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SPECIFICATION FOR APPROVAL

CUSTOMER	立創電子
CERTIFIED MODEL/TYPE	P6KE33
PART NO.	P6KE33CA (ROHS+HF)
APPLICATION	
CUSTOMER P/N	
ISSUE DATE	Dec.04,2020
REV. NO.	
REV. DATE	

FOR CUSTOMER APPROVAL	CHECKED BY
	Dan Zhang
	APPROVED BY
	Huaifang Zhang

REVISED RECORD SHEET

REV. NO	REV. DATE	REVISED CONTENT

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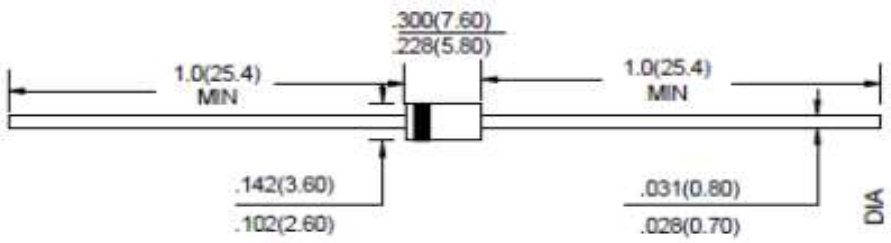
Part Number Code

P6KE 33 CA
(1) (2) (3)

No.	Item	Digit	Specification
(1)	Product Type	P6KE	Thinking Power TVS Axial Leaded Type
(2)	Central of Breakage Voltage (V_{BR})	33	33=33 V_{BR}
(3)	Type Code	CA	Bi-directional 5% VBR Voltage Tolerance

Structure and Dimensions

DO-15(DO204AC)



Unit: inch(millimeter)

Electrical Characteristics

Peak power dissipation with a 10/1000μs waveform : 600W
Operating junction and storage temperature range : -55~+150 ºC

Part No. (Uni)	Part No. (Bi)	Reverse Stand off Voltage	Breakage Voltage VBR @ IT		Test Current	Maximum Clamping Voltage VC @ Ipp	Maximum Peak Pulse Current	Maximum Reverse Leakage IR @VRWM	Marking Code	
		VRWM (V)	Min(V)	Max(V)	IT(mA)	VC(V)	Ipp(A)	IR(μA)	Uni	Bi
P6KE6.8A	P6KE6.8CA	5.8	6.45	7.14	10	10.5	57.1	1000	P6KE6.8A .	P6KE6.8CA .
P6KE7.5A	P6KE7.5CA	6.4	7.13	7.88	10	11.3	53.1	500	P6KE7.5A .	P6KE7.5CA .
P6KE8.2A	P6KE8.2CA	7.02	7.79	8.61	10	12.1	49.6	200	P6KE8.2A .	P6KE8.2CA .
P6KE9.1A	P6KE9.1CA	7.78	8.65	9.55	1	13.4	44.8	50	P6KE9.1A .	P6KE9.1CA .
P6KE10A	P6KE10CA	8.55	9.5	10.5	1	14.5	41.4	10	P6KE10A .	P6KE10CA .
P6KE11A	P6KE11CA	9.4	10.5	11.6	1	15.6	38.5	5	P6KE11A .	P6KE11CA .
P6KE12A	P6KE12CA	10.2	11.4	12.6	1	16.7	35.9	5	P6KE12A .	P6KE12CA .
P6KE13A	P6KE13CA	11.1	12.4	13.7	1	18.2	33	5	P6KE13A .	P6KE13CA .
P6KE15A	P6KE15CA	12.8	14.3	15.8	1	21.2	28.3	5	P6KE15A .	P6KE15CA .
P6KE16A	P6KE16CA	13.6	15.2	16.8	1	22.5	26.7	5	P6KE16A .	P6KE16CA .
P6KE18A	P6KE18CA	15.3	17.1	18.9	1	25.2	23.8	5	P6KE18A .	P6KE18CA .
P6KE20A	P6KE20CA	17.1	19	21	1	27.7	21.7	5	P6KE20A .	P6KE20CA .
P6KE22A	P6KE22CA	18.8	20.9	23.1	1	30.6	19.6	5	P6KE22A .	P6KE22CA .
P6KE24A	P6KE24CA	20.5	22.8	25.2	1	33.2	18.1	5	P6KE24A .	P6KE24CA .
P6KE27A	P6KE27CA	23.1	25.7	28.4	1	37.5	16	5	P6KE27A .	P6KE27CA .
P6KE30A	P6KE30CA	25.6	28.5	31.5	1	41.4	14.5	5	P6KE30A .	P6KE30CA .
P6KE33A	P6KE33CA	28.2	31.4	34.7	1	45.7	13.1	5	P6KE33A .	P6KE33CA .
P6KE36A	P6KE36CA	30.8	34.2	37.8	1	49.9	12	5	P6KE36A .	P6KE36CA .
P6KE39A	P6KE39CA	33.3	37.1	41	1	53.9	11.1	5	P6KE39A .	P6KE39CA .
P6KE43A	P6KE43CA	36.8	40.9	45.2	1	59.3	10.1	5	P6KE43A .	P6KE43CA .
P6KE47A	P6KE47CA	40.2	44.7	49.4	1	64.8	9.3	5	P6KE47A .	P6KE47CA .
P6KE51A	P6KE51CA	43.6	48.5	53.6	1	70.1	8.6	5	P6KE51A .	P6KE51CA .
P6KE56A	P6KE56CA	47.8	53.2	58.8	1	77	7.8	5	P6KE56A .	P6KE56CA .
P6KE62A	P6KE62CA	53	58.9	65.1	1	85	7.1	5	P6KE62A .	P6KE62CA .
P6KE68A	P6KE68CA	58.1	64.6	71.4	1	92	6.5	5	P6KE68A .	P6KE68CA .
P6KE75A	P6KE75CA	64.1	71.3	78.8	1	103	5.8	5	P6KE75A .	P6KE75CA .
P6KE82A	P6KE82CA	70.1	77.9	86.1	1	113	5.3	5	P6KE82A .	P6KE82CA .
P6KE91A	P6KE91CA	77.8	86.5	95.5	1	125	4.8	5	P6KE91A .	P6KE91CA .
P6KE100A	P6KE100CA	85.5	95	105	1	137	4.4	5	P6KE100A .	P6KE100CA .
P6KE110A	P6KE110CA	94	105	116	1	152	3.9	5	P6KE110A .	P6KE110CA .
P6KE120A	P6KE120CA	102	114	126	1	165	3.6	5	P6KE120A .	P6KE120CA .
P6KE130A	P6KE130CA	111	124	137	1	179	3.4	5	P6KE130A .	P6KE130CA .
P6KE150A	P6KE150CA	128	143	158	1	207	2.9	5	P6KE150A .	P6KE150CA .

Electrical Characteristics

Peak power dissipation with a 10/1000μs waveform : 600W
Operating junction and storage temperature range : -55~+150 ºC

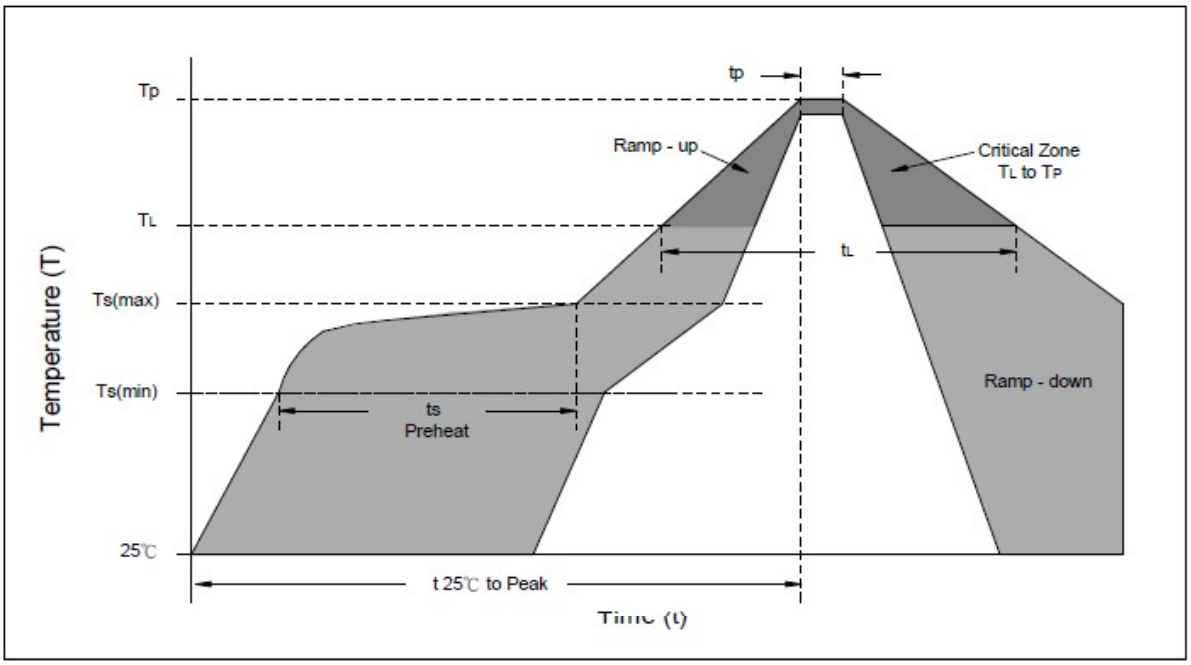
Part No. (Uni)	Part No. (Bi)	Reverse Stand off Voltage	Breakage Voltage VBR @ IT		Test Current	Maximum Clamping Voltage VC @ Ipp	Maximum Peak Pulse Current	Maximum Reverse Leakage IR @VRWM	Marking Code	
		VRWM (V)	Min(V)	Max(V)	IT(mA)	VC(V)	Ipp(A)	IR(μA)	Uni	Bi
P6KE160A	P6KE160CA	136	152	168	1	219	2.7	5	P6KE160A .	P6KE160CA .
P6KE170A	P6KE170CA	145	162	179	1	234	2.6	5	P6KE170A .	P6KE170CA .
P6KE180A	P6KE180CA	154	171	189	1	246	2.4	5	P6KE180A .	P6KE180CA .
P6KE200A	P6KE200CA	171	190	210	1	274	2.2	5	P6KE200A .	P6KE200CA .
P6KE220A	P6KE220CA	185	209	231	1	328	1.8	5	P6KE220A .	P6KE220CA .
P6KE250A	P6KE250CA	214	237	263	1	344	1.7	5	P6KE250A .	P6KE250CA .
P6KE300A	P6KE300CA	256	285	315	1	414	1.4	5	P6KE300A .	P6KE300CA .
P6KE350A	P6KE350CA	300	333	368	1	482	1.2	5	P6KE350A .	P6KE350CA .
P6KE400A	P6KE400CA	342	380	420	1	548	1.1	5	P6KE400A .	P6KE400CA .
P6KE440A	P6KE440CA	376	418	462	1	602	1	5	P6KE440A .	P6KE440CA .

Reliability

Item	Standard	Test conditions / Methods	Specifications
HTRB (High Temp. Reverse Bias Test)	MIL-STD-750D METHOD 1038.3 Method 103	Test Temp. : 150℃ Duration 168 hrs with rated VRWM	Electrical properties meet Specifications
PCT (Pressure Cooker Test)	MIL-STD-19500 EAPPENDIX C	Test Temp. : 121 ℃ Pressure:1.2Kg Duration: 96 hrs	Electrical properties meet Specifications
TCT	MIL-STD-750D METHOD 1051.5	Test Temp. : -55℃ ~+150℃ 20 cycles	Electrical properties meet Specifications
Forward Surge	MIL-STD-750D METHOD 4066.3	Sine half wave 8.3mS 1 shot IFSM:20A forSMF 40A for SMA/P4SMA/SMAF/P4KE 100A for SMB/P6SMB/P6KE 200A for SMC/1.5SMC/1.5KE For Uni-directional product only.	Electrical properties meet Specifications
Soldering Heat	MIL-STD-750D METHOD 2031.2	Test Temp. : 260℃ Duration:10 sec 1cycle	Electrical properties meet Specifications

Soldering Recommendation

■ IR-reflow soldering profile



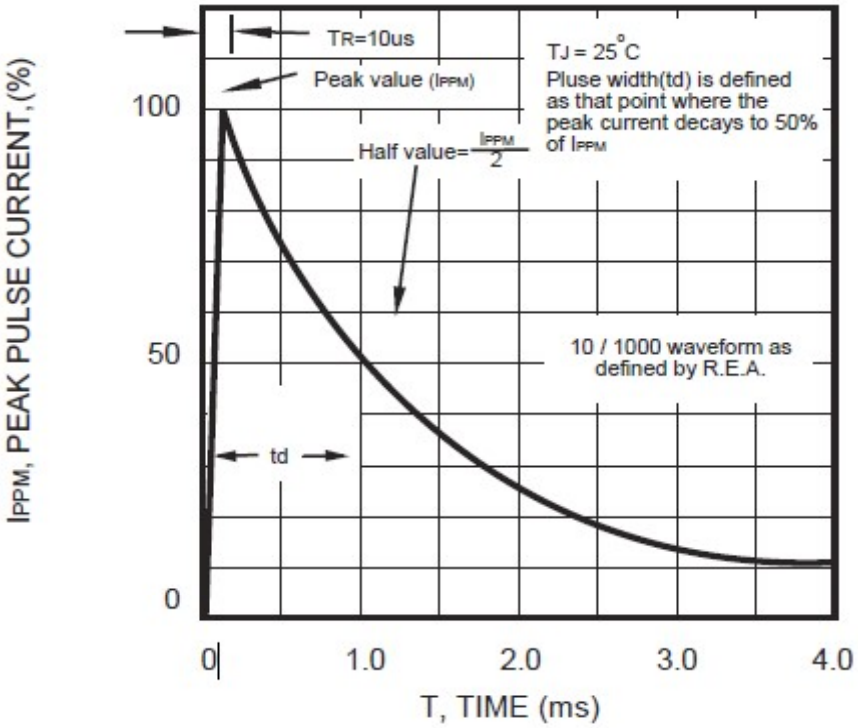
Reflow Condition	Lead-free assembly
Preheat -Temperature Min(Ts min) -Temperature Min(Ts max) -Time (min to max) (ts)	 150℃ 200℃ 60 – 180 seconds
Average ramp up rate -Temperature Liquidus (TL) to peak	 3℃/second max
Ts(max) to TL -Ramp-up Rate	 3℃/second max.
Reflow -Temperature Liquidus (TL) -Time (tL)	 217℃ 60 – 150 seconds
Peak Temperature (TP)	260℃
Time within 5℃ of actual peak Temperature(tP)	20 – 40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to peak Temperature(TP)	8 minutes max.
Do not exceed	260℃

Packaging

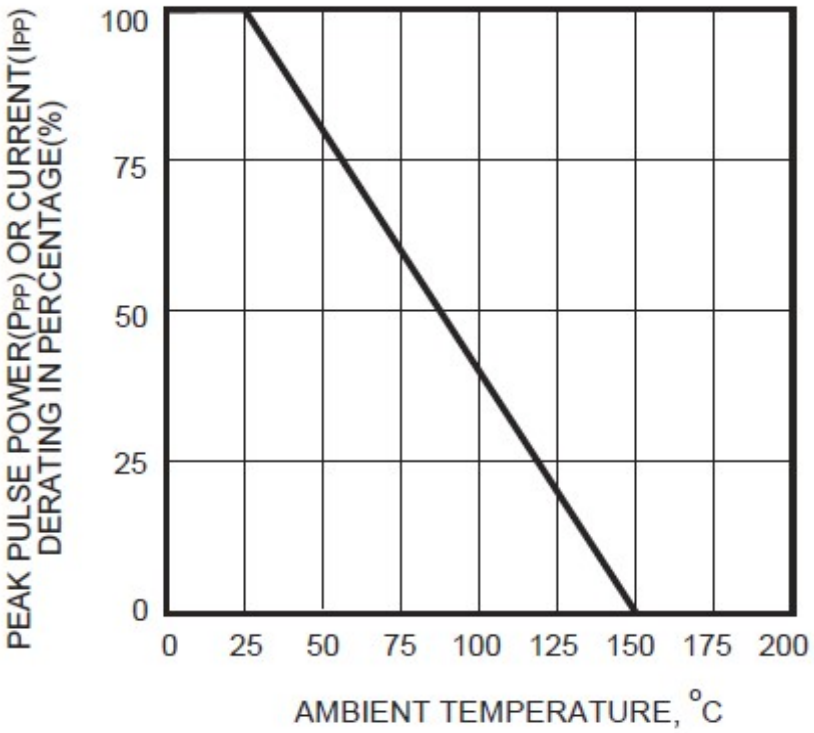
■ Quantity

Series Type	Reel size	Quantity (pcs/reel)
P6KE	13"	4,000

Pulse Waveform

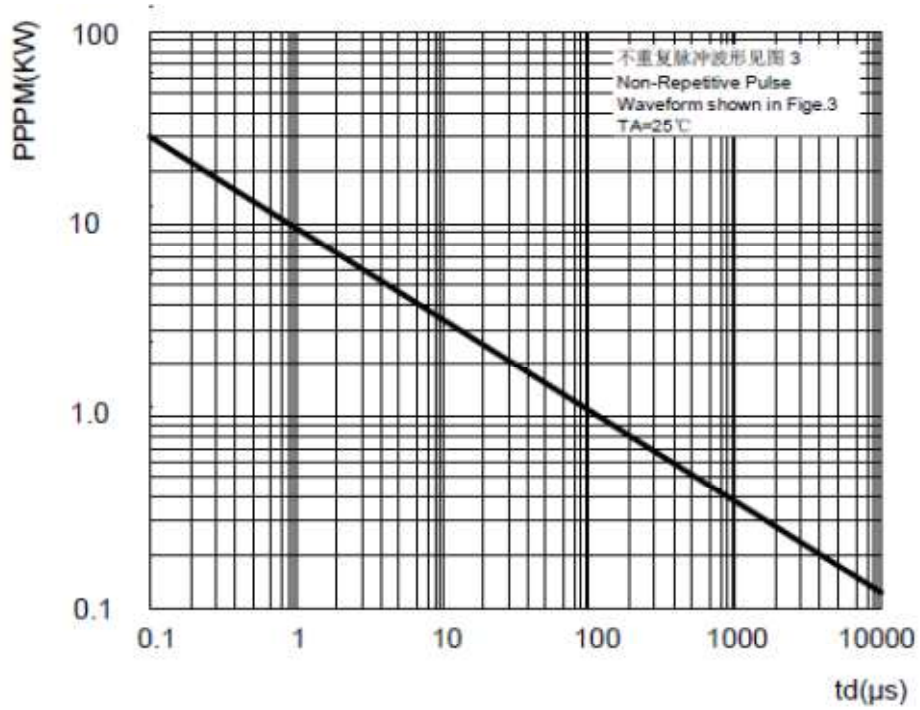


Pulse Derating Curve



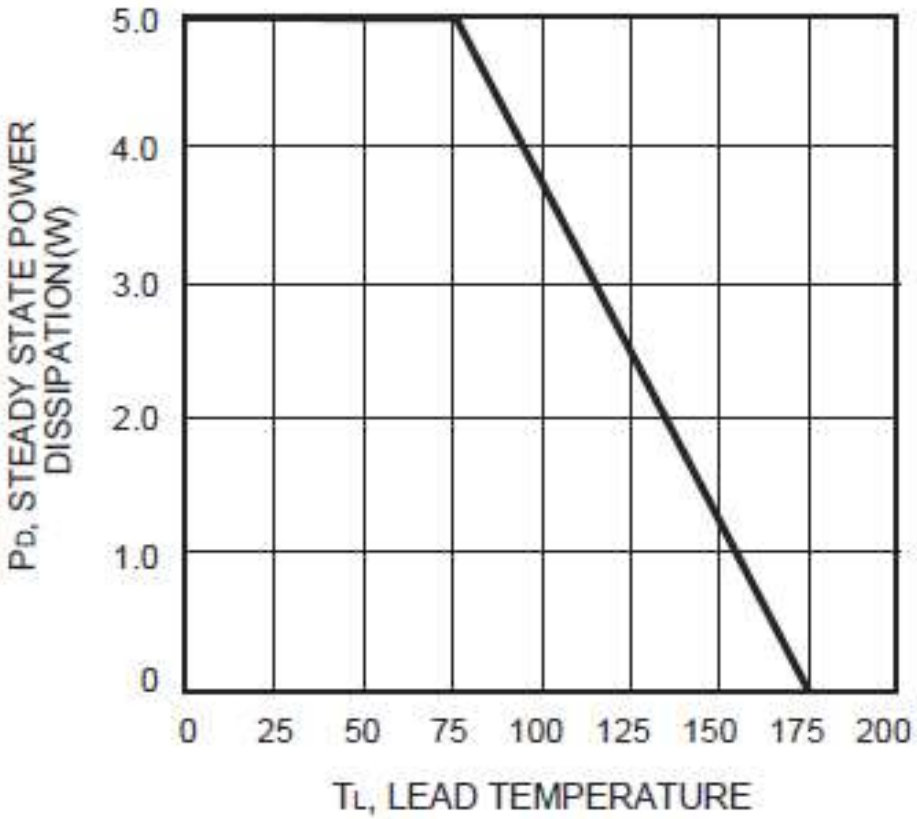
Peak Pulse Power Rating Curve

P6KE series



Steady State Power Derating Curve

P6KE series



Warehouse Storage Conditions of Products

(I) Storage Conditions :

1.Storage Temperature : -10℃~+40℃

2.Relative Humidity : ≦75%RH

3.Keep away from corrosive atmosphere and sunlight.

(II) Period of Storage : 1 year

Safety Approvals

* UL 497B recognized (File # E229991)

Certificates

(1) IATF 16949 certificate
(2) ISO 9001 certificate