

# P4KE Series

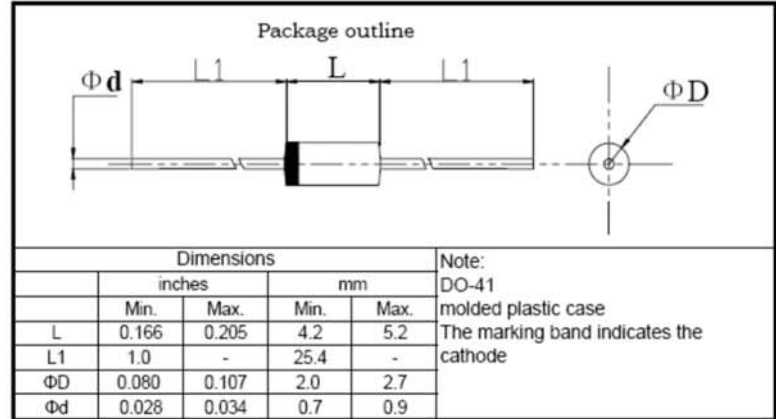
## GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE - 6.8 TO 200 Volts

400Watt Peak Power      1.0 Watt Steady State

### 1.Feature

- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* Glass passivated chip junction in DO-41 package
- \* 400W surge capability at 1ms
- \* Excellent clamping capability
- \* Low zener impedance
- \* Fast response time: typically less than 1.0 ps from 0 volts to BV min
- \* Typical IR less than 1 $\mu$ A above 10V
- \* High temperature soldering guaranteed: 260 /10 seconds/.375", (9.5mm) lead length/5lbs., (2.3kg) tension



### 2.Mechanical Data

- Case:** JEDEC DO-41 molded plastic
- Terminals:** Axial leads, solderable per MIL-STD-202, Method 208
- Polarity:** Color band denoted cathode except Bipolar
- Mounting Position:** Any
- Weight:** 0.012 oz., 0.34 g

### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types P4KE6.8 thru types P4KE550  
Electrical characteristics apply in both directions.

### 3.Electrical Characteristic

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

RATING	SYMBOL	VALUE	UNITS
Peak Power Dissipation at $T_A=25^\circ\text{C}$ , $T_p=1\text{ms}$ (Note 1)	$P_{PPM}$	Minimum 400	Watts
Steady State Power Dissipation at $T_L=75^\circ\text{C}$ Lead Lengths .375", (9.5mm) (Note 2)	$P_{M(AV)}$	1.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load(JECED Method) (Note 3)	$I_{FSM}$	40	Amps
Operating and Storage Temperature Range	$T_J, T_{STG}$	-50 to +150	°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 1.57in<sup>2</sup>(40mm<sup>2</sup>).
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.

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UNI-DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @IPP VC (V)	REVERSE LEAKAGE @VRWM IR (uA)
P4KE6.8C	5.5	6.12	7.48	10	10.8	1000
P4KE6.8CA	5.8	6.45	7.14	10	10.5	1000
P4KE7.5C	6.05	6.75	8.25	10	11.7	500
P4KE7.5CA	6.4	7.13	7.88	10	11.3	500
P4KE8.2C	6.63	7.38	9.02	10	12.5	200
P4KE8.2CA	7.02	7.79	8.61	10	12.1	200
P4KE9.1C	7.37	8.19	10	1	13.8	50
P4KE9.1CA	7.78	8.65	9.5	1	13.4	50
P4KE10C	8.1	9	11	1	15	10
P4KE10CA	8.55	9.5	10.5	1	14.5	10
P4KE11C	8.92	9.9	12.1	1	16.2	5
P4KE11CA	9.4	10.5	11.6	1	15.6	5
P4KE12C	9.72	10.8	13.2	1	17.3	5
P4KE12CA	10.2	11.4	12.6	1	16.7	5
P4KE13C	10.5	11.7	14.3	1	19	5
P4KE13CA	11.1	12.4	13.7	1	18.2	5
P4KE15C	12.1	13.5	16.5	1	22	5
P4KE15CA	12.8	14.3	15.8	1	21.2	5
P4KE16C	12.9	14.4	17.6	1	23.5	5
P4KE16CA	13.6	15.2	16.8	1	22.5	5
P4KE18C	14.5	16.2	19.8	1	26.5	5
P4KE18CA	15.3	17.1	18.9	1	25.2	5
P4KE20C	16.2	18	22	1	29.1	5
P4KE20CA	17.1	19	21	1	27.7	5
P4KE22C	17.8	19.8	24.2	1	31.9	5
P4KE22CA	18.8	20.9	23.1	1	30.6	5
P4KE24C	19.4	21.6	26.4	1	34.7	5
P4KE24CA	20.5	22.8	25.2	1	33.2	5
P4KE27C	21.8	24.3	29.7	1	39.1	5
P4KE27CA	23.1	25.7	28.4	1	37.5	5
P4KE30C	24.3	27	33	1	43.5	5
P4KE30CA	25.6	28.5	31.5	1	41.4	5
P4KE33C	26.8	29.7	36.3	1	47.7	5
P4KE33CA	28.2	31.4	34.7	1	45.7	5
P4KE36C	29.1	32.4	39.6	1	52	5
P4KE36CA	30.8	34.2	37.8	1	49.9	5
P4KE39C	31.6	35.1	42.9	1	56.4	5
P4KE39CA	33.3	37.1	41	1	53.9	5
P4KE43C	34.8	38.7	47.3	1	61.9	5
P4KE43CA	36.8	40.9	45.2	1	59.3	5
P4KE47C	38.1	42.3	51.7	1	67.8	5
P4KE47CA	40.2	44.7	49.4	1	64.8	5
P4KE51C	41.3	45.9	56.1	1	73.5	5
P4KE51CA	43.6	48.5	53.6	1	70.1	5
P4KE56C	45.6	50.4	61.6	1	80.5	5
P4KE56CA	47.8	53.2	58.8	1	77	5
P4KE62C	50.2	55.8	68.2	1	89	5
P4KE62CA	53	58.9	65.1	1	85	5
P4KE68C	55.1	61.2	74.8	1	98	5

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P4KE68CA	58.1	64.6	71.4	1	92	5
P4KE75C	60.7	67.5	82.5	1	108	5
P4KE75CA	64.1	71.3	78.8	1	103	5
P4KE82C	66.4	73.8	90.2	1	118	5
P4KE82CA	70.1	77.9	86.1	1	113	5
P4KE91C	73.7	81.9	100	1	131	5
P4KE91AC	77.8	86.5	95.5	1	125	5
P4KE100C	81	90	110	1	144	5
P4KE100CA	85.5	95	105	1	137	5
P4KE110C	89.2	99	121	1	158	5
P4KE110CA	94	105	116	1	152	5
P4KE120C	97.2	108	132	1	173	5
P4KE120CA	102	114	126	1	165	5
P4KE130C	105	117	143	1	187	5
P4KE130CA	111	124	137	1	179	5
P4KE150C	121	135	165	1	215	5
P4KE150CA	128	143	158	1	207	5
P4KE160C	130	144	176	1	230	5
P4KE160CA	136	152	168	1	219	5
P4KE170C	138	153	187	1	244	5
P4KE170CA	145	162	179	1	234	5
P4KE180C	146	162	198	1	258	5
P4KE180CA	154	171	189	1	246	5
P4KE200C	162	180	220	1	287	5
P4KE200CA	171	190	210	1	274	5

**NOTES:**

1. Non-repetitive current pulse, per Fig. 3 and derated above TA=25°C per Fig. 2.
2. Mounted on Copper Leaf area of 1.57in<sup>2</sup>(40mm<sup>2</sup>).
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.

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## 4. Characteristic Curves ( TA = 25°C unless otherwise noted )

Fig. 1-Peak Pulse Power Rating Curve

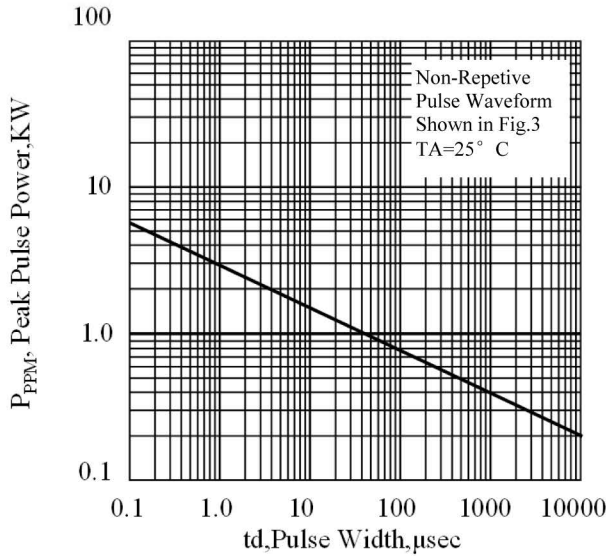


Fig. 2-Pulse Derating Curve

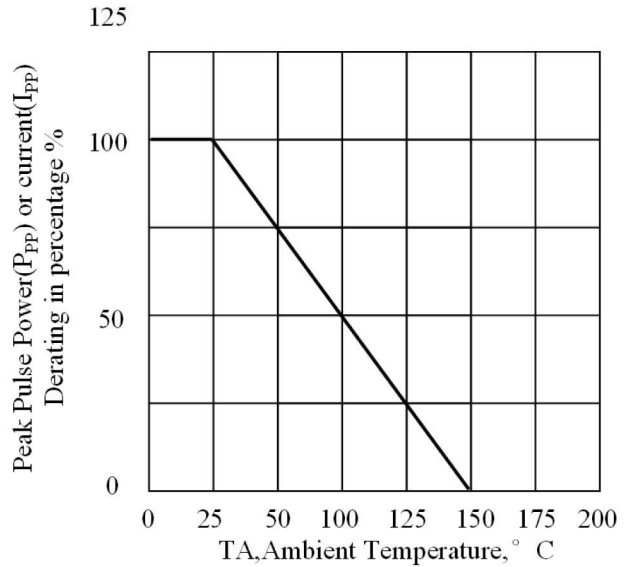


Fig. 3-Pulse Waveform

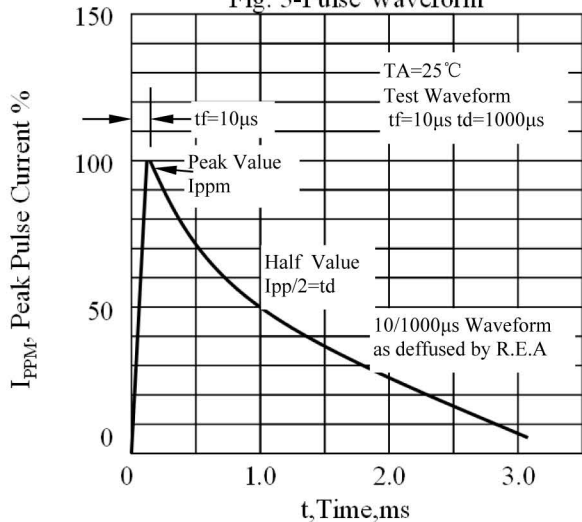


Fig. 4-Typical Junction Capacitance Unidirectional

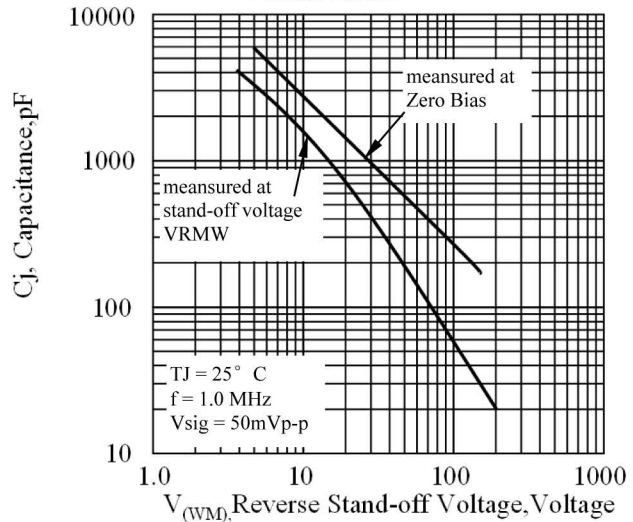


Fig. 5-Steady State Power Derating Curve

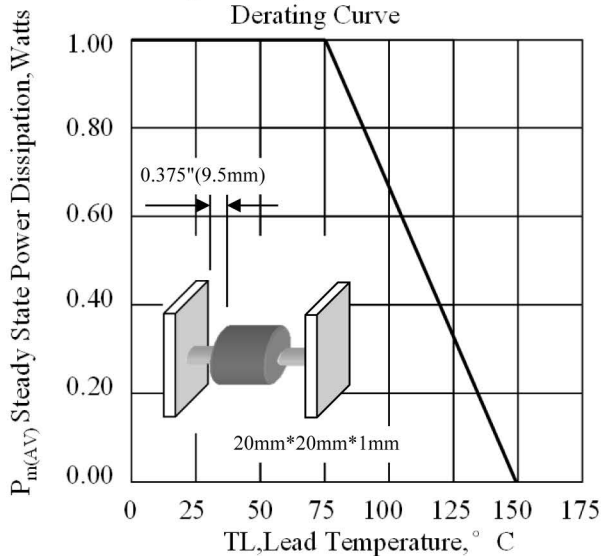


Fig. 6-Maximum Non-Repetitive Peak Forward Surge Current Unidirectional

