	BJT	19	KTC3532T	BJT	28	KTD1302	BJT	23
KTA1360	BJT	19	KTB1369	BJT	19	KTC3535T	BJT	28	KTD1304	BJT	23
KTA1381	BJT	19	KTB1370	BJT	19	KTC3542T	BJT	28	KTD1347	BJT	27
KTA1385D	BJT	26	KTB1414	BJT	25	KTC3544T	BJT	28	KTD1411	BJT	25
KTA1504S	BJT	14	KTB1424	BJT	25	KTC3551T	BJT	28	KTD1413	BJT	25
KTA1504UL	BJT	14	KTB2630	BJT	20	KTC3552T	BJT	28	KTD1415	BJT	25
KTA1505S	BJT	14	KTB2640	BJT	20	KTC3572	BJT	18	KTD1423	BJT	25
KTA1531T	BJT	28	KTB631K	BJT	19	KTC3573	BJT	28	KTD1624	BJT	26
KTA1532T	BJT	28	KTB688	BJT	20	KTC3770S	BJT	15	KTD1630	BJT	20
KTA1532U	BJT	28	KTB764	BJT	18	KTC3770U	BJT	14	KTD1630G	BJT	20
KTA1535T	BJT	28	KTB772	BJT	19	KTC3770V	BJT	14	KTD1640	BJT	20
KTA1536T	BJT	28	KTB778	BJT	20	KTC3875S	BJT	15	KTD1640G	BJT	20
KTA1542T	BJT	28	KTB817	BJT	20	KTC3876S	BJT	15	KTD1691	BJT	19

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KTD1863	BJT	18	KU390P02SZ	MOSFET	102	MMBTA92	BJT	15	PG24DBUSC	DIODE	77
KTD1898	BJT	16	KU6KDN10MZ	MOSFET	103	MMBTA92	BJT	44	PG24EAS23	DIODE	79
KTD1937	BJT	24	KUS045N10FA	MOSFET	103	MPS651	BJT	18	PG24EBUSC	DIODE	77
KTD2058	BJT	20	KUS086N10DA	MOSFET	103	MPS651	BJT	45	PG24FAS23	DIODE	79
KTD2059	BJT	20	KUS086N10FA	MOSFET	103	MPS751	BJT	17	PG24FBTS6	DIODE	79
KTD2060	BJT	20	KUS220N10DA	MOSFET	103	MPS751	BJT	45	PG24GS1610D2	DIODE	76
KTD2061	BJT	20	MBRD10U100CT	DIODE	84	MPS8050S	BJT	15	PG24GSUSC	DIODE	77
KTD2066	BJT	24	MBRD10U150	DIODE	84	MPS8550S	BJT	14	PG24LSSMAF	DIODE	81
KTD2092	BJT	24	MBRD10U200CT	DIODE	84	MPSA06	BJT	18	PG24LSSMB	DIODE	81
KTD2854	BJT	25	MBRD10U60CT	DIODE	84	MPSA13	BJT	25	PG24MSSMC	DIODE	81
KTD600K	BJT	19	MBRD20U100CT	DIODE	84	MPSA42	BJT	18	PG26GS1610D2	DIODE	76
KTD718	BJT	20	MBRD20U150CT	DIODE	84	MPSA42	BJT	45	PG33DSTFC	DIODE	77
KTD863	BJT	18	MBRD20U200CT	DIODE	84	MPSA44	BJT	18	PG36DSESC	DIODE	77
KTD882	BJT	19	MBRD20U60CT	DIODE	84	MPSA44	BJT	45	PG36DSUL2	DIODE	76
KTD998	BJT	20	MBRD30U45CT	DIODE	84	MPSA92	BJT	45	PG36FSS23	DIODE	79
KTJ6131E	MOSFET	101	MBRD5U100D	DIODE	84	MPSA94	BJT	17	PG36FSUSC	DIODE	77
KTJ6131V	MOSFET	101	MBRD5U150	DIODE	84	PD03TCBEL2D	DIODE	80	PG36JSSMAF	DIODE	81
KTK491S	BJT	29	MBRD5U200D	DIODE	84	PD05TCBEL2D	DIODE	80	PG36LSSMB	DIODE	81
KTK491V	BJT	29	MBRD6U60CT	DIODE	84	PG03FSESC	DIODE	77	PG36MSSMC	DIODE	81
KTK5132E	MOSFET	101	MBRF10U100CTA	DIODE	84	PG03HSUL2	DIODE	76	PG48FSUSC	DIODE	77
KTK5132S	MOSFET	101	MBRF10U150CTA	DIODE	84	PG05BAUSM	DIODE	79	PG712FBS23	DIODE	79
KTK5132U	MOSFET	101	MBRF10U200	DIODE	84	PG05BSESC	DIODE	77	PS03CBEL2A	DIODE	76
KTK5132V	MOSFET	101	MBRF10U200CTA	DIODE	84	PG05DBEL2A	DIODE	76	PS03CBUL2	DIODE	76
KTK7132E	MOSFET	101	MBRF10U45CTA	DIODE	84	PG05DBTFC	DIODE	77	PS03PSUL2	DIODE	76
KTN2222A	BJT	27	MBRF10U60CTA	DIODE	84	PG05EAESM	DIODE	79	PS03TBUL2	DIODE	80
KTN2222A	BJT	47	MBRF15U45CTA	DIODE	84	PG05FBESC	DIODE	77	PS03TSEL2A	DIODE	80
KTN2222AS	BJT	26	MBRF20U100CTA	DIODE	84	PG05FSESC	DIODE	77	PS03VBEL2D	DIODE	80
KTN2222AS	BJT	47	MBRF20U150CTA	DIODE	84	PG05FSTFC	DIODE	77	PS03VBUL2	DIODE	80
KTN2222AU	BJT	26	MBRF20U200	DIODE	84	PG05FSUL2	DIODE	76	PS05CBEL2A	DIODE	76
KTN2222AU	BJT	47	MBRF20U200CTA	DIODE	84	PG05GBUSC	DIODE	77	PS05CBESC	DIODE	77
KTN2907A	BJT	27	MBRF20U45CTA	DIODE	84	PG05GBUSV	DIODE	79	PS05CBUL2	DIODE	76
KTN2907A	BJT	47	MBRF20U60CTA	DIODE	84	PG05GSUL2	DIODE	76	PS05DBESC	DIODE	77
KTN2907AS	BJT	26	MBRF20U80CTA	DIODE	84	PG05GXTE6	DIODE	79	PS05DBTFC	DIODE	77
KTN2907AS	BJT	47	MBRF30U100CTA	DIODE	84	PG05HAS23	DIODE	79	PS05DBUL2	DIODE	76
KTN2907AU	BJT	26	MBRF30U45CTA	DIODE	84	PG05HSUL2	DIODE	76	PS05SVU10	DIODE	80
KTN2907AU	BJT	47	MBRF30U60CTA	DIODE	84	PG05HSUSC	DIODE	77	PS05TBEL2D	DIODE	80
KTX101E	BJT	21	MJD112	BJT	25	PG05KS1610D2	DIODE	76	PS05TBUL2	DIODE	80
KTX101U	BJT	22	MJD112	BJT	46	PG05TBUL2A	DIODE	80	PS05TCBUL2	DIODE	80
KTX111T	BJT	22	MJE13003	BJT	27	PG07DBUL2	DIODE	76	PS05TSEL2A	DIODE	80
KTX213U	BJT	30	MJE13003	BJT	47	PG08GSUL2	DIODE	76	PS05TSUL2	DIODE	80
KTX304S	BJT	30	MJE13005DF	BJT	27	PG08JS1610D2	DIODE	76	PS05TVUL9	DIODE	80
KTX404S	BJT	30	MJE13005DF	BJT	47	PG09HS1610D2	DIODE	76	PS05VBEL2D	DIODE	80
KTX711T	BJT	30	MJE13007F	BJT	27	PG10HSUSF	DIODE	78	PS05VBUL2	DIODE	80
KTX811T	BJT	30	MJE13007F	BJT	47	PG12DBUL2	DIODE	76	PS06CSUL2	DIODE	76
KU024N03C	MOSFET	102	MMBTA05	BJT	15	PG12FBUSC	DIODE	77	PS60CAU10	DIODE	79
KU080P03C	MOSFET	102	MMBTA06	BJT	15	PG12GAS23	DIODE	79	PXTA44	BJT	16
KU170P04FT2	MOSFET	102	MMBTA06	BJT	44	PG12GCS23	DIODE	79	PXTA44	BJT	45
KU170P0DT2	MOSFET	102	MMBTA13	BJT	25	PG12GSUSC	DIODE	77	SMAB110	DIODE	83
KU210N20PS1	MOSFET	104	MMBTA13	BJT	46	PG12HS1610D2	DIODE	76	SMAB13	DIODE	83
KU2303D	MOSFET	102	MMBTA42	BJT	15	PG1524DBUSC	DIODE	77	SMAB14	DIODE	83
KU2307D	MOSFET	102	MMBTA42	BJT	44	PG15EBUSC	DIODE	77	SMAB16	DIODE	83
KU310N10D	MOSFET	103	MMBTA44	BJT	15	PG15ECS23	DIODE	79	SMAB210	DIODE	83
KU310N10F	MOSFET	103	MMBTA44	BJT	44	PG15FBUSC	DIODE	77	SMAB33	DIODE	83
KU350P06DT2	MOSFET	102	MMBTA517	BJT	25	PG15GSUSC	DIODE	77	SMAB34	DIODE	83
KU3600DN10CZ	MOSFET	103	MMBTA517	BJT	46	PG15HS1610D2	DIODE	76	SMAB36	DIODE	83
KU3600DN10RZ	MOSFET	103	MMBTA55	BJT	14	PG18HS1610D2	DIODE	76	SMAFAB54J	DIODE	83
KU3600N10D	MOSFET	103	MMBTA56	BJT	15	PG20GS1610D2	DIODE	76	SMAFB24	DIODE	83
KU3600N10RZ	MOSFET	103	MMBTA56	BJT	44	PG22GS1610D2	DIODE	76	SMAFB26	DIODE	83
KU3600N10SZA	MOSFET	103	MMBTA63	BJT	25	PG24DAS23	DIODE	79	SMAFB310	DIODE	83
KU3600N10WZ	MOSFET	103	MMBTA63	BJT	46	PG24DBUL2	DIODE	76	SMAFB34	DIODE	83

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SMAFB36	DIODE	83	SMFZ8.2V	DIODE	70	USFZ6.2V	DIODE	69
SMAZ10V	DIODE	70	SMFZ9.1V	DIODE	70	USFZ6.8V	DIODE	69
SMAZ11V	DIODE	70	TIP32CF	BJT	19	USFZ7.5V	DIODE	69
SMAZ12V	DIODE	70	TIP35C	BJT	20	USFZ8.2V	DIODE	69
SMAZ13V	DIODE	70	TIP35C	BJT	46	USFZ9.1V	DIODE	69
SMAZ15V	DIODE	70	TIP36C	BJT	20	Z02W100V	DIODE	71
SMAZ16V	DIODE	70	TIP36C	BJT	46	Z02W10V	DIODE	66
SMAZ18V	DIODE	70	TIP41CF	BJT	20	Z02W11V	DIODE	66
SMAZ20V	DIODE	70	TIP42CF	BJT	19	Z02W12V	DIODE	66
SMAZ22V	DIODE	70	TMBRD10100CT	DIODE	85	Z02W13V	DIODE	66
SMAZ24V	DIODE	70	TMBRD20100CT	DIODE	85	Z02W15V	DIODE	66
SMAZ27V	DIODE	70	TMBRD20100D	DIODE	85	Z02W16V	DIODE	66
SMAZ30V	DIODE	70	TMBRD20150D	DIODE	85	Z02W18V	DIODE	66
SMAZ33V	DIODE	70	TMBRD30100CT	DIODE	85	Z02W2.0V	DIODE	66
SMAZ36V	DIODE	70	TMBRD30150CTA	DIODE	85	Z02W2.2V+	DIODE	66
SMAZ4.3V	DIODE	70	TMBRF10100CT	DIODE	85	Z02W2.4V	DIODE	66
SMAZ4.7V	DIODE	70	TMBRF20100CT	DIODE	85	Z02W2.7V	DIODE	66
SMAZ5.1V	DIODE	70	TMBRF20150CT	DIODE	85	Z02W20V	DIODE	66
SMAZ5.6V	DIODE	70	TMBRF20150CTA	DIODE	85	Z02W22V	DIODE	66
SMAZ6.2V	DIODE	70	TMBRF20200CT	DIODE	85	Z02W24V	DIODE	66
SMAZ6.8V	DIODE	70	TMBRF20200CTA	DIODE	85	Z02W27V	DIODE	66
SMAZ7.5V	DIODE	70	TMBRF30100CT	DIODE	85	Z02W3.0V	DIODE	66
SMAZ8.2V	DIODE	70	TMBRF30150CT	DIODE	85	Z02W3.3V	DIODE	66
SMAZ9.1V	DIODE	70	TMBRF30150CTA	DIODE	85	Z02W3.6V	DIODE	66
SMBRF08A65BIS3	DIODE	87	TMBRF40100CT	DIODE	85	Z02W3.9V	DIODE	66
SMBRF10A12CIS3	DIODE	87	TMBRF40120CT	DIODE	85	Z02W30V	DIODE	66
SMBRF10A65BIS3	DIODE	87	TMBRF40150CT	DIODE	85	Z02W33V	DIODE	66
SMBRF12A65BIS3	DIODE	87	TMBRF40150CTA	DIODE	85	Z02W36V	DIODE	66
SMBRF15A12CIS3	DIODE	87	U10A6CDC	DIODE	86	Z02W4.3V	DIODE	66
SMBRK20A12CIS3	DIODE	87	U10A6CI	DIODE	86	Z02W4.7V	DIODE	66
SMBRK20A65BCS3	DIODE	87	U10A6CIC	DIODE	86	Z02W5.1V	DIODE	66
SMBRK20A65BIS3	DIODE	87	U10A7CI	DIODE	86	Z02W5.6V	DIODE	66
SMBRK30A12CIS3	DIODE	87	U20A6CIC	DIODE	86	Z02W6.2V	DIODE	66
SMBRK40A65BCS	DIODE	87	U5A6CD	DIODE	86	Z02W6.8V	DIODE	66
SMBRK40A65BCS3	DIODE	87	U5A6CI	DIODE	86	Z02W7.5V	DIODE	66
SMFB13	DIODE	83	U8A6CD	DIODE	86	Z02W7.5VS	DIODE	71
SMFB14	DIODE	83	U8A6CI	DIODE	86	Z02W8.2V	DIODE	66
SMFB16	DIODE	83	USFB13	DIODE	83	Z02W9.1V	DIODE	66
SMFB23H	DIODE	83	USFB13A	DIODE	83	Z02W9.1VS	DIODE	71
SMFZ10V	DIODE	70	USFB13L	DIODE	83			
SMFZ11V	DIODE	70	USFB14	DIODE	83			
SMFZ12V	DIODE	70	USFB16LA	DIODE	83			
SMFZ13V	DIODE	70	USFZ10V	DIODE	69			
SMFZ15V	DIODE	70	USFZ11V+	DIODE	69			
SMFZ16V	DIODE	70	USFZ12V+	DIODE	69			
SMFZ18V	DIODE	70	USFZ13V+	DIODE	69			
SMFZ20V	DIODE	70	USFZ15V	DIODE	69			
SMFZ22V	DIODE	70	USFZ16V+	DIODE	69			
SMFZ24V	DIODE	70	USFZ18V	DIODE	69			
SMFZ27V	DIODE	70	USFZ20V	DIODE	69			
SMFZ30V	DIODE	70	USFZ22V+	DIODE	69			
SMFZ33V	DIODE	70	USFZ24V	DIODE	69			
SMFZ36V	DIODE	70	USFZ27V+	DIODE	69			
SMFZ4.3V	DIODE	70	USFZ30V+	DIODE	69			
SMFZ4.7V	DIODE	70	USFZ33V	DIODE	69			
SMFZ5.1V	DIODE	70	USFZ36V	DIODE	69			
SMFZ5.6V	DIODE	70	USFZ4.3V	DIODE	69			
SMFZ6.2V	DIODE	70	USFZ4.7V	DIODE	69			
SMFZ6.8V	DIODE	70	USFZ5.1V	DIODE	69			
SMFZ7.5V	DIODE	70	USFZ5.6V	DIODE	69			

PACKAGE DIMENSION

Package Dimension

■ SMD (Surface Mounted Devices)

TFSC	VSC	ESC	USC	USC(1)

USF	USCF	SOD-123	SMF	SMA

SMAF	SMB	SMC	VSM	ESM

USM	SOT-23	SOT-23-6L	SOT-23-6L(1)	TSM

SOT-89	PDFN33	PDFN33D	PDFN56	PDFN56D

Package Dimension

SOT-223	SOT-223(1)	DPAK	DPAK(1)	DPAK(3)

DPAK(4)	DPAK-5G	TESV	USV	TSV

TES6	US6	TS6	FLP-8	FLP-8(1)

eFLP-8	FLP-14	FLP-16	FLP-18	FLP-20

FLP-28(SOIC-28)

Package Dimension

Leadless Devices

ELP-2	ELP-2A	ELP-2B	ELP-2D	ELP-2D(1)

ULP-2	ULP-2(1)	ULP-2(2)	ULP-2(3)	ULP-2(4)

ULP-2(5)	ULP-2(6)	ULP-3	ULP-3(1)	UDFN1010-4

DFN1610-2L	DFN1610-2L(1)	DFN22D	ULP-9	ULP-10

QFN-28

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