



## P4KE6.8A ~ P4KE440CA Series

### GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR POWER 400 Watt

#### BREAK DOWN VOLTAGE

6.8 to 440 Volt

#### DO-41

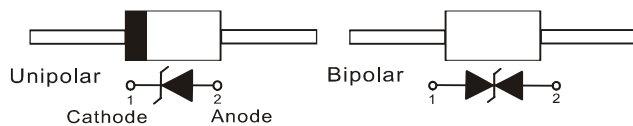
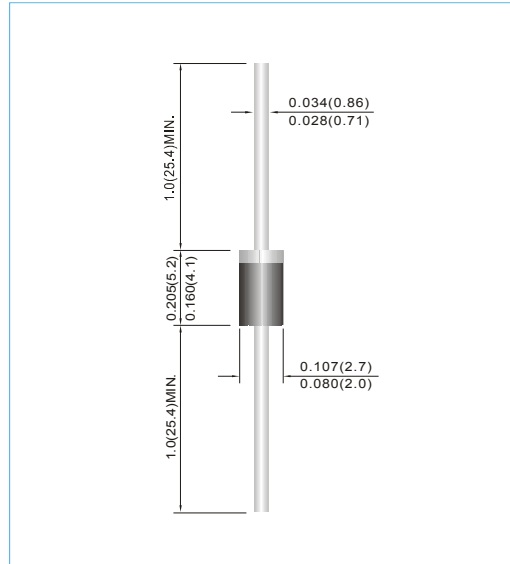
Unit : inch(mm)

#### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1 ps from 0 volts to BV min
- ESD IEC-61000-4-2 Air  $\pm$  30kV, Contact  $\pm$  30kV
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

#### MECHANICAL DATA

- Case : JEDEC DO-41 Molded plastic
- Terminals : Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Approx. Weight : 0.336 gram



### MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use CA Suffix for types  
Electrical characteristics apply in both directions.

Rating	Symbol	Value	Units
Peak Power Dissipation at $T_A=25^\circ\text{C}$ , $t_p=1\text{ms}$ (Note 1)	$P_{PP}$	400	Watts
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	$V_{ESD}$	$\pm 30$ $\pm 30$	kV
Typical Thermal Resistance Junction to Air Lead Lengths 0.375", (9.5mm) (Note 2)	$R_{\theta JA}$	60	$^\circ\text{C} / \text{W}$
Peak Pulse Current on $t_p=10/1000\mu\text{s}$ waveform (Note 1)	$I_{PPM}$	see Table	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Note 3)	$I_{FSM}$	40	Amps
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-65 to +175	$^\circ\text{C}$

#### NOTES :

1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  per Fig. 2.
2. Mounted on Copper Leaf area of 1.57 in<sup>2</sup> (40mm<sup>2</sup>).
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.
4. A transient suppressor is selected according to the working peak reverse voltage ( $V_{RWM}$ ), which should be equal to or greater than the DC or continuous peak operating voltage level.

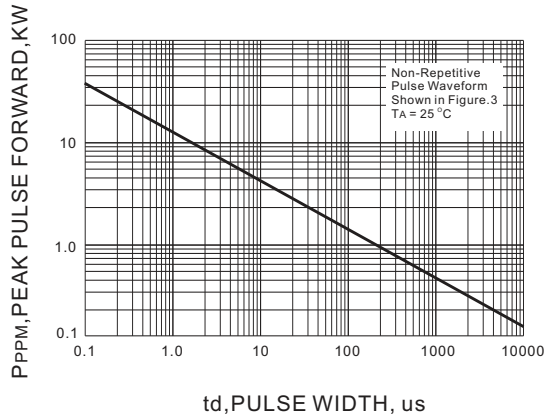


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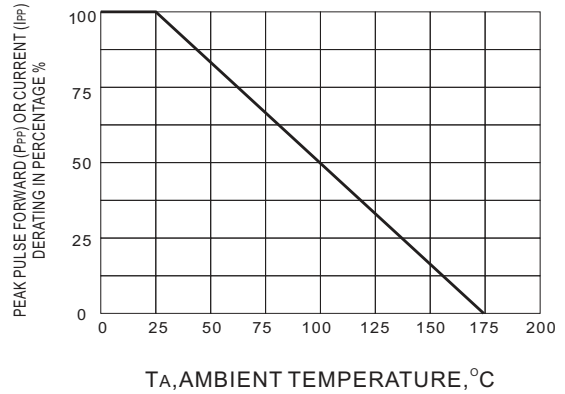
Part Number		Reverse Stand-off Voltage	Breakdown Voltage			Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000us	Peak Pulse Current 10/1000us	Marking Code	
		V <sub>RWM</sub> (Note 4)	V <sub>BR</sub> @ I <sub>T</sub>		I <sub>T</sub>	I <sub>R</sub> @ V <sub>RWM</sub>		V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>			
			Min.	Max.		UNI	BI					
UNI	BI	V	V	V	mA	µA	µA	V	A	UNI	BI	
400W Transient Voltage Suppressor												
P4KE6.8A	P4KE6.8CA	5.8	6.45	7.14	10	1000	2000	10.5	40	P4KE6.8A	P4KE6.8CA	
P4KE7.5A	P4KE7.5CA	6.4	7.13	7.88	10	500	1000	11.3	37	P4KE7.5A	P4KE7.5CA	
P4KE8.2A	P4KE8.2CA	7.02	7.79	8.61	10	200	400	12.1	35	P4KE8.2A	P4KE8.2CA	
P4KE9.1A	P4KE9.1CA	7.78	8.65	9.5	1	50	100	13.4	31	P4KE9.1A	P4KE9.1CA	
P4KE10A	P4KE10CA	8.55	9.5	10.5	1	10	20	14.5	29	P4KE10A	P4KE10CA	
P4KE11A	P4KE11CA	9.4	10.5	11.6	1	5	10	15.6	27	P4KE11A	P4KE11CA	
P4KE12A	P4KE12CA	10.2	11.4	12.6	1	1	1	16.7	25	P4KE12A	P4KE12CA	
P4KE13A	P4KE13CA	11.1	12.4	13.7	1	1	1	18.2	23	P4KE13A	P4KE13CA	
P4KE15A	P4KE15CA	12.8	14.3	15.8	1	1	1	21.2	20	P4KE15A	P4KE15CA	
P4KE16A	P4KE16CA	13.6	15.2	16.8	1	1	1	22.5	19	P4KE16A	P4KE16CA	
P4KE18A	P4KE18CA	15.3	17.1	18.9	1	1	1	25.2	17	P4KE18A	P4KE18CA	
P4KE20A	P4KE20CA	17.1	19	21	1	1	1	27.7	15	P4KE20A	P4KE20CA	
P4KE22A	P4KE22CA	18.8	20.9	23.1	1	1	1	30.6	14	P4KE22A	P4KE22CA	
P4KE24A	P4KE24CA	20.5	22.8	25.2	1	1	1	33.2	13	P4KE24A	P4KE24CA	
P4KE27A	P4KE27CA	23.1	25.7	28.4	1	1	1	37.5	11.2	P4KE27A	P4KE27CA	
P4KE30A	P4KE30CA	25.6	28.5	31.5	1	1	1	41.4	10	P4KE30A	P4KE30CA	
P4KE33A	P4KE33CA	28.2	31.4	34.7	1	1	1	45.7	9	P4KE33A	P4KE33CA	
P4KE36A	P4KE36CA	30.8	34.2	37.8	1	1	1	49.9	8.4	P4KE36A	P4KE36CA	
P4KE39A	P4KE39CA	33.3	37.1	41	1	1	1	53.9	7.8	P4KE39A	P4KE39CA	
P4KE43A	P4KE43CA	36.8	40.9	45.2	1	1	1	59.3	7.1	P4KE43A	P4KE43CA	
P4KE47A	P4KE47CA	40.2	44.7	49.4	1	1	1	64.8	5	P4KE47A	P4KE47CA	
P4KE51A	P4KE51CA	43.6	48.5	53.6	1	1	1	70.1	6	P4KE51A	P4KE51CA	
P4KE56A	P4KE56CA	47.8	53.2	58.8	1	1	1	77	5.5	P4KE56A	P4KE56CA	
P4KE62A	P4KE62CA	53	58.9	65.1	1	1	1	85	5	P4KE62A	P4KE62CA	
P4KE68A	P4KE68CA	58.1	64.6	71.4	1	1	1	92	4.6	P4KE68A	P4KE68CA	
P4KE75A	P4KE75CA	64.1	71.3	78.8	1	1	1	103	4.1	P4KE75A	P4KE75CA	
P4KE82A	P4KE82CA	70.1	77.9	86.1	1	1	1	113	3.7	P4KE82A	P4KE82CA	
P4KE91A	P4KE91CA	77.8	86.5	95.5	1	1	1	125	3.4	P4KE91A	P4KE91CA	
P4KE100A	P4KE100CA	85.5	95	105	1	1	1	137	3.1	P4KE100A	P4KE100CA	
P4KE110A	P4KE110CA	94	105	116	1	1	1	152	2.8	P4KE110A	P4KE110CA	
P4KE120A	P4KE120CA	102	114	126	1	1	1	165	2.5	P4KE120A	P4KE120CA	
P4KE130A	P4KE130CA	111	124	137	1	1	1	179	2.3	P4KE130A	P4KE130CA	
P4KE150A	P4KE150CA	128	143	158	1	1	1	207	2	P4KE150A	P4KE150CA	
P4KE160A	P4KE160CA	136	152	168	1	1	1	219	1.9	P4KE160A	P4KE160CA	
P4KE170A	P4KE170CA	145	162	179	1	1	1	234	1.8	P4KE170A	P4KE170CA	
P4KE180A	P4KE180CA	154	171	189	1	1	1	246	1.7	P4KE180A	P4KE180CA	
P4KE200A	P4KE200CA	171	190	210	1	1	1	274	1.5	P4KE200A	P4KE200CA	
P4KE220A	P4KE220CA	185	209	231	1	1	1	328	1.2	P4KE220A	P4KE220CA	
P4KE250A	P4KE250CA	214	237	263	1	1	1	344	1.2	P4KE250A	P4KE250CA	
P4KE300A	P4KE300CA	256	285	315	1	1	1	414	1	P4KE300A	P4KE300CA	
P4KE350A	P4KE350CA	300	332	368	1	1	1	482	0.8	P4KE350A	P4KE350CA	
P4KE400A	P4KE400CA	342	380	420	1	1	1	548	0.7	P4KE400A	P4KE400CA	
P4KE440A	P4KE440CA	376	418	462	1	1	1	600	0.7	P4KE440A	P4KE440CA	



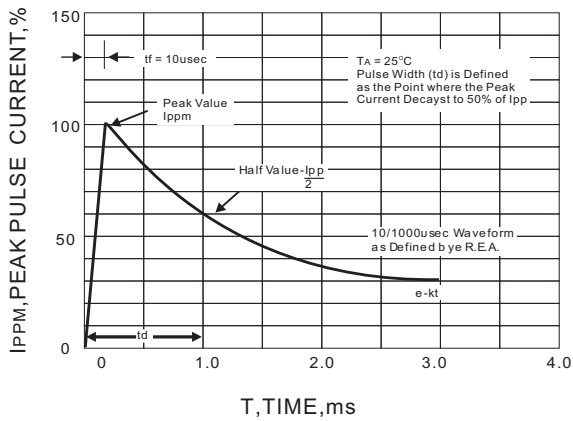
## P4KE6.8A ~ P4KE440CA Series



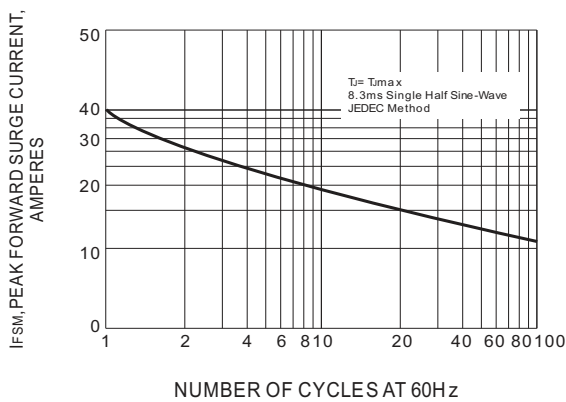
**Fig.1 PEAK PULSE POWER RATING PULSE TIME CURVE**



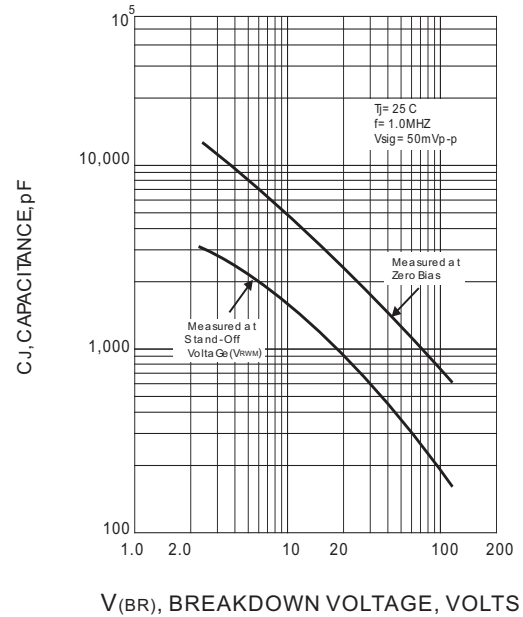
**Fig.2 PULSE DERATING CURVE**



**Fig.3 PULSE WAVEFORM**



**Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**Fig.4 TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL**



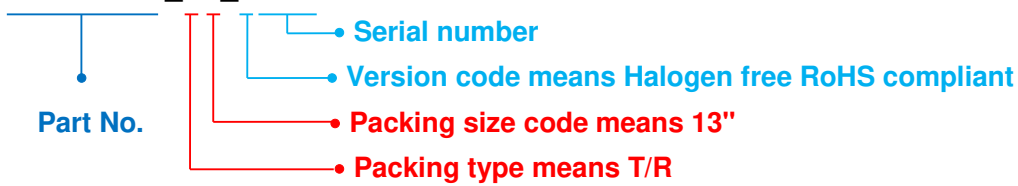
## P4KE6.8A ~ P4KE440CA Series

### Part No.\_packing code\_Version

P4KE6.8A\_AY\_00001  
 P4KE6.8A\_AY\_10001  
 P4KE6.8A\_B0\_00001  
 P4KE6.8A\_B0\_10001  
 P4KE6.8A\_R2\_00001  
 P4KE6.8A\_R2\_10001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>X</b>		Serial number <b>XXXX</b>
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HSF Level	1 <sup>st</sup> Code	2 <sup>nd</sup> ..5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	Halogen free RoHS compliant	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	RoHS compliant	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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