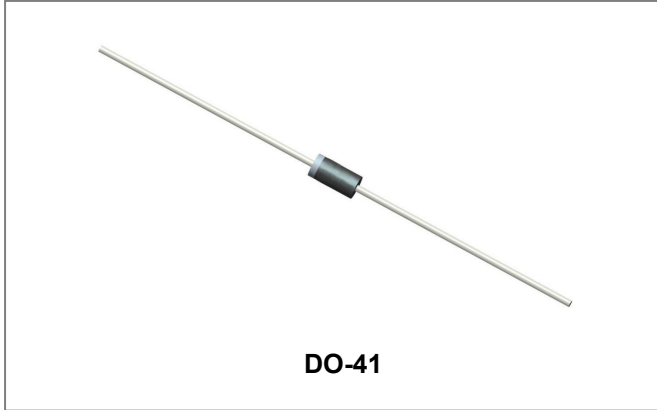




## P4KE SERIES TRANSIENT VOLTAGE SUPPRESSOR



### Features

- Glass Passivated Die Construction
- 400W Peak Pulse Power Dissipation
- 6.8V- 440V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- This is a Halogen 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-41 Low Profile Molded Plastic
- Terminals: Solder Plated , Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band or Cathode Notch
- Weight:0.34 grams(approx.)

### Maximum Ratings and Thermal Characteristics@T<sub>A</sub>=25°C unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at T <sub>A</sub> =25°C (Fig.1)(Note 1, 2, 5)	P <sub>PPM</sub>	400	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave(Note 3)	I <sub>FSM</sub>	40	A
Steady State Power Dissipation( Note 2, 4)	P <sub>M(AV)</sub>	1	W
Typical Thermal Resistance Junction to Lead	R <sub>θJL</sub>	60	°C/W
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	100	°C/W
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to + 175	°C

- Notes:**
1. Non-repetitive current pulse, per Fig. 3 and derated above T<sub>A</sub> = 25°C per Fig. 2.
  2. Mounted on 40mm<sup>2</sup> copper pad.
  3. 8.3ms Single Half Sine Wave duty cycle = 4 pulses per minutes maximum
  4. Lead temperature at 75°C= T<sub>L</sub>
  5. Peak pulse power waveform is 10/1000μs.

**Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified**

UNI-POLAR	BI-POLAR	REVERSE STAND-OFF VOLTAGE V <sub>RWM</sub> (V)	BREAKDOWN VOLTAGE V <sub>BR</sub> (V) MIN. @I <sub>T</sub>	BREAKDOWN VOLTAGE V <sub>BR</sub> (V) MAX. @I <sub>T</sub>	TEST CURRENT I <sub>T</sub> (MA)	MAXIMUM CLAMPING VOLTAGE @I <sub>PP</sub> V <sub>C</sub> (V)	PEAK PULSE CURRENT I <sub>PP</sub> (A)	REVERSE LEAKAGE @V <sub>RWM</sub> I <sub>R</sub> (uA)
P4KE6.8A	P4KE6.8CA	5.8	6.45	7.14	10	10.5	39	1000
P4KE7.5A	P4KE7.5CA	6.4	7.13	7.88	10	11.3	36.3	500
P4KE8.2A	P4KE8.2CA	7.02	7.79	8.61	10	12.1	33.9	200
P4KE9.1A	P4KE9.1CA	7.78	8.65	9.55	10	13.4	30.6	50
P4KE10A	P4KE10CA	8.55	9.5	10.5	1	14.5	28.3	10
P4KE11A	P4KE11CA	9.4	10.5	11.6	1	15.6	26.3	5
P4KE12A	P4KE12CA	10.2	11.4	12.6	1	16.7	24.6	5
P4KE13A	P4KE13CA	11.1	12.4	13.7	1	18.2	22.5	5
P4KE15A	P4KE15CA	12	14.3	15.8	1	21.2	19.3	5
P4KE16A	P4KE16CA	12.9	15.2	16.8	1	22.5	18.2	5
P4KE18A	P4KE18CA	14.5	17.1	18.9	1	25.2	16.1	5
P4KE20A	P4KE20CA	17.1	19	21	1	27.7	14.8	5
P4KE22A	P4KE22CA	18.8	20.9	23.1	1	30.6	13.4	5
P4KE24A	P4KE24CA	20.5	22.8	25.2	1	33.2	12.3	5
P4KE27A	P4KE27CA	23.1	25.7	28.4	1	37.5	10.9	5
P4KE30A	P4KE30CA	25.6	28.5	31.5	1	41.4	9.9	5
P4KE33A	P4KE33CA	28.2	31.4	34.7	1	45.7	9	5
P4KE36A	P4KE36CA	30.8	34.2	37.8	1	49.9	8.2	5
P4KE39A	P4KE39CA	33.3	37.1	41	1	53.9	7.6	5
P4KE43A	P4KE43CA	36.8	40.9	45.2	1	59.3	6.9	5
P4KE47A	P4KE47CA	40.2	44.7	49.4	1	64.8	6.3	5
P4KE51A	P4KE51CA	43.6	48.5	53.6	1	70.1	5.8	5
P4KE56A	P4KE56CA	47.8	53.2	58.8	1	77	5.3	5
P4KE62A	P4KE62CA	53	58.9	65.1	1	85	4.8	5
P4KE68A	P4KE68CA	58.1	64.6	71.4	1	92	4.5	5
P4KE75A	P4KE75CA	64.1	71.3	78.8	1	103	4	5
P4KE82A	P4KE82CA	70.1	77.9	86.1	1	113	3.6	5
P4KE91A	P4KE91CA	77.8	86.5	95.5	1	125	3.3	5
P4KE100A	P4KE100CA	85.5	95	105	1	137	3	5
P4KE110A	P4KE110CA	94	105	116	1	152	2.7	5
P4KE120A	P4KE120CA	102	114	126	1	165	2.5	5
P4KE130A	P4KE130CA	111	124	137	1	179	2.3	5
P4KE150A	P4KE150CA	128	143	158	1	207	2	5
P4KE160A	P4KE160CA	136	152	168	1	219	1.9	5
P4KE170A	P4KE170CA	145	162	179	1	234	1.8	5
P4KE180A	P4KE180CA	154	171	189	1	246	1.7	5
P4KE200A	P4KE200CA	171	190	210	1	274	1.5	5
P4KE220A	P4KE220CA	185	209	231	1	328	1.3	5
P4KE250A	P4KE250CA	214	237	263	1	344	1.2	5
P4KE300A	P4KE300CA	256	285	315	1	414	1	5
P4KE350A	P4KE350CA	300	333	368	1	482	0.85	5
P4KE400A	P4KE400CA	342	380	420	1	548	0.75	5
P4KE440A	P4KE440CA	376	418	462	1	602	0.68	5

For bidirectional type having VR of 10 volts and less, the IR limit is double.  
For parts without A , the VBR is ± 10% and VC is 5% higher than with A parts.

**Ratings and Characteristics Curves**

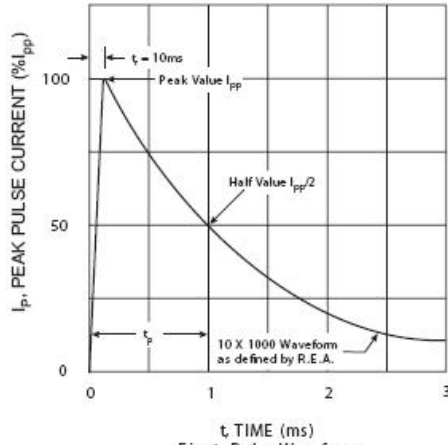


Fig. 1 Pulse Waveform

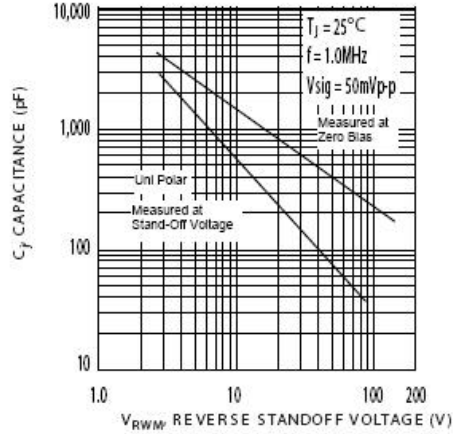


Fig. 2 Typical Junction Capacitance

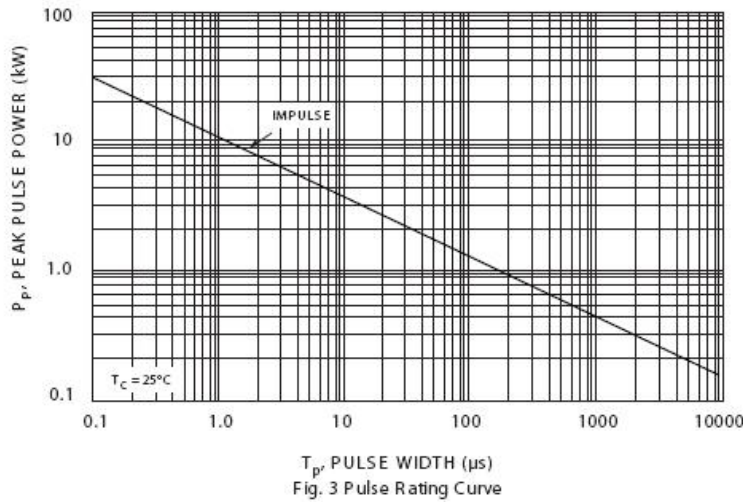


Fig. 3 Pulse Rating Curve

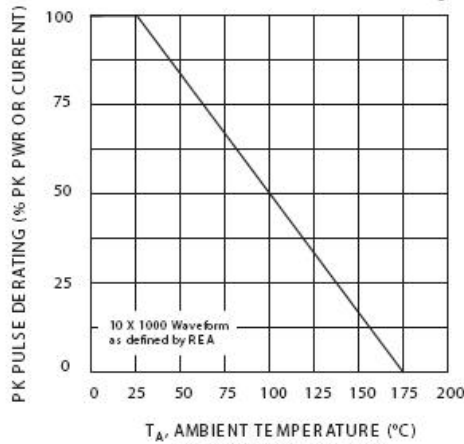


Fig. 4 Pulse Derating Curve

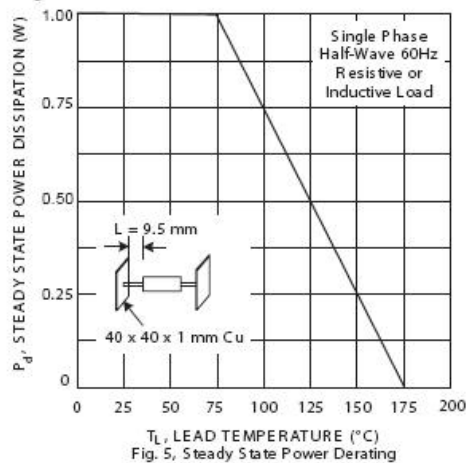
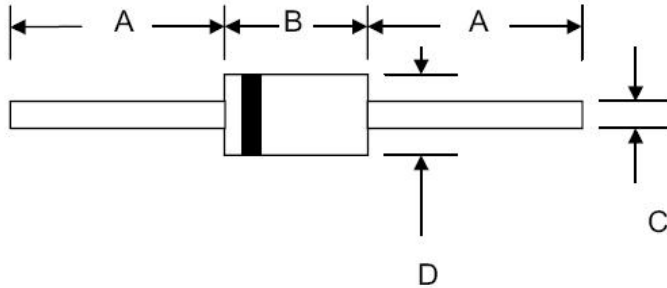


Fig. 5, Steady State Power Derating

**Mechanical Dimensions DO-41**



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	4.06	5.21	0.160	0.205
C	0.71	0.864	0.028	0.034
D	2.00	2.72	0.079	0.107

**Ordering Information**

Device	Package	Shipping
P4KE SERIES	DO-41 (Pb-Free)	5000pcs / tape
P4KE SERIES TA	DO-41 (Pb-Free)	5000pcs / 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**



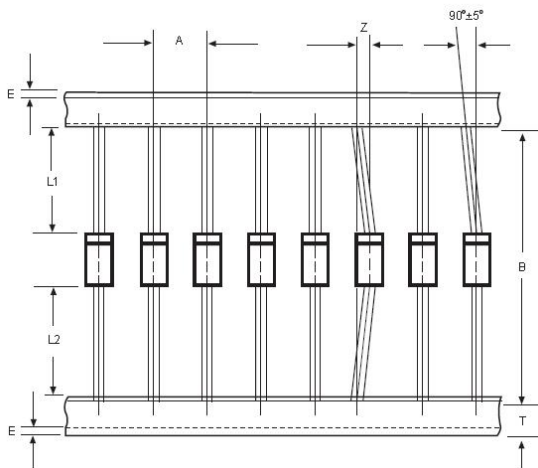
P4KE6.8A



P4KE6.8CA

P4KE6.8A/P4KE6.8CA = Part Name  
XXXXX = Date Code

**Carrier Tape Specification DO-41**





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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