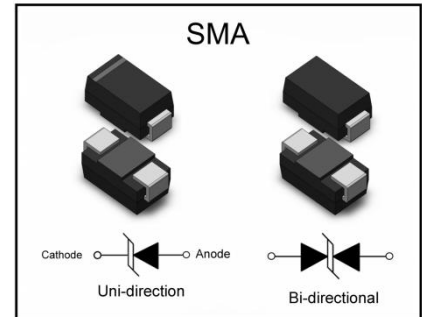


## Features

- Excellent clamping capability
- Low leakage current
- Low capacitance
- High surge capability
- Glass passivated chip
- Epoxy resin package
- Built-in strain relief
- Will not fatigue
- RoHS Compliant
- Fast response time: typically less than 1.0ps from 0 Volts to VBR min



## Mechanical Characteristic

- Package: SMA plastic package.
- Lead Finish: Matte Tin
- Case Material: Epoxy Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020

## Applications

- Telecom
- Computer
- Industrial electronic
- Consumer electronic

## Marking

- See Marking Instructions.

**Absolute Maximum Ratings(Ta=25°C)**

Parameter	Symbol	Value	Units	Remarks
Peak Pulse Power Dissipation	PPPM	400	W	(Note1)(Note2)
Steady State Power Dissipation	PD	3.3	W	(Note3)
Peak Forward Surge Current	IFSM	40	A	(Note4)
Maximum Instantaneous Forward Voltage at 50A	VFM	3.5/6.5	V	(Note5)
Typical Thermal Resistance Junction to Lead	RθJL	30	°C/W	
Typical Thermal Resistance Junction to Ambient	RθJA	120	°C/W	
Operating Temperature Range	TJ	-55 to 150	°C	
Storage Temperature Range	TSTG	-55 to 150	°C	

Notes1: Non-repetitive current pulse , 10/1000us Waveform.

Notes2: Mounted on copper pad area of 5×5mm to each terminal.

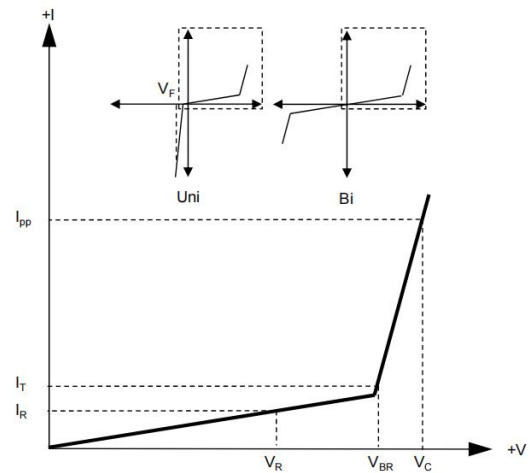
Notes3: Infinite HeatSink at TA=50°C

Notes4: Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 perminute maximum.

Notes5: For UnidirectionalOnly, VFM<3.5V for VBR ≤200V and VFM<6.5V for VBR ≥201V.

**Electrical Parameters**

Parameter	Definition
C <sub>J</sub>	Junction Capacitance - typical capacitance measured with 0V or V <sub>R</sub> bias
I <sub>PP</sub>	Peak Pulse Current - maximum rated peak impulse current
V <sub>C</sub>	Clamping Voltage - Peak voltage measured across the suppressor at a specified I <sub>ppm</sub> (peak impulse current)
V <sub>BR</sub>	Breakdown Voltage - Maximum voltage that flows though the TVS at a specified test current (I <sub>T</sub> )
I <sub>R</sub>	Leakage Current - maximum peak off-state current measured at V <sub>R</sub>
V <sub>R</sub>	Peak Off-state Voltage - maximum voltage that can be applied while maintaining off state



Electrical Characteristics (TA=25°C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage VR (V)	Breakdown Voltage VBR @ IT (V)		Test Current IT (mA)	Maximum Clamping Voltage VC@ IPP (V)	Maximum Peak Pulse Current IPP (A)	Maximum Reverse Leakage IR @ VR (μA)
			Min	Max				
SMAJ5.0A	SMAJ5.0CA	5	6.4	7	10	9.2	43.5	800
SMAJ6.0A	SMAJ6.0CA	6	6.67	7.37	10	10.3	38.8	800
SMAJ6.5A	SMAJ6.5CA	6.5	7.22	7.98	10	11.2	35.7	500
SMAJ6.8A	SMAJ6.8A	5.8	6.45	7.14	10	10.5	39	500
SMAJ7.0A	SMAJ7.0CA	7	7.78	8.6	10	12	33.3	200
SMAJ7.5A	SMAJ7.5CA	7.5	8.33	9.21	1	12.9	31	100
SMAJ8.0A	SMAJ8.0CA	8	8.89	9.83	1	13.6	29.4	50
SMAJ8.5A	SMAJ8.5CA	8.5	9.44	10.4	1	14.4	27.8	20
SMAJ9.0A	SMAJ9.0CA	9	10	11.1	1	15.4	26	10
SMAJ10A	SMAJ10CA	10	11.1	12.3	1	17	23.5	5
SMAJ11A	SMAJ11CA	11	12.2	13.5	1	18.2	22	1
SMAJ12A	SMAJ12CA	12	13.3	14.7	1	19.9	20.1	1
SMAJ13A	SMAJ13CA	13	14.4	15.9	1	21.5	18.6	1
SMAJ14A	SMAJ14CA	14	15.6	17.2	1	23.2	17.2	1
SMAJ15A	SMAJ15CA	15	16.7	18.5	1	24.4	16.4	1
SMAJ16A	SMAJ16CA	16	17.8	19.7	1	26	15.4	1
SMAJ17A	SMAJ17CA	17	18.9	20.9	1	27.6	14.5	1
SMAJ18A	SMAJ18CA	18	20	22.1	1	29.2	13.7	1
SMAJ20A	SMAJ20CA	20	22.2	24.5	1	32.4	12.3	1
SMAJ22A	SMAJ22CA	22	24.4	26.9	1	35.5	11.3	1
SMAJ24A	SMAJ24CA	24	26.7	29.5	1	38.9	10.3	1

Electrical Characteristics (TA=25°C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage V <sub>R</sub> (V)	Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub> (V)		Test Current I <sub>T</sub> (mA)	Maximum Clamping Voltage V <sub>C</sub> @ I <sub>PP</sub> (V)	Maximum Peak Pulse Current I <sub>PP</sub> (A)	Maximum Reverse Leakage I <sub>R</sub> @ V <sub>R</sub> (μA)
			Min	Max				
SMAJ26A	SMAJ26 CA	26	28.9	31.9	1	42.1	9.5	1
SMAJ28A	SMAJ28 CA	28	31.1	34.4	1	45.4	8.8	1
SMAJ30A	SMAJ30 CA	30	33.3	36.8	1	48.4	8.3	1
SMAJ33A	SMAJ33 CA	33	36.7	40.6	1	53.3	7.5	1
SMAJ36A	SMAJ36 CA	36	40	44.2	1	58.1	6.9	1
SMAJ40A	SMAJ40 CA	40	44.4	49.1	1	64.5	6.2	1
SMAJ43A	SMAJ43 CA	43	47.8	52.8	1	69.4	5.8	1
SMAJ45A	SMAJ45 CA	45	50	55.3	1	72.7	5.5	1
SMAJ48A	SMAJ48 CA	48	53.3	58.9	1	77.4	5.2	1
SMAJ51A	SMAJ51 CA	51	56.7	62.7	1	82.4	4.9	1
SMAJ54A	SMAJ54 CA	54	60	66.3	1	87.1	4.6	1
SMAJ58A	SMAJ58 CA	58	64.4	71.2	1	93.6	4.3	1
SMAJ60A	SMAJ60 CA	60	66.7	73.7	1	96.8	4.1	1
SMAJ64A	SMAJ64 CA	64	71.1	78.6	1	103	3.9	1
SMAJ70A	SMAJ70 CA	70	77.8	86	1	113	3.5	1
SMAJ75A	SMAJ75 CA	75	83.3	92.1	1	121	3.3	1
SMAJ78A	SMAJ78 CA	78	86.7	95.8	1	126	3.2	1
SMAJ85A	SMAJ85 CA	85	94.4	104	1	137	2.9	1
SMAJ90A	SMAJ90 CA	90	100	111	1	146	2.7	1
SMAJ100A	SMAJ100 CA	100	111	123	1	162	2.5	1
SMAJ110A	SMAJ110 CA	110	122	135	1	177	2.3	1
SMAJ120A	SMAJ120 CA	120	133	147	1	193	2.1	1
SMAJ130A	SMAJ130 CA	130	144	159	1	209	1.9	1
SMAJ150A	SMAJ150 CA	150	167	185	1	243	1.6	1
SMAJ160A	SMAJ160 CA	160	178	197	1	259	1.5	1
SMAJ170A	SMAJ170 CA	170	189	209	1	275	1.5	1
SMAJ180A	SMAJ180 CA	180	201	222	1	292	1.4	1
SMAJ200A	SMAJ200 CA	200	224	247	1	324	1.2	1
SMAJ220A	SMAJ220 CA	220	246	272	1	356	1.1	1
SMAJ250A	SMAJ250 CA	250	279	309	1	405	1	1
SMAJ300A	SMAJ300 CA	300	335	371	1	486	0.8	1
SMAJ350A	SMAJ350 CA	350	391	432	1	567	0.7	1
SMAJ400A	SMAJ400 CA	400	447	494	1	648	0.6	1
SMAJ440A	SMAJ440 CA	440	492	543	1	713	0.6	1

Electrical Characteristic Curve

Figure 1: Peak Pulse Power Rating

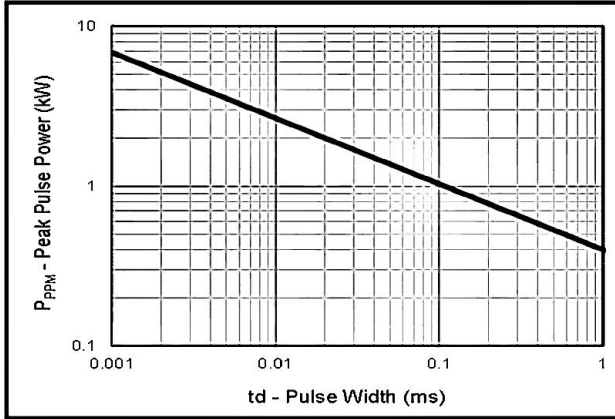


Figure 2: Pulse Derating Curve

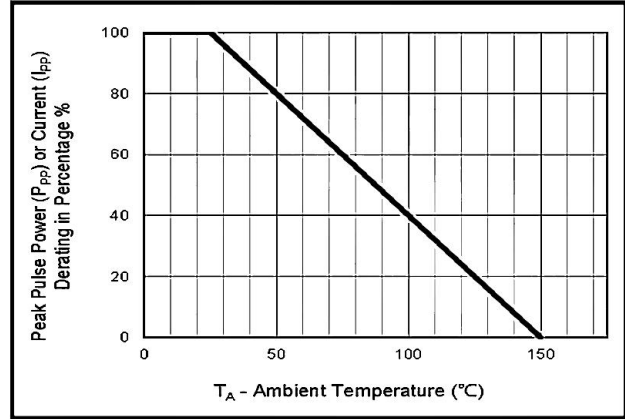


Figure 3: Pulse Waveform

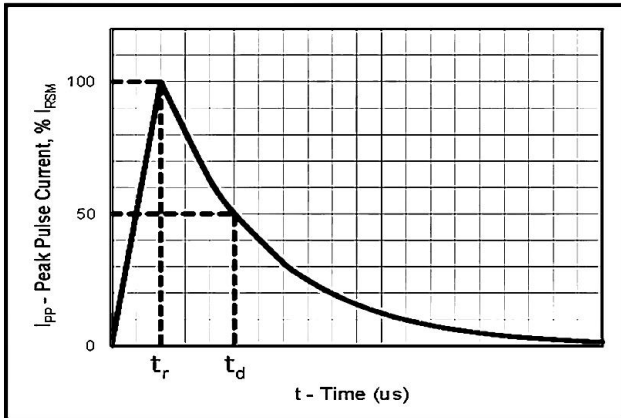


Figure 4: Typical Junction Capacitance

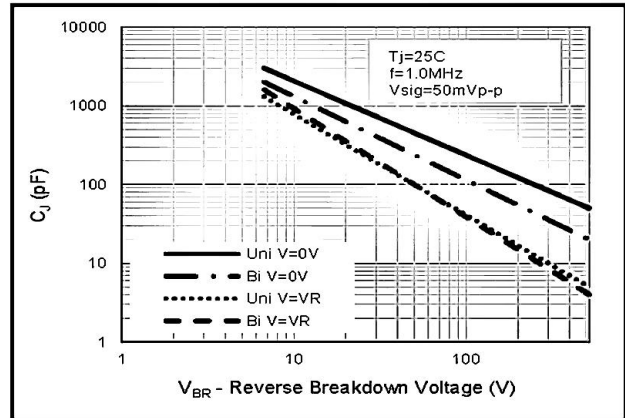


Figure 5: Steady State Power Dissipation Derating Curve

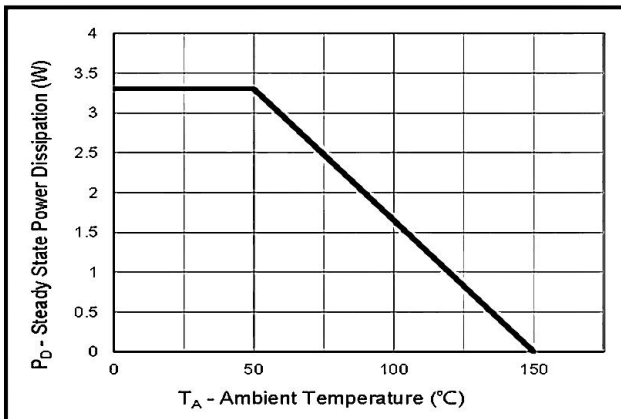
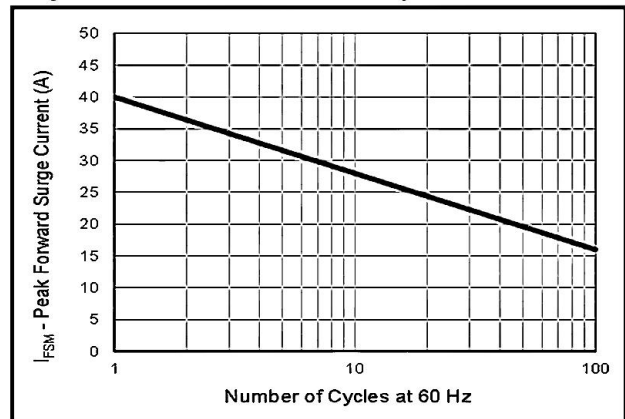
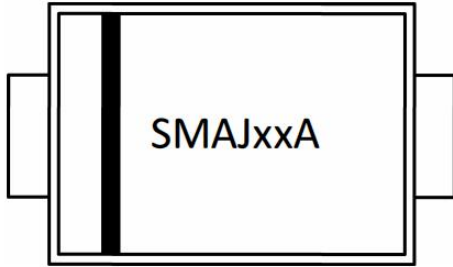


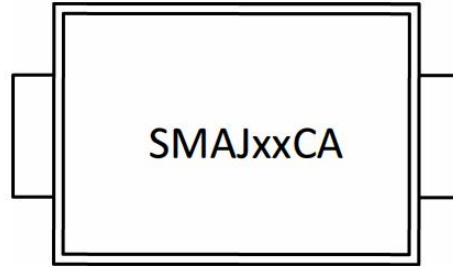
Figure 6: Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only



Marking Code



Unidirection

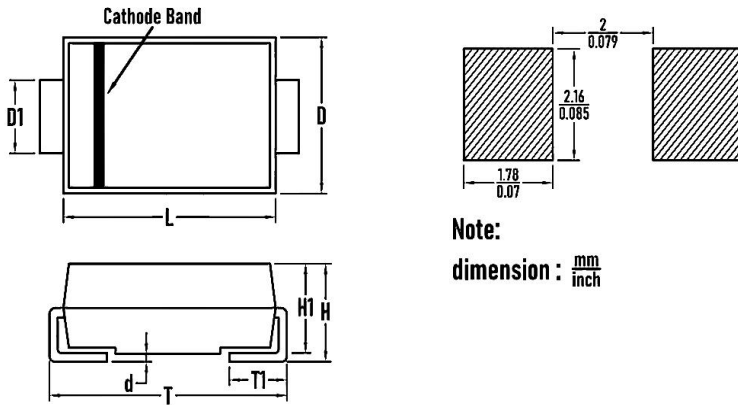


Bidirection

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SMA	Tape/Reel, 13" reel	5000	EIA-481-1
	Tape/Reel, 7" reel	2000	EIA-481-1

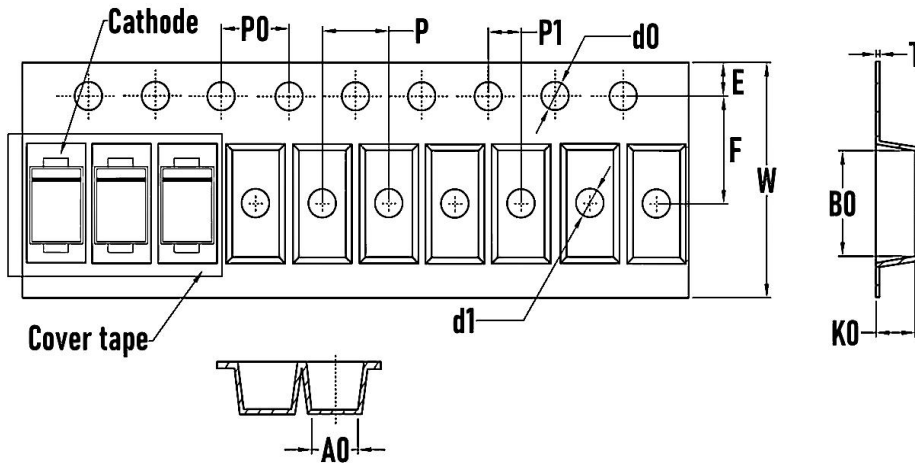
Package Dimensions



Note:  
dimension:  $\frac{\text{mm}}{\text{inch}}$

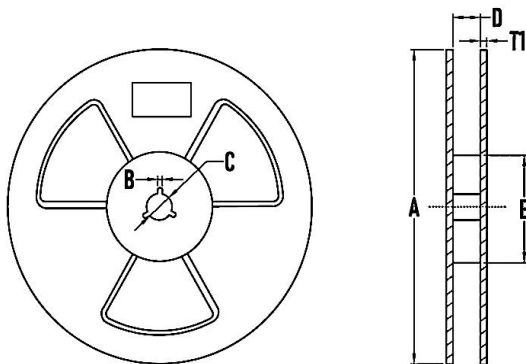
SYMBOL	MILLIMETER		Inches	
	MIN	MAX	MIN	MAX
D	2.5	2.7	0.098	0.106
D1	1.3	1.5	0.051	0.059
T	4.8	5.2	0.189	0.205
T1	0.9	1.5	0.035	0.060
d	-	0.2	-	0.008
H1	2.0	2.2	0.079	0.087
H	2.05	2.35	0.081	0.093
L	4.1	4.3	0.161	0.169

Packaging Tape - SMA



SYMBOL	MILLIMETER
A0	2.70
B0	5.10±0.1
d0	1.50±0.1
d1	1.50±0.1
E	1.75±0.1
F	5.50±0.1
K0	2.40±0.1
P	4.00±0.1
P0	4.00±0.1
P1	2.00±0.1
W	12.00±0.1
T	0.2±0.02

Packaging Reel



SYMBOL	MILLIMETER
A	323±2
B	3.0±0.2
C	15.0±0.5
D	13±2
E	73±2
T1	2.2±0.2
Quantity	5000PCS