

# SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

*Reverse Standoff Voltage: 5.0 to 440V*

*Peak Pulse Power: 400 W*

## FEATURES

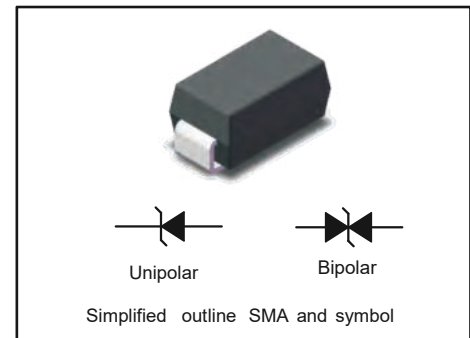
- For surface mounted applications in order to optimize board space
- Low profile package
- Glass passivated junction
- Low inductance
- Plastic package has underwriters laboratory flammability

## MECHANICAL DATA

- Case: SMA
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.055g

## PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on $T_A=25^{\circ}\text{C}$ (Note 1,2,4, Fig1)	$P_{PPM}$	400	W
Peak Forward Surge Current (Note 3, Fig 4)	$I_{FSM (UNI)}$	60	A
Peak Pulse Current on 10/1000 us waveform (Note 1, Fig 3)	$I_{PPM}$	see Table 1	A
ESD Voltage per IEC6100-4-2	<div style="display: flex; justify-content: space-between;"> <span>Contact</span> <span><math>V_{ESD1}</math></span> </div> <div style="display: flex; justify-content: space-between;"> <span>Air</span> <span><math>V_{ESD2}</math></span> </div>	<div style="display: flex; justify-content: space-between;"> <span><math>\pm 30</math></span> <span><math>\pm 30</math></span> </div>	kV
Typical Thermal Resistance Junction to Ambient (Note 2)	$R_{\theta JA}$	30	$^{\circ}\text{C/W}$
Operating Junction Temperature and Storage Temperature Range	$T_J, T_{stg}$	-65 ~ +150	$^{\circ}\text{C}$

### NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A = 25^{\circ}\text{C}$  per Fig. 2.
2. Mounted on 5mm<sup>2</sup> copper pads to each terminal.
3. Peak forward surge current : 8.3ms single half sine-wave Superimposed on rated load (JEDEC method).
4. Peak pulse power waveform is 10/1000μs.

**ELECTRICAL CHARACTERISTICS**

Ratings at TA = 25°C ambient temperature unless otherwise specified.

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Clamp Voltage Max.	Peak Pulse Current
		V <sub>RWM</sub>	V <sub>(BR)</sub>		I <sub>r</sub>	I <sub>r</sub> @ V <sub>RRM</sub>	V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>
Uni	Bi	V	Min(V)	Max(V)	mA	µA	V	A
RND SMAJ5A	RND SMAJ5CA	5	6.4	7	10	800	9.2	43.5
RND SMAJ6A	RND SMAJ6CA	6	6.67	7.37	10	800	10.3	38.8
RND SMAJ7.5A	RND SMAJ7.5CA	7.5	8.33	9.21	1	100	12.9	31.0
RND SMAJ8A	RND SMAJ8CA	8	8.89	9.83	1	50	13.6	29.4
RND SMAJ10A	RND SMAJ10CA	10	11.1	12.3	1	5	17.0	23.5
RND SMAJ11A	RND SMAJ11CA	11	12.2	13.5	1	1	18.2	22.0
RND SMAJ12A	RND SMAJ12CA	12	13.3	14.7	1	1	19.9	20.1
RND SMAJ13A	RND SMAJ13CA	13	14.4	15.9	1	1	21.5	18.6
RND SMAJ15A	RND SMAJ15CA	15	16.7	18.5	1	1	24.4	16.4
RND SMAJ16A	RND SMAJ16CA	16	17.8	19.7	1	1	26.0	15.4
RND SMAJ17A	RND SMAJ17CA	17	18.9	20.9	1	1	27.6	14.5
RND SMAJ18A	RND SMAJ18CA	18	20	22.1	1	1	29.2	13.7
RND SMAJ20A	RND SMAJ20CA	20	22.2	24.5	1	1	32.4	12.3
RND SMAJ22A	RND SMAJ22CA	22	24.4	26.9	1	1	35.5	11.3
RND SMAJ24A	RND SMAJ24CA	24	26.7	29.5	1	1	38.9	10.3
RND SMAJ26A	RND SMAJ26CA	26	28.9	31.9	1	1	42.1	9.5
RND SMAJ28A	RND SMAJ28CA	28	31.1	34.4	1	1	45.4	8.8
RND SMAJ30A	RND SMAJ30CA	30	33.3	36.8	1	1	48.4	8.3
RND SMAJ33A	RND SMAJ33CA	33	36.7	40.6	1	1	53.3	7.5
RND SMAJ36A	RND SMAJ36CA	36	40	44.2	1	1	58.1	6.9
RND SMAJ40A	RND SMAJ40CA	40	44.4	49.1	1	1	64.5	6.2
RND SMAJ43A	RND SMAJ43CA	43	47.8	52.8	1	1	69.4	5.8
RND SMAJ48A	RND SMAJ48CA	48	53.3	58.9	1	1	77.4	5.2
RND SMAJ51A	RND SMAJ51CA	51	56.7	62.7	1	1	82.4	4.9
RND SMAJ54A	RND SMAJ54CA	54	60	66.3	1	1	87.1	4.6
RND SMAJ58A	RND SMAJ58CA	58	64.4	71.2	1	1	93.6	4.3
RND SMAJ60A	RND SMAJ60CA	60	66.7	73.7	1	1	96.8	4.1

**ELECTRICAL CHARACTERISTICS**

Ratings at TA = 25°C ambient temperature unless otherwise specified.

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Clamp Voltage Max.	Peak Pulse Current
		$V_{RWM}$	$V_{(BR)}$		$I_T$	$I_R @ V_{RRM}$	$V_C @ I_{PP}$	$I_{PP}$
Uni	Bi	V	Min(V)	Max(V)	mA	$\mu A$	V	A
RND SMAJ64A	RND SMAJ64CA	64	71.1	78.6	1	1	103.0	3.9
RND SMAJ78A	RND SMAJ78CA	78	86.7	95.8	1	1	126.0	3.2
RND SMAJ85A	RND SMAJ85CA	85	94.4	104	1	1	137.0	2.9
RND SMAJ90A	RND SMAJ90CA	90	100	111	1	1	146.0	2.7
RND SMAJ100A	RND SMAJ100CA	100	111	123	1	1	162.0	2.5
RND SMAJ110A	RND SMAJ110CA	110	122	135	1	1	177.0	2.3
RND SMAJ120A	RND SMAJ120CA	120	133	147	1	1	193.0	2.1
RND SMAJ150A	RND SMAJ150CA	150	167	185	1	1	243.0	1.6
RND SMAJ160A	RND SMAJ160CA	160	178	197	1	1	259.0	1.5

RATINGS AND CHARACTERISTIC CURVES

Fig.1 Peak Pulse Power Rating Curve

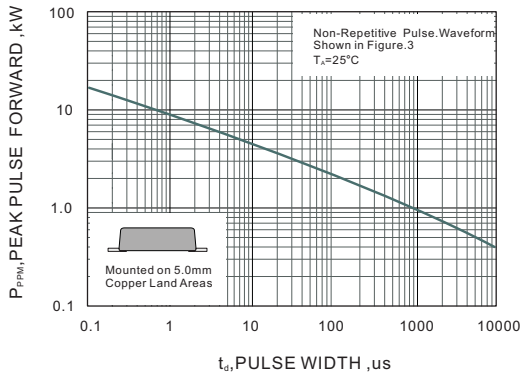


Fig.2 Forward Current Derating Curve

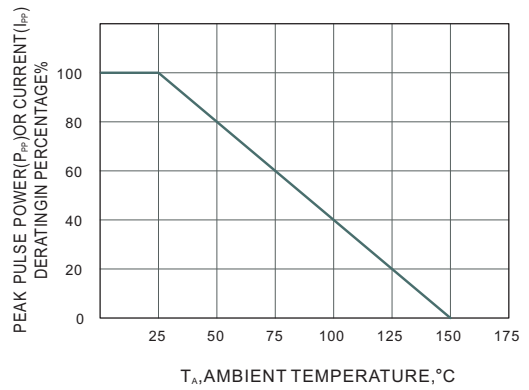


Fig.3 Pulse Waveform

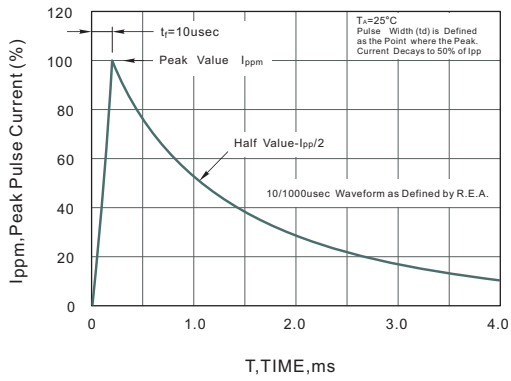
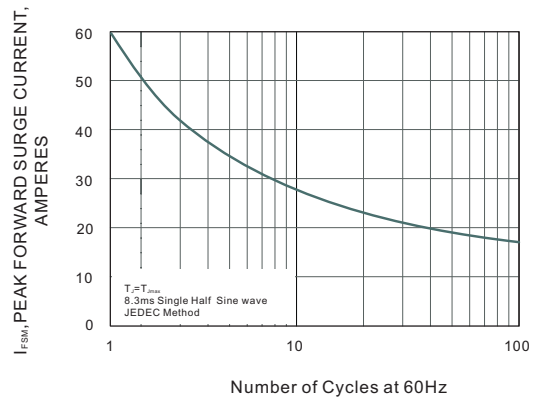
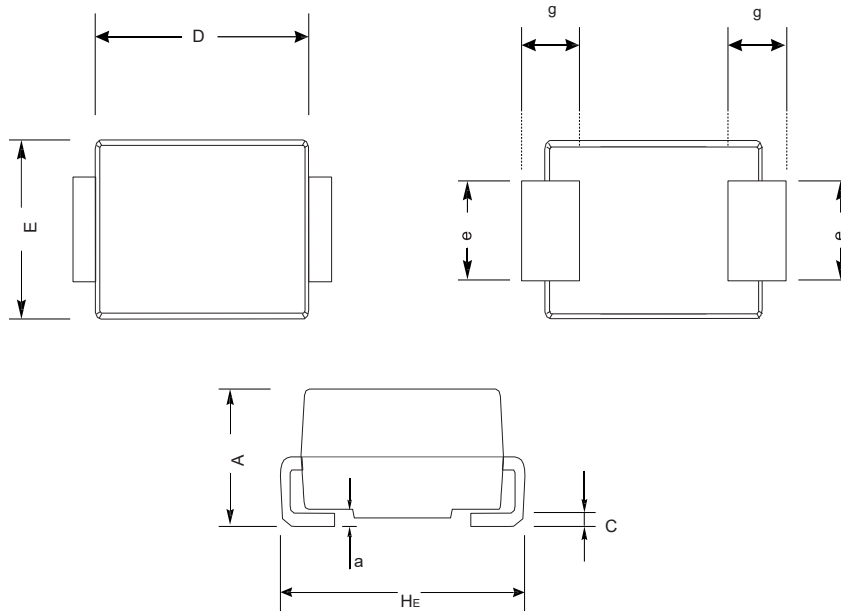


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



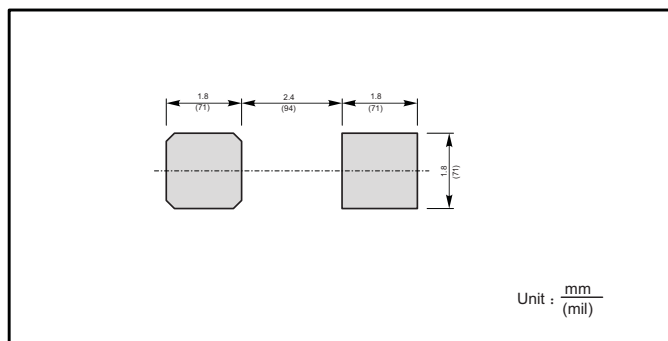
**PACKAGE OUTLINE**

SMA



UNIT		A	D	E	HE	C	e	g	a
mm	max	2.2	4.5	2.7	5.2	0.31	1.6	1.5	0.3
	min	1.9	4.0	2.3	4.7	0.15	1.3	0.9	

**The recommended mounting pad size**



**ORDER INFORMATION**

Device	Package	Shipping
SMAJ SERIES	SMA	5000PCS/Reel&Tape(13inch)