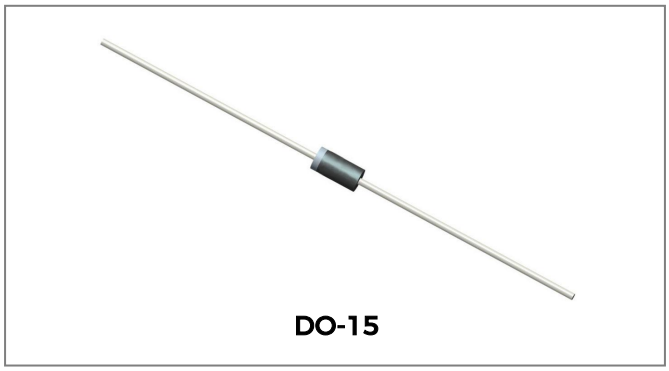
Technical Data
Data Sheet N0157, Rev. C

P6KE SERIES
TRANSIENT VOLTAGE SUPPRESSOR

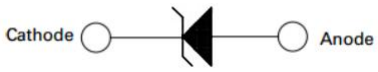


DO-15

Features

- Glass Passivated Die Construction
- 600W Peak Pulse Power Dissipation
- 5.8V- 459V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- "-A" is an AEC-Q101 qualified device
- This is a Pb – Free Device
- All SMC Parts are Traceable to the Wafer Lot
- Additional testing can be offered upon request

Circuit Diagram



Unipolar

Bipolar

Mechanical Data

- Case: JEDEC DO-15 Low Profile Molded Plastic
- Terminals: Solder Plated , Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.41 grams(approx.)

Maximum Ratings and Thermal Characteristics@T_A=25°C unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at T_A=25°C (Fig.1)(Note 1, 2, 5)	P_{PPM}	Minimum 600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	I_{FSM}	100	A
Steady State Power Dissipation(Note 2, 4)	$P_{M(AV)}$	5.0	W
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	20	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	75	°C/W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 to + 175	°C

Notes: 1. Non-repetitive current pulse, per Fig. 3 and derated above T_A = 25°C per Fig. 2.
2. Mounted on 40mm² copper pad.
3. 8.3ms Single Half Sine Wave duty cycle = 4 pulses per minutes maximum
4. Lead temperature at 75°C= T_L
3. Peak pulse power waveform is 10/1000μs.

Electrical Characteristics @T_A=25°C unless otherwise specified

UNI-POLAR	BI-POLAR	REVERSE STAND-OFF VOLTAGE V_{RWM} (V)	BREAKDOWN VOLTAGE V_{BR} (V) MIN. @I_T	BREAKDOWN VOLTAGE V_{BR} (V) MAX. @I_T	TEST CURRENT I_T(MA)	MAXMUM CLAMPING VOLTAGE @I_{PP} V_C(V)	PEAK PULSE CURRENT I_{PP}(A)	REVERSE LEAKAGE @V_{RWM} I_R(μA)
P6KE6.8A	P6KE6.8CA	5.8	6.45	7.14	10	10.5	58.1	1000
P6KE7.5A	P6KE7.5CA	6.4	7.13	7.88	10	11.3	54	500
P6KE8.2A	P6KE8.2CA	7.02	7.79	8.61	10	12.1	50.4	200
P6KE9.1A	P6KE9.1CA	7.78	8.65	9.55	10	13.4	45.5	50
P6KE10A	P6KE10CA	8.55	9.5	10.5	1	14.5	42.1	10
P6KE11A	P6KE11CA	9.4	10.5	11.6	1	15.6	39.1	5
P6KE12A	P6KE12CA	10.2	11.4	12.6	1	16.7	36.5	5
P6KE13A	P6KE13CA	11.1	12.4	13.7	1	18.2	33.5	5
P6KE15A	P6KE15CA	12	14.3	15.8	1	21.2	28.8	5
P6KE16A	P6KE16CA	12.9	15.2	16.8	1	22.5	27.1	5
P6KE18A	P6KE18CA	14.5	17.1	18.9	1	25.2	24.2	5
P6KE20A	P6KE20CA	17.1	19	21	1	27.7	22	5
P6KE22A	P6KE22CA	18.8	20.9	23.1	1	30.6	19.9	5
P6KE24A	P6KE24CA	20.5	22.8	25.2	1	33.2	18.4	5
P6KE27A	P6KE27CA	23.1	25.7	28.4	1	37.5	16.3	5
P6KE30A	P6KE30CA	25.6	28.5	31.5	1	41.4	14.7	5
P6KE33A	P6KE33CA	28.2	31.4	34.7	1	45.7	13.3	5
P6KE36A	P6KE36CA	30.8	34.2	37.8	1	49.9	12.2	5
P6KE39A	P6KE39CA	33.3	37.1	41	1	53.9	11.3	5
P6KE43A	P6KE43CA	36.8	40.9	45.2	1	59.3	10.3	5
P6KE47A	P6KE47CA	40.2	44.7	49.4	1	64.8	9.4	5
P6KE51A	P6KE51CA	43.6	48.5	53.6	1	70.1	8.7	5
P6KE56A	P6KE56CA	47.8	53.2	58.8	1	77	7.9	5
P6KE62A	P6KE62CA	53	58.9	65.1	1	85	7.2	5
P6KE68A	P6KE68CA	58.1	64.6	71.4	1	92	6.6	5
P6KE75A	P6KE75CA	64.1	71.3	78.8	1	103	5.9	5
P6KE82A	P6KE82CA	70.1	77.9	86.1	1	113	5.4	5
P6KE91A	P6KE91CA	77.8	86.5	95.5	1	125	4.9	5
P6KE100A	P6KE100CA	85.5	95	105	1	137	4.5	5
P6KE110A	P6KE110CA	94	105	116	1	152	4	5
P6KE120A	P6KE120CA	102	114	126	1	165	3.7	5
P6KE130A	P6KE130CA	111	124	137	1	179	3.4	5
P6KE150A	P6KE150CA	128	143	158	1	207	2.9	5
P6KE160A	P6KE160CA	136	152	168	1	219	2.8	5
P6KE170A	P6KE170CA	145	162	179	1	234	2.6	5
P6KE180A	P6KE180CA	154	171	189	1	246	2.5	5
P6KE200A	P6KE200CA	171	190	210	1	274	2.2	5
P6KE220A	P6KE220CA	185	209	231	1	328	1.9	5
P6KE250A	P6KE250CA	214	237	263	1	344	1.8	5
P6KE300A	P6KE300CA	256	285	315	1	414	1.5	5
P6KE350A	P6KE350CA	300	333	368	1	482	1.3	5
P6KE400A	P6KE400CA	342	380	420	1	548	1.1	5
P6KE440A	P6KE440CA	376	418	462	1	602	1	5
P6KE540A	P6KE540CA	459	513	567	1	741	0.81	5

For bidirectional type having V_{RWM} of 10 volts and less, the IR limit is double.
For parts without A, the VBR is + 10% .

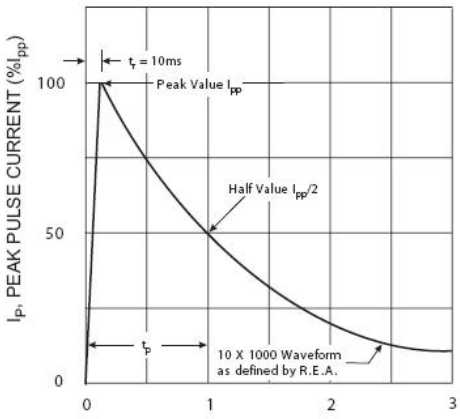


Fig. 1 Pulse Waveform

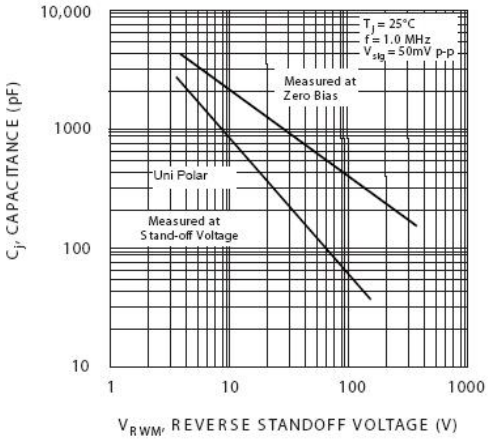


Fig. 2 Typical Junction Capacitance

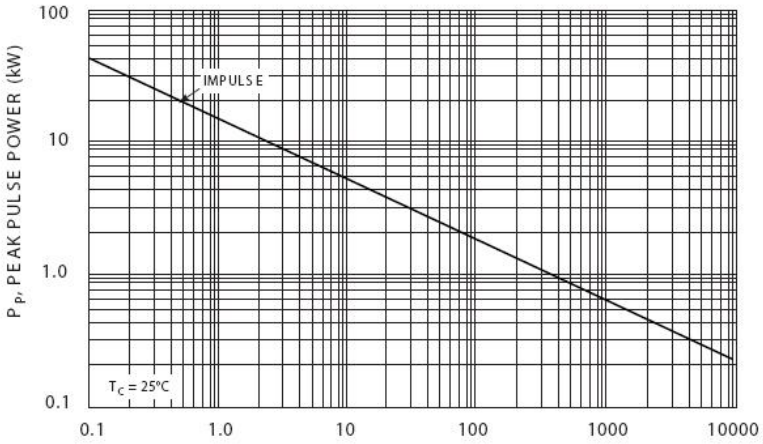


Fig. 3 Pulse Rating Curve

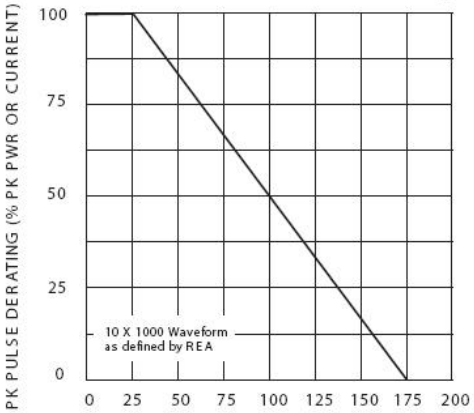


Fig. 4 Pulse Derating Curve

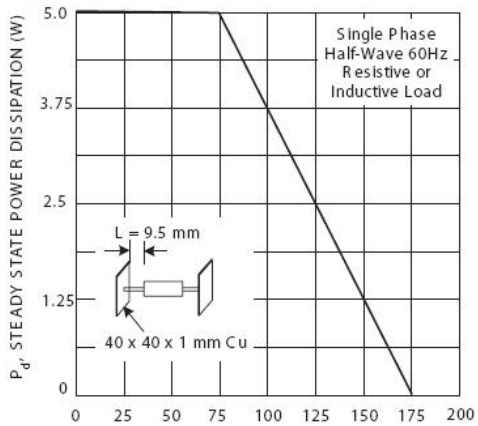


Fig. 5, Steady State Power Derating

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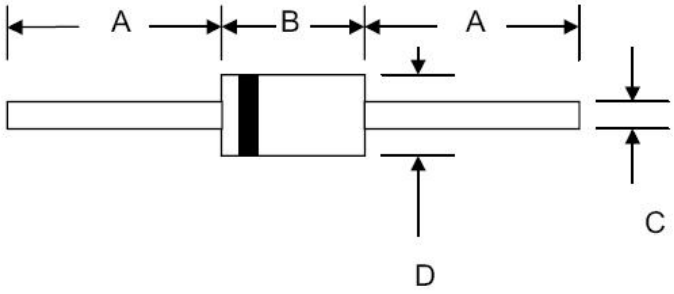
Mechanical Dimensions DO-15



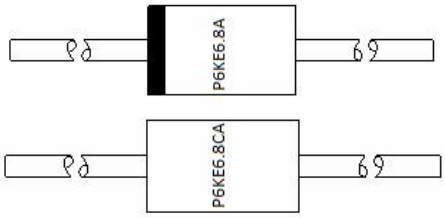
SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	5.5	7.62	0.217	0.300
C	0.56	0.9	0.022	0.034
D	2.6	3.6	0.104	0.140

Ordering Information

Device	Package	Shipping
P6KE SERIES	DO-15 (Pb-Free)	3000pcs / tape
P6KE SERIES	DO-15 (Pb-Free)	2000pcs / tape
P6KE SERIES TA	DO-15 (Pb-Free)	3000pcs / tape

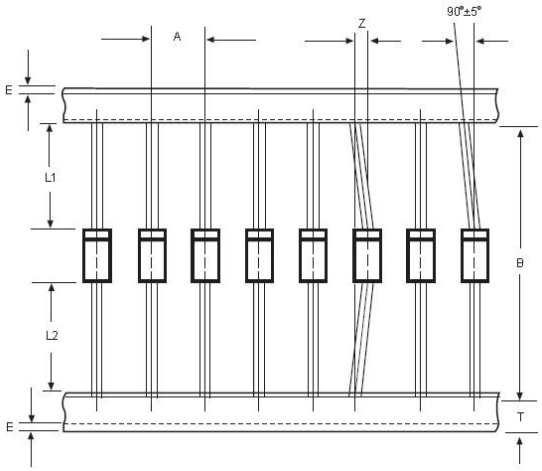
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram



P6KE6.8A/P6KE6.8CA = Part Name

Carrier Tape Specification DO-15



SYMBOL	Millimeters	
	Min.	Max.
A	4.50	5.50
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0

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