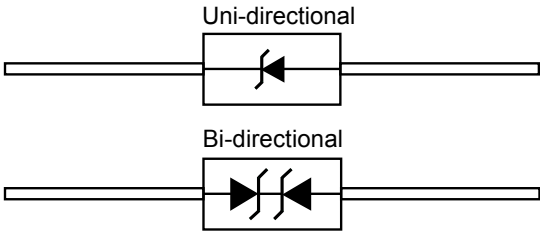
Description

The P4KE Series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.



Feature

- Glass passivated chip junction in DO-41 Package
- 400W peak pulse capability at 10×1000μs waveform, repetition rate (duty cycles):0.01%
- Excellent clamping capability
- High temperature soldering guaranteed: 260°C/40 seconds / 0.375”, (9.5mm) lead length, 5 lbs., (2.3kg) tension
- Fast response time: typically less than 1.0ps from 0 Volts to BV min
- Typical I_R less than 1μA above 10V
- Typical maximum temperature coefficient
  $\Delta V_{BR} = 0.1\% \times V_{BR}@25°C \times \Delta T$

Maximum Ratings and Thermal Characteristics(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000μs waveform(Note 1, FIG. 1)	P_{PPM}	Min 400	W
Peak Pulse Current of on 10/1000μs waveform (Note 1, FIG. 3)	I_{PPM}	See Table 1	A
Steady State Power Dissipation at TL=75°C Lead Lengths .375”,(9.5mm) (Note 2) (9.5mm)(Note 2)	$P_{M(AV)}$	1.0	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 3)	I_{FSM}	40	A
Operating junction and Storage	T_J, T_{STG}	-55 to +175	℃

Notes:

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

Electrical characteristics per line@25℃(unless otherwise specified)

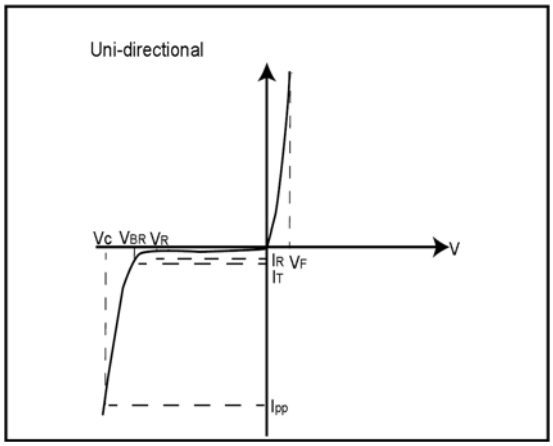
Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage V_R (V)	Breakdown Voltage V_{BR} @ I_T (V)		Test Current I_T (mA)	Maximum Clamping Voltage V_C @I_{PP} (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_R @ V_R (μA)
			MIN	MAX				
P4KE6.8A	P4KE6.8CA	5.8	6.5	7.1	10	10.5	40.00	1000
P4KE7.5A	P4KE7.5CA	6.4	7.1	7.9	10	11.3	37.00	500
P4KE8.2A	P4KE8.2CA	7.0	7.8	8.6	10	12.1	35.00	200
P4KE9.1A	P4KE9.1CA	7.8	8.7	9.6	1.0	13.4	31.00	50
P4KE10A	P4KE10CA	8.6	9.5	10.5	1.0	14.5	29.00	10
P4KE11A	P4KE11CA	9.4	10.5	11.6	1.0	15.6	27.00	1.0
P4KE12A	P4KE12CA	10.2	11.4	12.6	1.0	16.7	25.00	1.0
P4KE13A	P4KE13CA	11.1	12.4	13.7	1.0	18.2	23.00	1.0
P4KE15A	P4KE15CA	12.8	14.3	15.8	1.0	21.2	20.00	1.0
P4KE16A	P4KE16CA	13.6	15.2	16.8	1.0	22.5	19.00	1.0
P4KE18A	P4KE18CA	15.3	17.1	18.9	1.0	25.2	17.00	1.0
P4KE20A	P4KE20CA	17.1	19.0	21.0	1.0	27.7	15.00	1.0
P4KE22A	P4KE22CA	18.8	20.9	23.1	1.0	30.6	14.00	1.0
P4KE24A	P4KE24CA	20.5	22.8	25.2	1.0	33.2	13.00	1.0
P4KE27A	P4KE27CA	23.1	25.7	28.4	1.0	37.5	11.20	1.0
P4KE30A	P4KE30CA	25.6	28.5	31.5	1.0	41.4	10.00	1.0
P4KE33A	P4KE33CA	28.2	31.4	34.7	1.0	45.7	9.00	1.0
P4KE36A	P4KE36CA	30.8	34.2	37.8	1.0	49.9	8.40	1.0
P4KE39A	P4KE39CA	33.3	37.1	41.0	1.0	53.9	7.80	1.0
P4KE43A	P4KE43CA	36.8	40.9	45.2	1.0	59.3	7.10	1.0
P4KE47A	P4KE47CA	40.2	44.7	49.4	1.0	64.8	5.00	1.0
P4KE51A	P4KE51CA	43.6	48.5	53.6	1.0	70.1	6.00	1.0
P4KE56A	P4KE56CA	47.8	53.2	58.8	1.0	77.0	5.50	1.0
P4KE62A	P4KE62CA	53.0	58.9	65.1	1.0	85.0	5.00	1.0
P4KE68A	P4KE68CA	58.1	64.6	71.4	1.0	92.0	4.60	1.0
P4KE75A	P4KE75CA	64.1	71.3	78.8	1.0	103.0	4.10	1.0

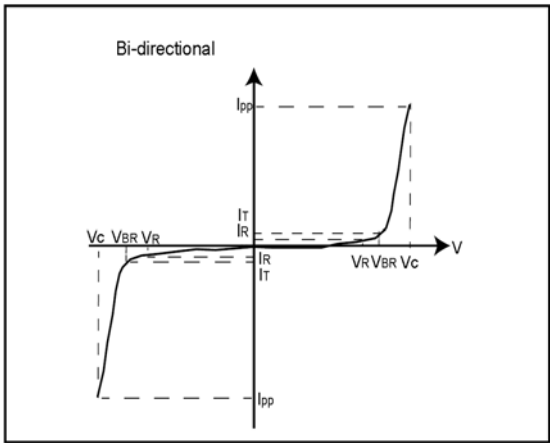
※ For Bi-directional type having VRWM of 10 Volts and less, the IR limit is double

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage V_R (V)	Breakdown Voltage V_{BR} @ I_T (V)		Test Current I_T (mA)	Maximum Clamping Voltage V_C @I_{PP} (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_R @ V_R (μA)
			MIN	MAX				
P4KE82A	P4KE82CA	70.1	77.9	86.1	1.0	113.0	3.70	1.0
P4KE91A	P4KE91CA	77.8	86.5	95.5	1.0	125.0	3.40	1.0
P4KE100A	P4KE100CA	85.5	95.0	105.0	1.0	137.0	3.10	1.0
P4KE110A	P4KE110CA	94.0	105.0	116.0	1.0	152.0	2.80	1.0
P4KE120A	P4KE120CA	102.0	114.0	126.0	1.0	165.0	2.50	1.0
P4KE130A	P4KE130CA	111.0	124.0	137.0	1.0	179.0	2.30	1.0
P4KE150A	P4KE150CA	128.0	143.0	158.0	1.0	207.0	2.00	1.0
P4KE160A	P4KE160CA	136.0	152.0	168.0	1.0	219.0	1.90	1.0
P4KE170A	P4KE170CA	145.0	162.0	179.0	1.0	234.0	1.80	1.0
P4KE180A	P4KE180CA	154.0	171.0	189.0	1.0	246.0	1.70	1.0
P4KE200A	P4KE200CA	171.0	190.0	210.0	1.0	274.0	1.53	1.0
P4KE220A	P4KE220CA	185.0	209.0	231.0	1.0	328.0	1.22	1.0
P4KE250A	P4KE250CA	214.0	237.0	263.0	1.0	344.0	1.16	1.0
P4KE300A	P4KE300CA	256.0	285.0	315.0	1.0	414.0	0.97	1.0
P4KE350A	P4KE350CA	300.0	333.0	368.0	1.0	482.0	0.83	1.0
P4KE400A	P4KE400CA	342.0	380.0	420.0	1.0	548.0	0.73	1.0
P4KE440A	P4KE440CA	376.0	418.0	462.0	1.0	602.0	0.65	1.0

※ For Bi-directional type having VRWM of 10 Volts and less, the IR limit is double

I-V Curve Characteristics





P_{PP} Peak Pulse Power -- Max power dissipation

V_R Stand-off Voltage -- Maximum voltage that can be applied to the TVS without operation

V_{BR} Breakdown Voltage -- Maximum current that flows though the TVS at a specified test current (IT)

V_C Clamping Voltage -- Peak voltage measured across the suppressor at a specified Ippm (peak impulse current)

I_R Reverse Leakage Current -- Current measured at V_R

V_F Forward Voltage Drop for Uni-directional

Ratings and Characteristic Curves T_A=25℃ unless otherwise noted

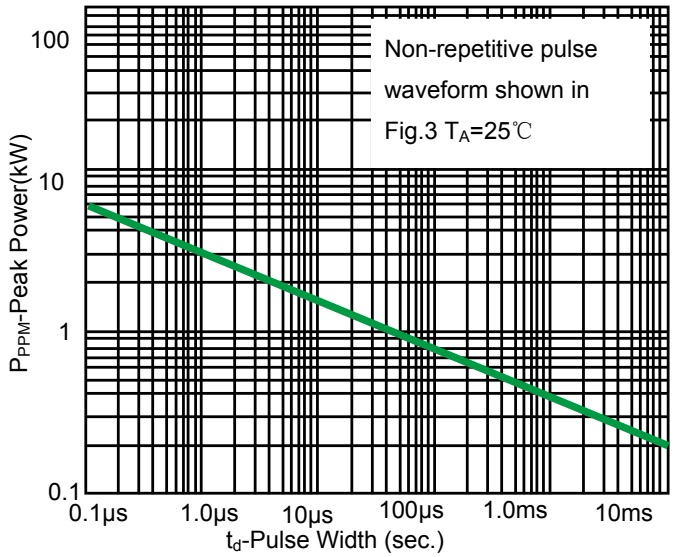


Figure 1-Peak Pulse Power Rating Curve

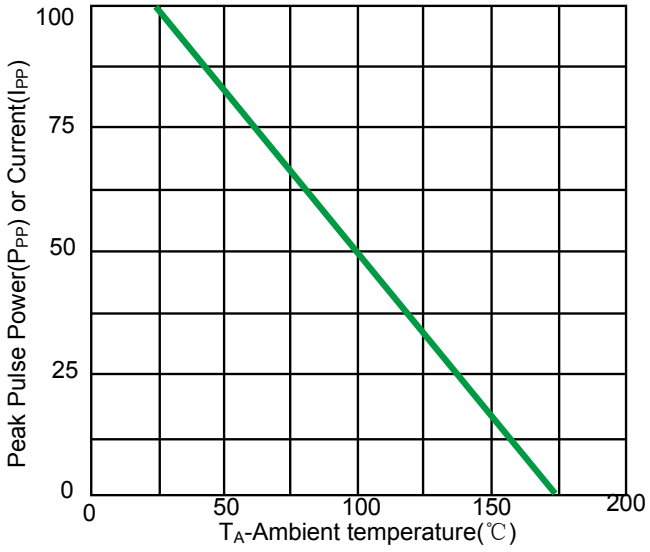


Figure 2-Pulse Derating Curve

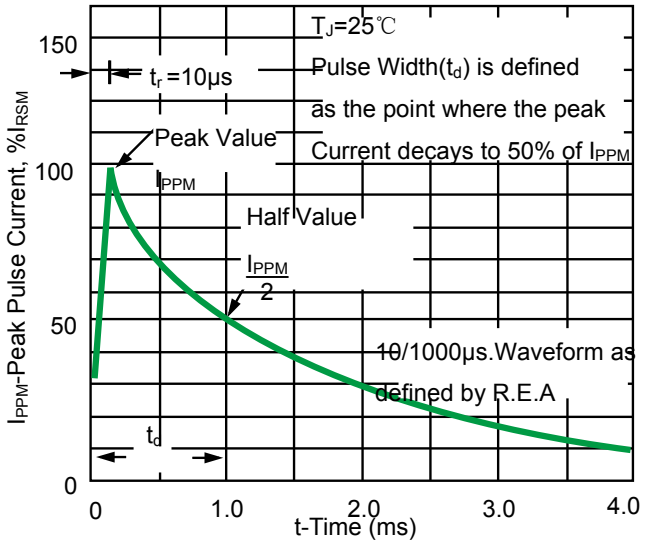


Figure 3-Pulse Waveform

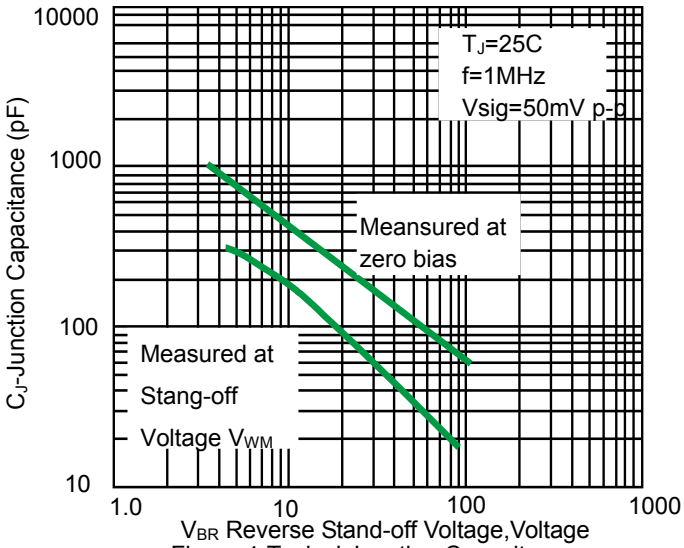


Figure 4-Typical Junction Capacitance

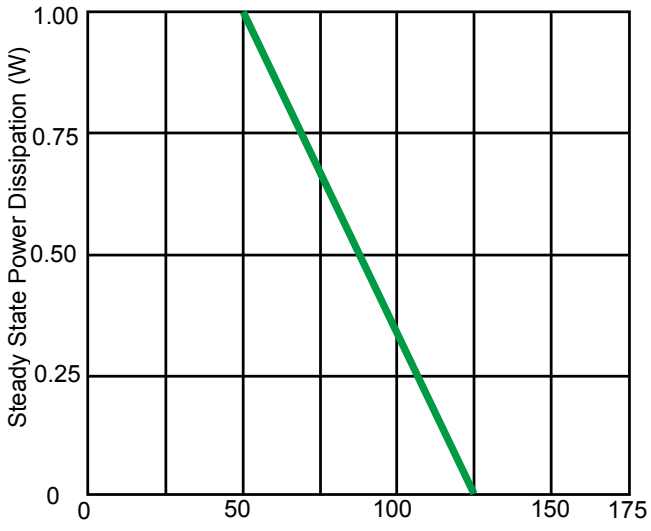


Figure 5-Steady State Power Derating Curve

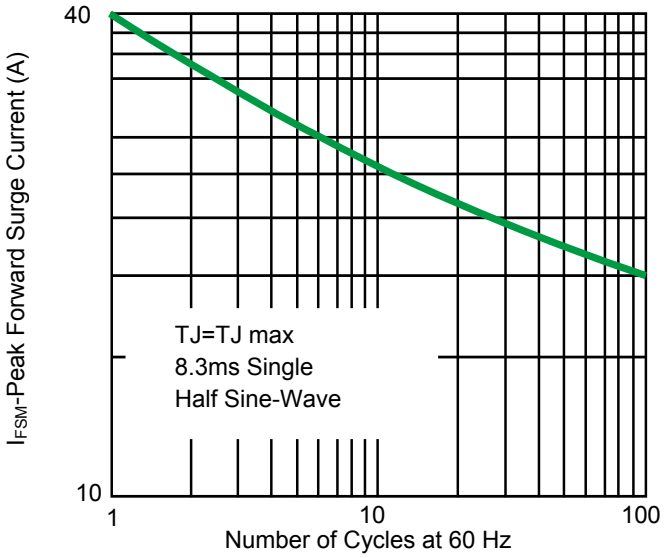
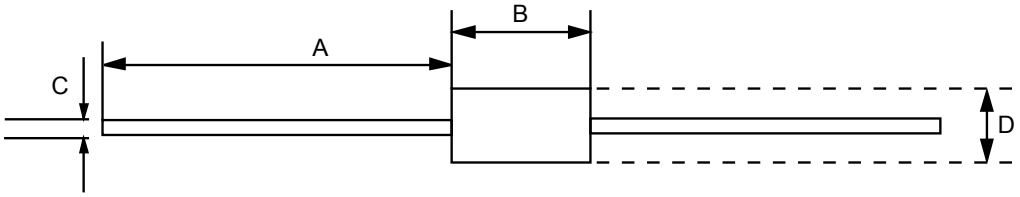


Figure 6-Maximum Non-Repetitive Forward Surge Current

Product dimension (DO-41)



Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	25.4	--	1.000	--
B	4.20	5.20	0.165	0.205
C	0.70	0.90	0.028	0.034
D	2.00	2.70	0.080	0.107

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