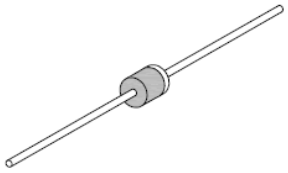
400W Transient Voltage Suppressor

Features



R-1

- 400W peak pulse power capability on 10/1000μs waveform, repetition rate (duty cycle): 0.01%
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- High temperature soldering guaranteed:
  260°C/10 seconds, 0.375" (9.5mm) lead length at 5lbs. (2.3kg) tension
- RoHS Compliant

Mechanical Data

Case:	Molded plastic over a passivated junction
Epoxy:	Meets UL 94V-0 flammability rating
Terminals:	Axial leads, solderable per MIL-STD-202, Method 208
Polarity:	Color band denoted cathode except bipolar
Weight:	0.0064 ounce, 0.181 gram

Maximum Ratings *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	Value	Unit	Conditions
V_{BR}	Breakdown Voltage	6.8 to 43	V	
P_{PPM}	Peak Power Dissipation with a 10/1000μs Waveform	Minimum 400	W	Note (1)
I_{PPM}	Peak Pulse Power Current with a 10/1000 us Waveform	See Table	A	Note (1) (2)
$P_{M(AV)}$	Power Dissipation at T_L=75° C, Lead Lengths 0.375'' (9.5mm)	1.0	W	Note (2)
I_{FSM}	Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	40	A	Note (3)
V_F	Maximum Instantaneous Forward Voltage at 25A	3.5	V	Note (3)
T_J,T_{STG}	Operating Junction and Storage Temperature Range	-55 to 175	° C	

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Notes: (1) Non-repetitive current pulse, per Fig.3 and derated above T_A = 25°C per Fig. 2
(2) Mounted on copper pads area of 1.6×1.6" (40×40mm)
(3) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

Electrical Characteristics *($T_{Ambient}$=25ºC unless noted otherwise)*

P/N		Stand-Off Voltage	Breakdown Voltage @ Test Current (note1)			Max. Reverse Leakage Current @ V_{WM}	Max. Clamping Voltage @ I_{PPM}	Max. Peak Pulse Current	Max. Temperature coefficient of V BR (%/° C)
			V_{BR}		I_T (mA)				
Uni-Polar	Bi-Polar	V_{WM} (V)	Min.	Max.		I_D (µA) (note2)	V_C (V)	I_{PPM} (A) (note1)	
MP4KE6.8A	MP4KE6.8CA	5.8	6.45	7.14	10	300	10.5	28.6	0.057
MP4KE7.5A	MP4KE7.5CA	6.4	7.13	7.88	10	150	11.3	26.5	0.061
MP4KE8.2A	MP4KE8.2CA	7.02	7.79	8.61	10	50	12.1	24.8	0.065
MP4KE9.1A	MP4KE9.1CA	7.78	8.65	9.55	1.0	10	13.4	22.4	0.068
MP4KE10A	MP4KE10CA	8.55	9.5	10.5	1.0	5.0	14.5	27.6	0.073
MP4KE11A	MP4KE11CA	9.40	10.5	11.6	1.0	2.0	15.6	25.6	0.075
MP4KE12A	MP4KE12CA	10.2	11.4	12.6	1.0	1.0	16.7	24.0	0.078
MP4KE13A	MP4KE13CA	11.1	12.4	13.7	1.0	1.0	18.2	22.0	0.081
MP4KE15A	MP4KE15CA	12.8	14.3	15.8	1.0	1.0	21.2	18.9	0.084
MP4KE16A	MP4KE16CA	13.6	15.2	16.8	1.0	1.0	22.5	17.8	0.086
MP4KE18A	MP4KE18CA	15.3	17.1	18.9	1.0	1.0	25.5	15.9	0.088
MP4KE20A	MP4KE20CA	17.1	19.0	21.0	1.0	1.0	27.7	14.4	0.090
MP4KE22A	MP4KE22CA	18.8	20.9	23.1	1.0	1.0	30.6	13.1	0.092
MP4KE24A	MP4KE24CA	20.5	22.8	25.2	1.0	1.0	33.2	12.0	0.094
MP4KE27A	MP4KE27CA	23.1	25.7	28.4	1.0	1.0	37.5	10.7	0.096
MP4KE30A	MP4KE30CA	25.6	28.5	31.5	1.0	1.0	41.4	9.7	0.097
MP4KE33A	MP4KE33CA	28.2	31.4	34.7	1.0	1.0	45.7	8.8	0.098
MP4KE36A	MP4KE36CA	30.8	34.2	37.8	1.0	1.0	49.9	8.0	0.099
MP4KE39A	MP4KE39CA	33.3	37.1	41.0	1.0	1.0	53.9	7.4	0.100
MP4KE43A	MP4KE43CA	36.8	40.9	45.2	1.0	1.0	59.3	6.7	0.101

Note: 1. $V_{(BR)}$ measured after I_T applied for 300µs, I_T=square wave pulse or equivalent.
2. Surge current waveform per Fig. 3 and derated per Fig. 2

Typical Characteristics Curves

Fig.1- Peak Pulse Power Rating Curve

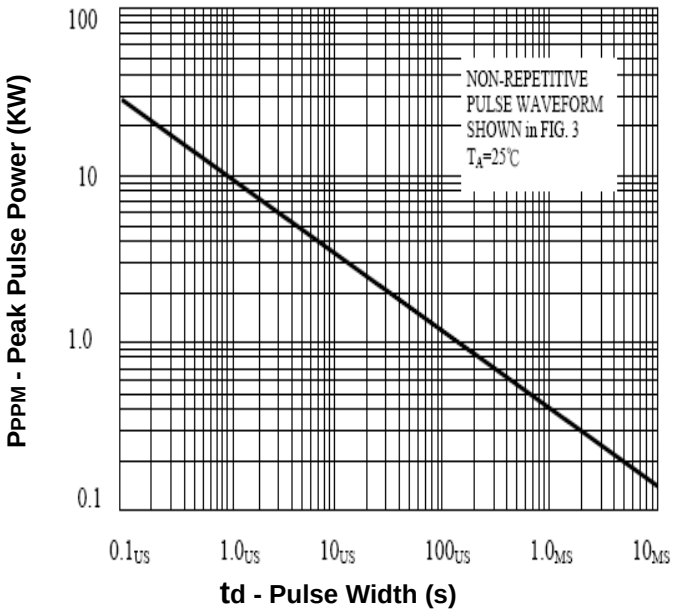


Fig.2- Pulse Derating Curve

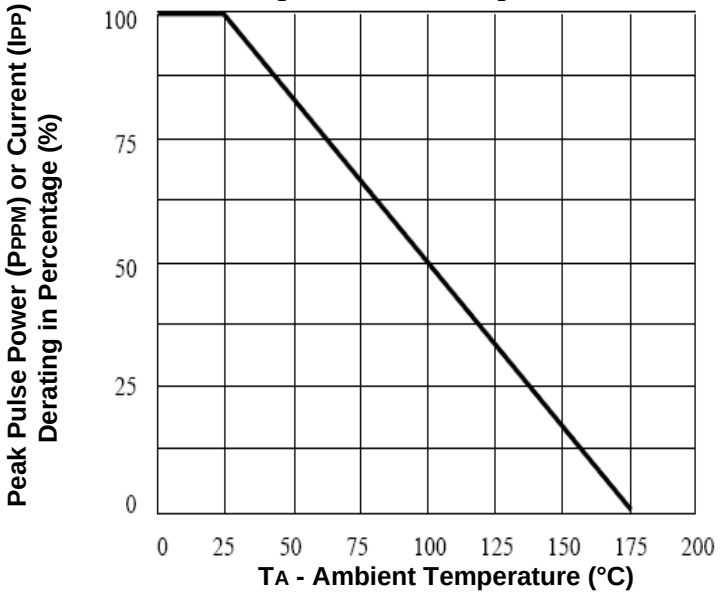


Fig.3- Pulse Waveform

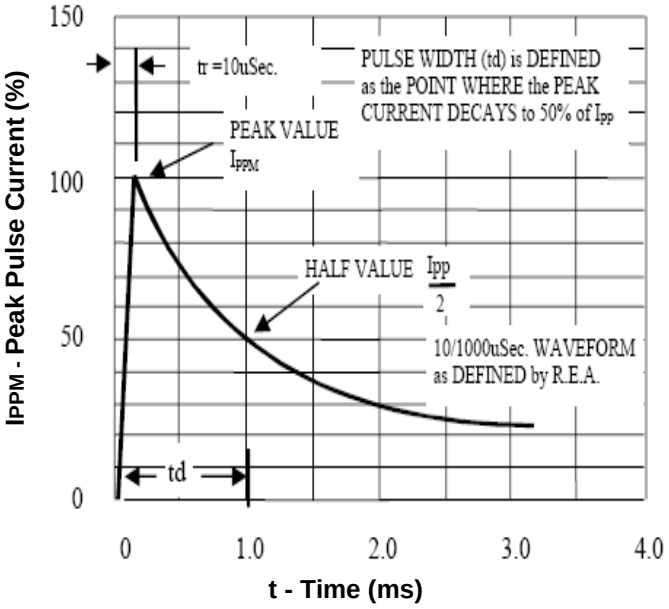
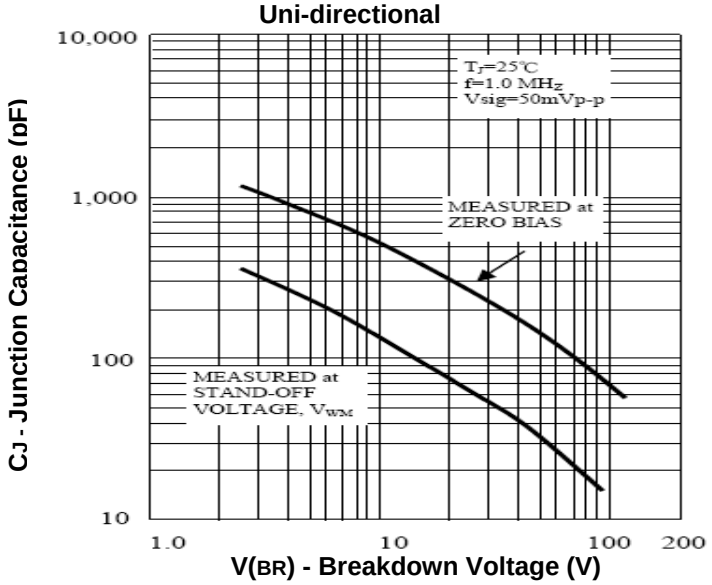
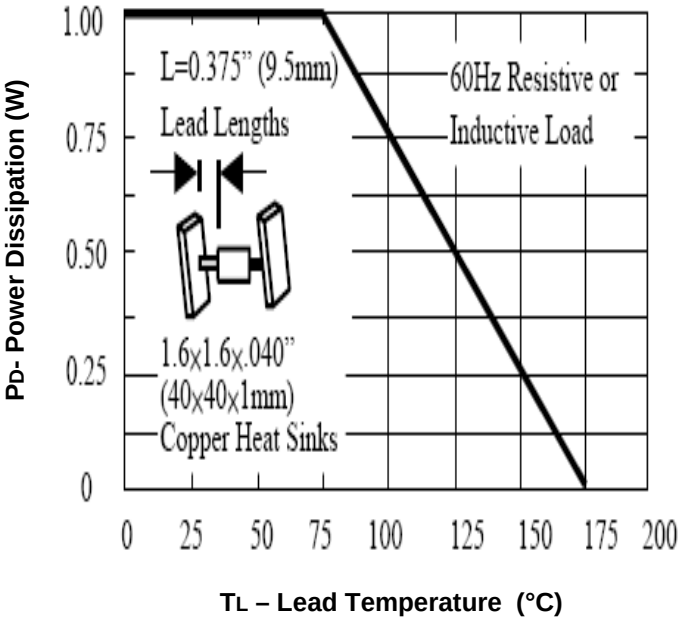


Fig.4- Typical Junction Capacitance
Uni-directional



MP4KE6.8A – MP4KE43CA

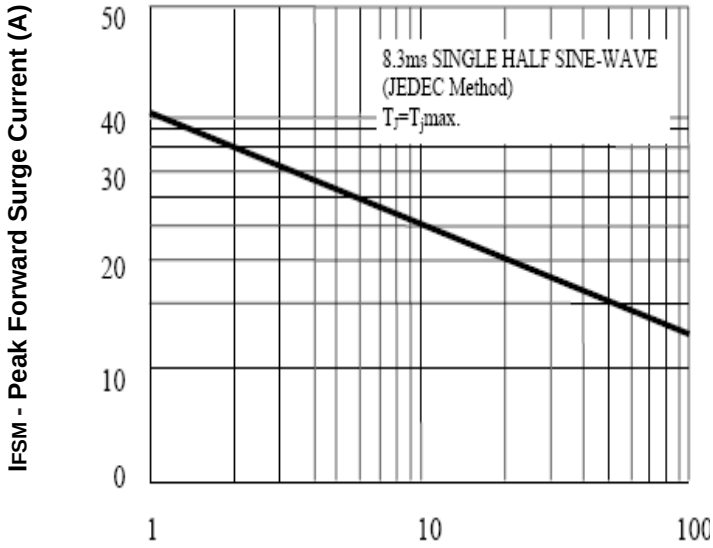
Fig.5- Power Derating Curve



PD- Power Dissipation (W)

TL – Lead Temperature (°C)

Fig.6- Max. Non-Repetitive Forward Surge Current
Uni-directional only

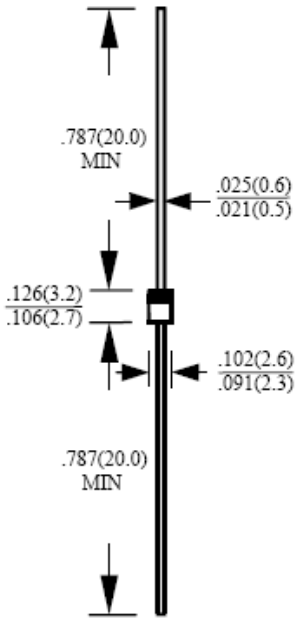


IFSM - Peak Forward Surge Current (A)

Number of Cycles at 60Hz

Dimensions in inches (mm)

R-1



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