Unidirectional and Bidirectional
Surface Mount Transient Voltage Suppressor

Features:

- Rating to 200V V_{BR}
- For surface mounted applications
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has UL recognition 94V-0
- Typical IR less than 1μA above 10V
- Fast response time : typically less than 1.0ns for Uni-direction, less than 5.0ns fo Bi-direction, from 0 Volts to BV min

Mechanical Data:

Case	: Molded Plastic
Polarity	: Cathode band denotes uni-directional device No cathode band denotes bi-directional device
Weight	: 0.002 ounces, 0.053 grams
Reverse Voltage	: 5 to 170 Volts
Power Dissipation	: 400 Watts

Maximum Ratings and Electrical Characteristics:

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

Characteristics	Symbol	Values	Unit
Peak Power Dissipation at T_A = 25°C TP = 1ms (Note 1, 2)	P_{PK}	Min. 400	Watts
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I_{FSM}	40	Amps
Steady State Power Dissipation at T_L = 75°C	$P_{M(AV)}$	1	Watts
Max. Instantaneous Forward Voltage at 50A for Uni-Directional Devices Only (Note 3)	V_F	3.5	Volts
Operating Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +175	°C

Notes:

1. Non-repetitive current pulse ,per Fig. 3 and derated above T_A = 25°C per Fig. 1.
2. Thermal Resistance junction to Lead.
3. 8.3ms single half-wave duty cycle=4 pulses per minutes maximum (uni-directional units only).

Part Number		Working Peak Reverse Voltage	Breakdown Voltage VBR Volts			Max. Reverse Voltage at I_{RSM} (Clamping Voltage)	Max. Reverse Surge Current	Max. Reverse Leakage at V_{RWM}
Device Unidirectional	Device Bidirectional	V_{RWM} (V)	Min. (V)	Max. (V)	It(mA)	V_{RSM} (V)	I_{RSM} (Amps)	IR (µA)
SMAJ10A	SMAJ10CA	10	11.1	12.3	1	17	23.5	5/10
-	SMAJ11CA	11	12.2	13.5	1	18.2	22	5
SMAJ120A	-	120	133	147	1	193	2	5
SMAJ12A	SMAJ12CA	12	13.3	14.7	1	19.9	20.1	5
SMAJ13A	SMAJ13CA	13	14.4	15.9	1	21.5	18.6	5
SMAJ150A	SMAJ150CA	150	167	185	1	243	1.6	5
SMAJ15A	SMAJ15CA	15	16.7	18.5	1	24.4	16.4	5
SMAJ16A	-	16	17.8	19.7	1	26	15.3	5
SMAJ18A	SMAJ18CA	18	20	22.1	1	29.2	13.7	5
SMAJ20A	SMAJ20CA	20	22.2	24.5	1	32.4	12.3	5
SMAJ22A	-	22	24.4	26.9	1	35.5	11.2	5
SMAJ24A	SMAJ24CA	24	26.7	29.5	1	38.9	10.3	5
SMAJ26A	SMAJ26CA	26	28.9	31.9	1	42.1	9.5	5
SMAJ28A	-	28	31.1	34.4	1	45.4	8.8	5
SMAJ30A	SMAJ30CA	30	33.3	36.8	1	48.4	8.3	5
SMAJ33A	SMAJ33CA	33	36.7	40.6	1	53.3	7.5	5
SMAJ36A	SMAJ36CA	36	40	44.2	1	58.1	6.9	5
SMAJ40A	SMAJ40CA	40	44.4	49.1	1	64.5	6.2	5
-	SMAJ43CA	43	47.8	52.8	1	69.4	5.7	5
-	SMAJ48CA	48	53.3	58.9	1	77.4	5.2	5
SMAJ5.0A	SMAJ5.0CA	5	6.4	7	10	9.2	43.5	800/1600
SMAJ51A	SMAJ51CA	51	56.7	62.7	1	82.4	4.9	5
SMAJ54A	SMAJ54CA	54	60	66.3	1	87.1	4.6	5
SMAJ58A	SMAJ58CA	58	64.4	71.2	1	93.6	4.3	5
SMAJ6.0A	-	6	6.67	7.37	10	10.3	38.8	800/1600
SMAJ6.5A	-	6.5	7.22	7.98	10	11.2	35.7	500/1000
SMAJ60A	-	60	66.7	73.7	1	96.8	4.1	5
SMAJ64A	-	64	71.1	78.6	1	103	3.9	5
-	SMAJ7.0CA	7	7.78	8.6	10	12	33.3	200/400
SMAJ7.5A	-	7.5	8.33	9.21	1	12.9	31	100/200
SMAJ8.5A	-	8.5	9.44	10.4	1	14.4	27.7	10/20
-	SMAJ9.0CA	9	10	11.1	1	15.4	26	5/10

Ratings and Characteristic Curves

FIG.1-PULSE DERATING CURVE

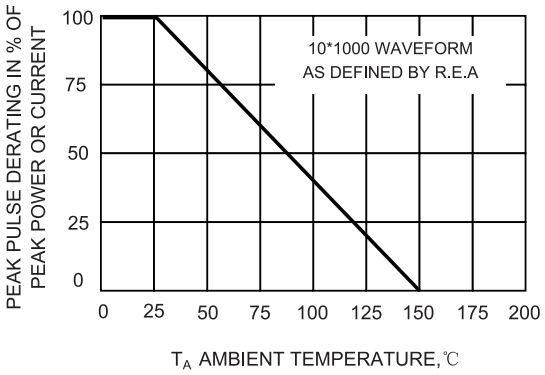


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

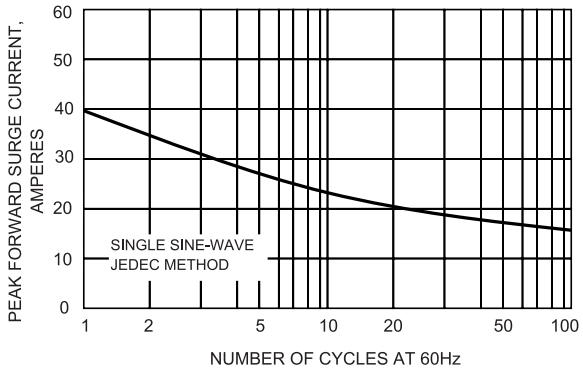


FIG.3-PULSE WAVEFORM

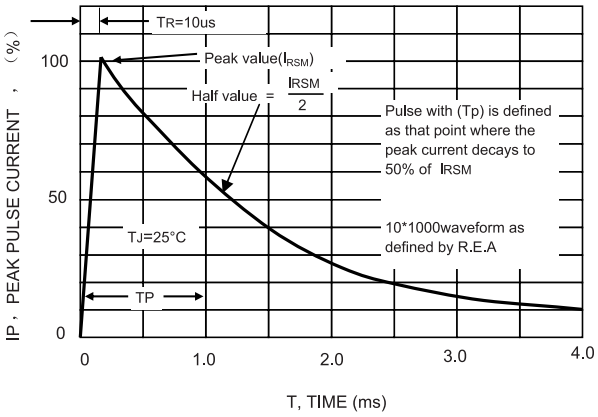


FIG.4-TYPICAL JUNCTION CAPACITANCE

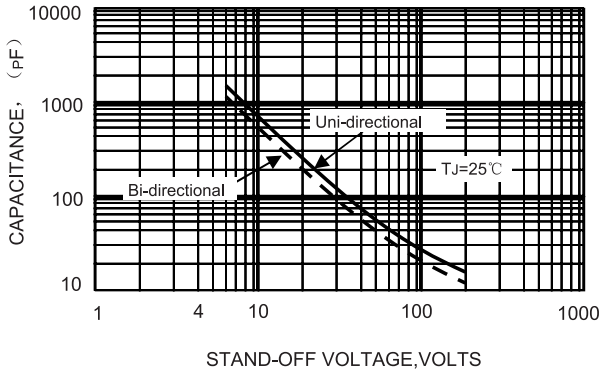


FIG.5-PULSE RATING CURVE

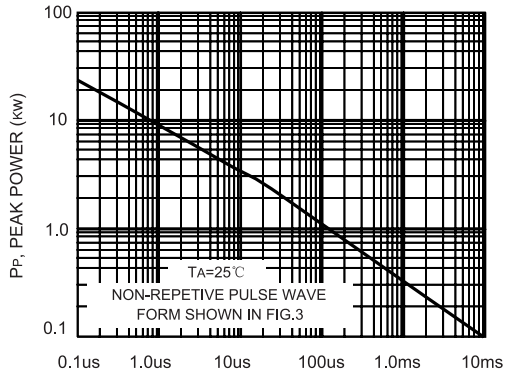
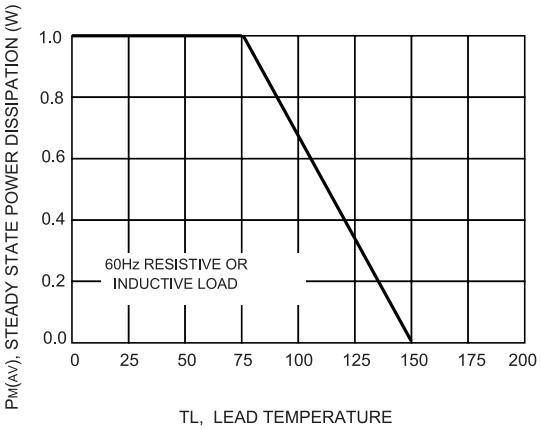
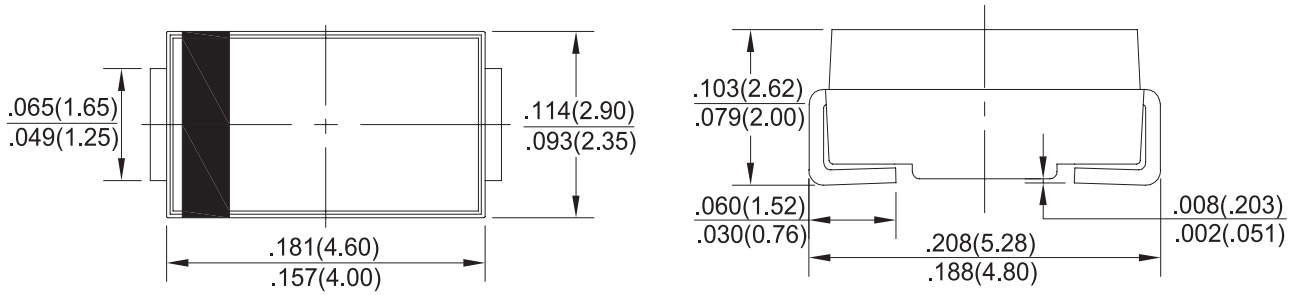


FIG.6-STEADY STATE POWER DERATING CURVE



Dimensions:

SMA



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Surface Mount Unidirectional and Bidirectional Transient Voltage Suppressors	SMAJ10A
	SMAJ10CA
	SMAJ11CA
	SMAJ120A
	SMAJ12A
	SMAJ12CA
	SMAJ13A
	SMAJ13CA
	SMAJ150A
	SMAJ150CA
	SMAJ15A
	SMAJ15CA
	SMAJ16A
	SMAJ18A
	SMAJ18CA
	SMAJ20A
	SMAJ20CA

Description	Part Number
Surface Mount Unidirectional and Bidirectional Transient Voltage Suppressors	SMAJ22A
	SMAJ24A
	SMAJ24CA
	SMAJ26A
	SMAJ26CA
	SMAJ28A
	SMAJ30A
	SMAJ30CA
	SMAJ33A
	SMAJ33CA
	SMAJ36A
	SMAJ36CA
	SMAJ40A
	SMAJ40CA
	SMAJ43CA
	SMAJ48CA
	SMAJ5.0A

Description	Part Number
Surface Mount Unidirectional and Bidirectional Transient Voltage Suppressors	SMAJ5.0CA
	SMAJ51A
	SMAJ51CA
	SMAJ54A
	SMAJ54CA
	SMAJ58A
	SMAJ58CA
	SMAJ6.0A
	SMAJ6.5A
	SMAJ60A
	SMAJ64A
	SMAJ7.0CA
	SMAJ7.5A
	SMAJ8.5A
	SMAJ9.0CA