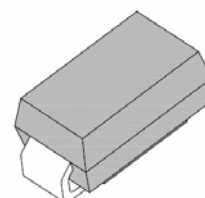


400W Surface Mount Transient Voltage Suppressor

Features

- Breakdown voltage from 6.8 to 250 volts
- Low inductance, excellent clamping capability
- Repetition rate(duty cycle): 0.01%
- Fast response time: typically less than 1.0ps from 0v to VBR
- For unidirectional types
- Typical IR less than 1 μ A above 10V
- High temperature soldering guaranteed:250°C/10 seconds at terminals
- This series is UL recognized under component index. File number E315008
- RoHS Compliant

SMA



Mechanical Data

Case:	JEDEC DO-214AC (SMA) molded plastic over glass passivated junction
Epoxy:	Meets UL 94V-0 flammability rating
Terminals:	Solder plated, solderable per MIL-STD-750, Method 2026
Polarity:	Color band denoted positive end (cathode)
Mounting position:	Any
Weight:	0.002 ounces, 0.061 gram

Maximum Ratings ($T_{Ambient}=25^{\circ}\text{C}$ unless noted otherwise)

Symbol	Description	Value	Unit	Conditions
PPM	Peak Pulse Power Dissipation on 10/1000 μ s Waveform	Minimum 400	W	Non-repetitive current pulse, per FIG.3 and derated above $T_A=25^{\circ}\text{C}$ per FIG.2
IPPM	Peak Pulse current on 10/1000 μ s Waveform	See Table	A	
IFSM	Peak Forward Surge Current	40	A	8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note 1,2)
TJ,TSTG	Operating Junction and Storage Temperature Range	-55 to 150	$^{\circ}\text{C}$	

Note: 1. Mounted on 5.0mm x 5.0mm (0.03mm thick) copper pads to each terminal

2. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle= 4 pulses per minutes maximum.

400W Surface Mount Transient Voltage Suppressor

P4SMA6.8A - P4SMA250CA

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Part NO.		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage @ Test Current.			Max. Clamping Voltage @ IPPM	Max. Peak Pulse Current	Max. Reverse Leakage Current @ V WM
					V BR		IT(mA)			
Uni-Polar	Bi-Polar	Uni	Bi	V WM (V)	Min.	Max.		IT(mA)	Vc (V)	IPPM (A)
P4SMA6.8A	P4SMA6.8CA	6V8A	6V8C	5.8	6.45	7.14	10	10.5	39	1000/2000
P4SMA7.5A	P4SMA7.5CA	7V5A	7V5C	6.4	7.13	7.88		11.3	36.3	500/1000
P4SMA8.2A	P4SMA8.2CA	8V2A	8V2C	7.02	7.79	8.61		12.1	33.9	200/400
P4SMA9.1A	P4SMA9.1CA	9V1A	9V1C	7.78	8.65	9.55	1	13.4	30.6	50/100
P4SMA10A	P4SMA10CA	10A	10C	8.55	9.5	10.5	1	14.5	28.3	10/20
P4SMA11A	P4SMA11CA	11A	11C	9.4	10.5	11.6	1	15.6	26.3	5/10
P4SMA12A	P4SMA12CA	12A	12C	10.2	11.4	12.6	1	16.7	24.6	5/10
P4SMA13A	P4SMA13CA	13A	13C	11.1	12.4	13.7	1	18.2	22.5	1.0
P4SMA15A	P4SMA15CA	15A	15C	12.8	14.3	15.8	1	21.2	19.3	1.0
P4SMA16A	P4SMA16CA	16A	16C	13.6	15.2	16.8	1	22.5	18.2	1.0
P4SMA18A	P4SMA18CA	18A	18C	15.3	17.1	18.9	1	25.5	16.1	1.0
P4SMA20A	P4SMA20CA	20A	20C	17.1	19.0	21.0	1	27.7	14.8	1.0
P4SMA22A	P4SMA22CA	22A	22C	18.8	20.9	23.1	1	30.6	13.4	1.0
P4SMA24A	P4SMA24CA	24A	24C	20.5	22.8	25.2	1	33.2	12.3	1.0
P4SMA27A	P4SMA27CA	27A	27C	23.1	25.7	28.4	1	37.5	10.9	1.0
P4SMA30A	P4SMA30CA	30A	30C	25.6	28.5	31.5	1	41.4	9.9	1.0
P4SMA33A	P4SMA33CA	33A	33C	28.2	31.4	34.7	1	45.7	9.0	1.0
P4SMA36A	P4SMA36CA	36A	36C	30.8	34.2	37.8	1	49.9	8.2	1.0
P4SMA39A	P4SMA39CA	39A	39C	33.3	37.1	41	1	53.9	7.6	1.0
P4SMA43A	P4SMA43CA	43A	43C	36.8	40.9	45.2	1	59.3	6.9	1.0
P4SMA47A	P4SMA47CA	47A	47C	40.2	44.7	49.4	1	64.8	6.3	1.0
P4SMA51A	P4SMA51CA	51A	51C	43.6	48.5	53.6	1	70.1	5.8	1.0
P4SMA56A	P4SMA56CA	56A	56C	47.8	53.2	58.8	1	77	5.3	1.0
P4SMA62A	P4SMA62CA	62A	62C	53	58.9	65.1	1	85	4.8	1.0
P4SMA68A	P4SMA68CA	68A	68C	58.1	64.6	71.4	1	92	4.5	1.0
P4SMA75A	P4SMA75CA	75A	75C	64.1	71.3	78.8	1	103	4.0	1.0
P4SMA82A	P4SMA82CA	82A	82C	70.1	77.9	86.1	1	113	3.6	1.0
P4SMA91A	P4SMA91CA	91A	91C	77.8	86.5	95.5	1	125	3.3	1.0
P4SMA100A	P4SMA100CA	100A	100C	85.5	95	105	1	137	3.0	1.0
P4SMA110A	P4SMA110CA	110A	110C	94	105	116	1	152	2.7	1.0
P4SMA120A	P4SMA120CA	120A	120C	102	114	126	1	165	2.5	1.0
P4SMA130A	P4SMA130CA	130A	130C	111	124	137	1	179	2.3	1.0

400W Surface Mount Transient Voltage Suppressor

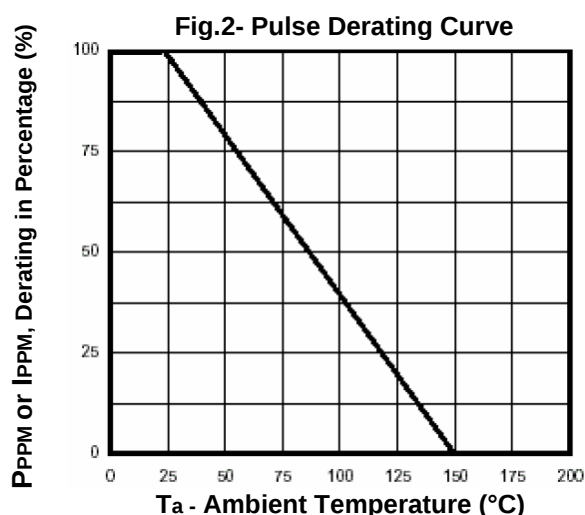
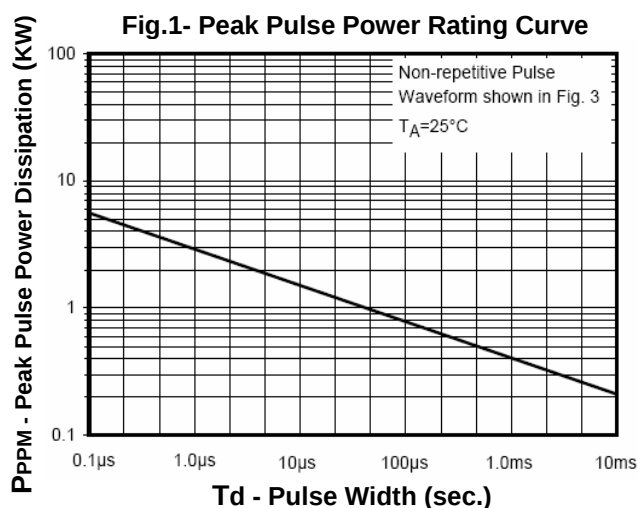
P4SMA6.8A - P4SMA250CA

Electrical Characteristics ($T_{Ambient}=25^{\circ}\text{C}$ unless noted otherwise)

Part NO.		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage @ Test Current.			Max. Clamping Voltage @ IPPM	Max. Peak Pulse Current	Max. Reverse Leakage Current @ V WM
					V BR		IT(mA)			
Uni-Polar	Bi-Polar	Uni	Bi	V WM (V)	Min.	Max.		IT(mA)	VC (V)	IPPM (A)
P4SMA150A	P4SMA150CA	150A	150C	128	143	158	1	207	2.0	1.0
P4SMA160A	P4SMA160CA	160A	160C	136	152	168	1	219	1.9	1.0
P4SMA170A	P4SMA170CA	170A	170C	145	162	179	1	234	1.8	1.0
P4SMA180A	P4SMA180CA	180A	180C	154	171	189	1	246	1.7	1.0
P4SMA200A	P4SMA200CA	200A	200C	171	190	210	1	274	1.5	1.0
P4SMA220A	P4SMA220CA	220A	220C	185	209	231	1	328	1.3	1.0
P4SMA250A	P4SMA250CA	250A	250C	214	237	263	1	344	1.2	1.0

Note: For bi-directional type having V_{WM} of 10V and less, the I_D limit is double.

Typical Characteristics Curves



400W Surface Mount Transient Voltage Suppressor

P4SMA6.8A - P4SMA250CA

Fig.3- Pulse Waveform

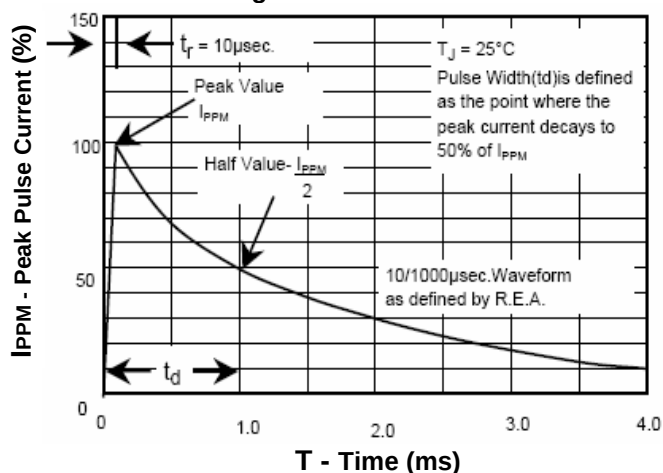


Fig.4 - Max. Non-Repetitive Forward Surge Current Uni-directional only

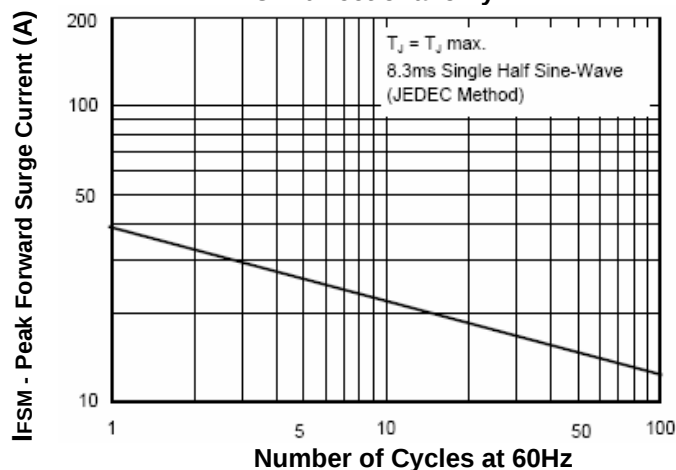


Fig.5- Steady State Power Derating Curve

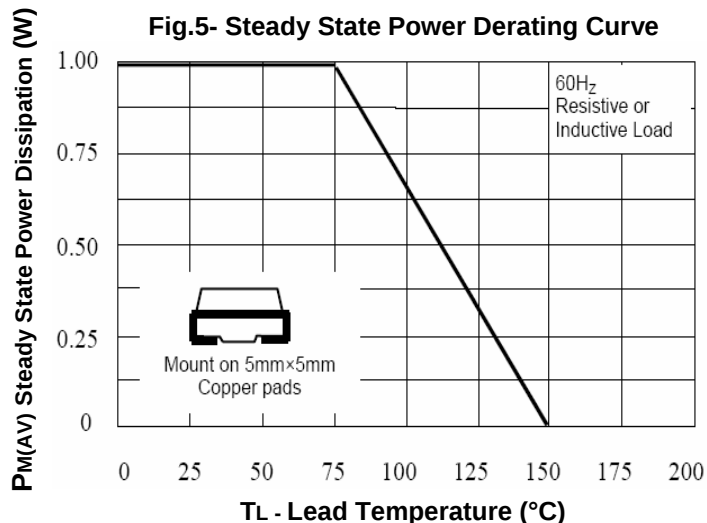
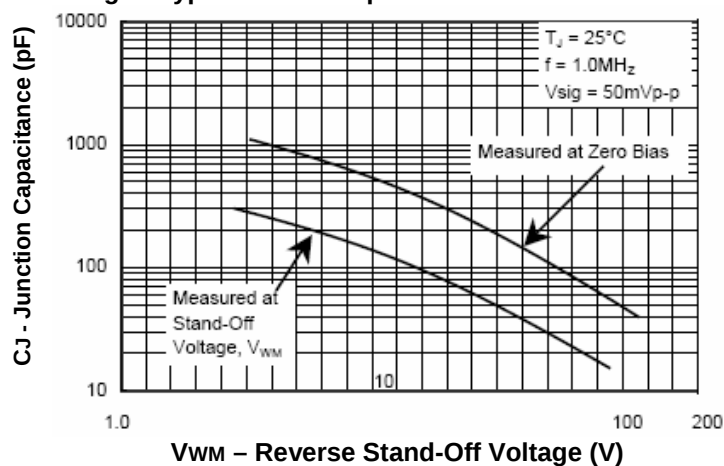
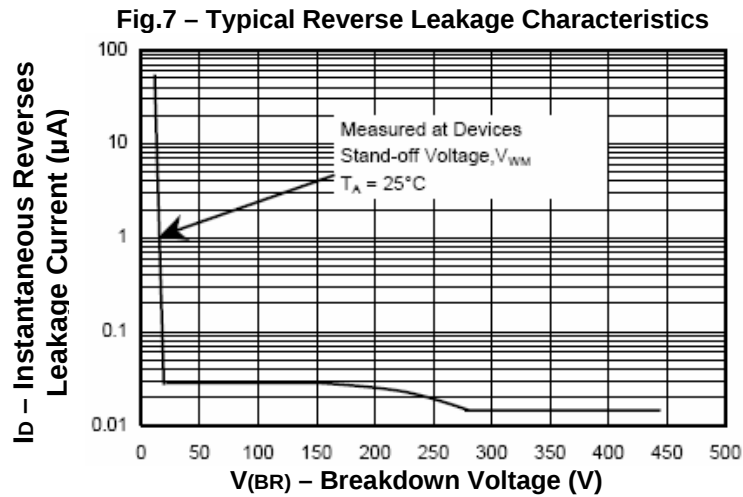


Fig.6- Typ. Junction Capacitance Uni-Directional

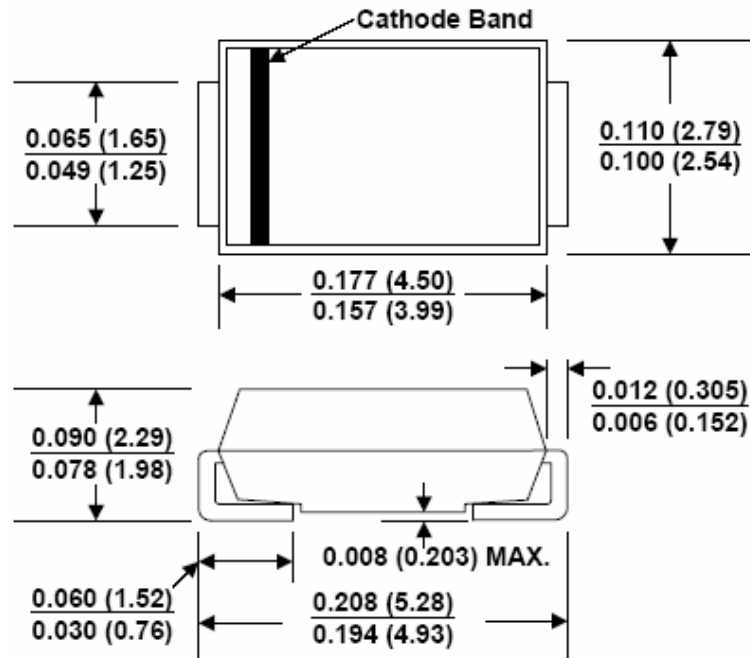


400W Surface Mount Transient Voltage Suppressor

P4SMA6.8A - P4SMA250CA



Dimensions in inches (mm)



SMA

400W Surface Mount Transient Voltage Suppressor

P4SMA6.8A - P4SMA250CA

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