

# S-SMAJ\*\*\* A Series

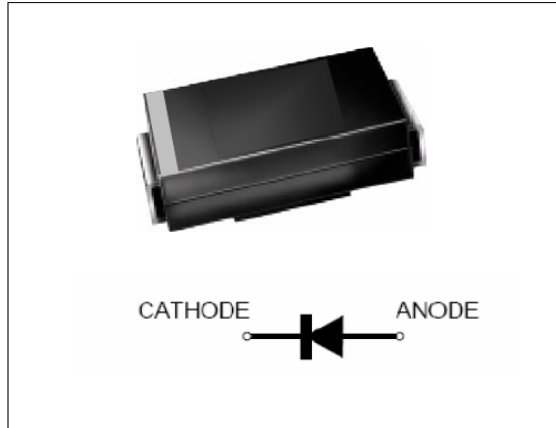
## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

### VOLTAGE 5.0 TO 250 Volts

### 400 Watt Peak Pulse Power

#### FEATURES

- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* For surface mounted applications in order to optimize board space
- \* Low profile package
- \* Built-in strain relief
- \* Glass passivated junction
- \* Low inductance
- \* Excellent clamping capability
- \* Repetition Rate (duty cycle): 0.01%
- \* Fast response time: typically less than 1.0ps
- Terminals:** Plated leads, solderable per
- \* Typical IR less than 1mA above 10V
- \* High temperature soldering guaranteed: 260°C/10 seconds,
- \* S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Atable.



we declare that the material of product is halogen free (green epoxy compound).

#### MECHANICAL DATA

- Case:** JEDEC SMA molded plastic
- Terminals:** Plated leads, solderable per MIL-STD-202, Method 208
- Polarity:** Color band denoted Cathode
- Mounting Position:** Any
- Weight:** 0.066 gram

#### 1. DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or A Suffix for types S-SMAJ5.0A thru types S-SMAJ250A

Electrical characteristics apply in both directions. marking code is all type.

#### MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For Capacitive load, derate current by 20%.

RATING	SYMBOL	VALUE	UNITS
Peak Power Dissipation at $T_A=25^\circ\text{C}$ , $T_P=1\text{ms}$ (Note 1)	$P_{PPM}$	Minimum 400	Watts
Steady State Power Dissipation at $T_L=75^\circ\text{C}$ (Note 2)	$P_{M(AV)}$	1.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load(JEDEC Method)(Note 3)	$I_{FSM}$	40	Amps
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  $T_A=25^\circ\text{C}$  per Fig. 2.
2. Mounted on Copper Leaf area of 1.57in<sup>2</sup>(40mm<sup>2</sup>).
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.

## S-SMAJ\*\*\* A Series

Uni-Directional Part Number	Device marking code	Reverse Stand-off Voltage VRWM (V)	Breakdown Voltage VBR (V) Min. @IT	Breakdown Voltage VBR (V) Max. @IT	Test Current IT (mA)	Maximum Clamping Voltage @IPP VC (V)	Peak Pulse Current Ipp (A)	Reverse Leakage @VRWM IR (uA)
S-SMAJ5.0A	AE	5.00	6.40	7.00	10.00	9.20	43.5	800
S-SMAJ6.0A	AG	6.00	6.67	7.37	10.00	10.30	38.8	800
S-SMAJ6.5A	AK	6.50	7.22	7.98	10.00	11.20	35.7	500
S-SMAJ7.0A	AM	7.00	7.78	8.60	10.00	12.00	33.3	200
S-SMAJ7.5A	AP	7.50	8.33	9.21	1.00	12.90	31.0	100
S-SMAJ8.0A	AR	8.00	8.89	9.83	1.00	13.60	29.4	50
S-SMAJ8.5A	AT	8.50	9.44	10.40	1.00	14.40	27.8	20
S-SMAJ9.0A	AV	9.00	10.00	11.10	1.00	15.40	26.0	10
S-SMAJ10A	AX	10.00	11.10	12.30	1.00	17.00	23.5	1
S-SMAJ11A	AZ	11.00	12.20	13.50	1.00	18.20	22.0	1
S-SMAJ12A	BE	12.00	13.30	14.70	1.00	19.90	20.1	1
S-SMAJ13A	BG	13.00	14.40	15.90	1.00	21.50	18.6	1
S-SMAJ14A	BK	14.00	15.60	17.20	1.00	23.20	17.2	1
S-SMAJ15A	BM	15.00	16.70	18.50	1.00	24.40	16.4	1
S-SMAJ16A	BP	16.00	17.80	19.70	1.00	26.00	15.4	1
S-SMAJ17A	BR	17.00	18.90	20.90	1.00	27.60	14.5	1
S-SMAJ18A	BT	18.00	20.00	22.10	1.00	29.20	13.7	1
S-SMAJ20A	BV	20.00	22.20	24.50	1.00	32.40	12.3	1
S-SMAJ22A	BX	22.00	24.40	26.90	1.00	35.50	11.3	1
S-SMAJ24A	BZ	24.00	26.70	29.50	1.00	38.90	10.3	1
S-SMAJ26A	CE	26.00	28.90	31.90	1.00	42.10	9.5	1
S-SMAJ28A	CG	28.00	31.10	34.40	1.00	45.40	8.8	1
S-SMAJ30A	CK	30.00	33.30	36.80	1.00	48.40	8.3	1
S-SMAJ33A	CM	33.00	36.70	40.60	1.00	53.30	7.5	1
S-SMAJ36A	CP	36.00	40.00	44.20	1.00	58.10	6.9	1
S-SMAJ40A	CR	40.00	44.40	49.10	1.00	64.50	6.2	1
S-SMAJ43A	CT	43.00	47.80	52.80	1.00	69.40	5.8	1
S-SMAJ45A	CV	45.00	50.00	55.30	1.00	72.70	5.5	1
S-SMAJ48A	CX	48.00	53.30	58.90	1.00	77.40	5.2	1
S-SMAJ51A	CZ	51.00	56.70	62.70	1.00	82.40	4.9	1
S-SMAJ54A	RE	54.00	60.00	66.30	1.00	87.10	4.6	1
S-SMAJ58A	RG	58.00	64.40	71.20	1.00	93.60	4.3	1
S-SMAJ60A	RK	60.00	66.70	73.70	1.00	96.80	4.1	1
S-SMAJ64A	RM	64.00	71.10	78.60	1.00	103.00	3.9	1
S-SMAJ70A	RP	70.00	77.80	86.00	1.00	113.00	3.5	1
S-SMAJ75A	RR	75.00	83.30	92.10	1.00	121.00	3.3	1
S-SMAJ78A	RT	78.00	86.70	95.80	1.00	126.00	3.2	1
S-SMAJ85A	RV	85.00	94.40	104.00	1.00	137.00	2.9	1
S-SMAJ90A	RX	90.00	100.00	111.00	1.00	146.00	2.7	1
S-SMAJ100A	RZ	100.00	111.00	123.00	1.00	162.00	2.5	1
S-SMAJ110A	SE	110.00	122.00	135.00	1.00	177.00	2.3	1
S-SMAJ120A	SG	120.00	133.00	147.00	1.00	193.00	2.1	1
S-SMAJ130A	SK	130.00	144.00	159.00	1.00	209.00	1.9	1
S-SMAJ150A	SM	150.00	167.00	185.00	1.00	243.00	1.6	1
S-SMAJ160A	SP	160.00	178.00	197.00	1.00	259.00	1.5	1
S-SMAJ170A	SR	170.00	189.00	209.00	1.00	275.00	1.5	1
S-SMAJ180A	ST	180.00	198.00	221.00	1.00	291.00	1.4	1
S-SMAJ190A	SV	190.00	209.00	233.00	1.00	307.00	1.3	1
S-SMAJ200A	SX	200.00	220.00	246.00	1.00	324.00	1.2	1
S-SMAJ220A	SY	220.00	246.00	272.00	1.00	356.00	1.1	1
S-SMAJ250A	SZ	250.00	279.00	309.00	1.00	405.00	1.0	1

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double.  
For parts without A , the VBR is + 10%

## S-SMAJ\*\*\* A Series

### 2. Ratings and Characteristic Curves ( TA = 25°C unless otherwise noted )

Fig. 1-Peak Pulse Power Rating Curve

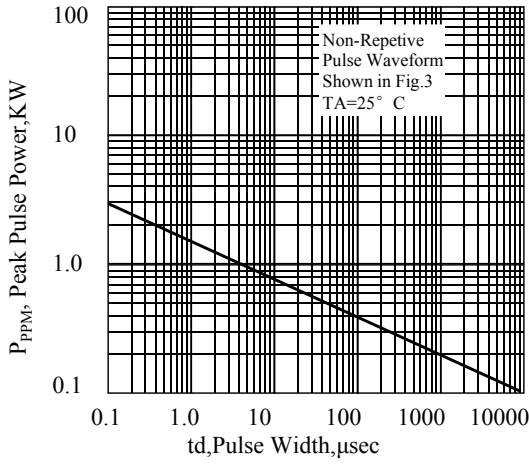


Fig. 2-Pulse Derating Curve

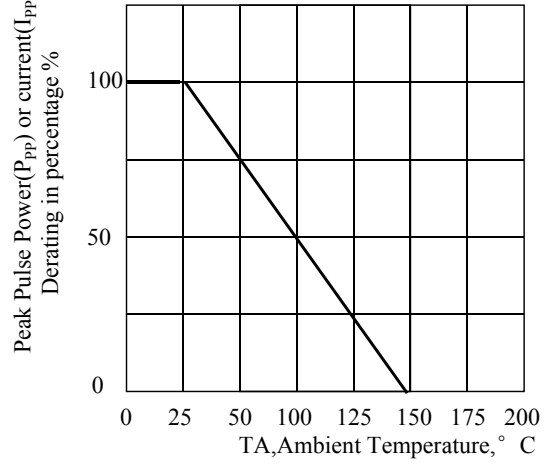


Fig. 3-Pulse Waveform

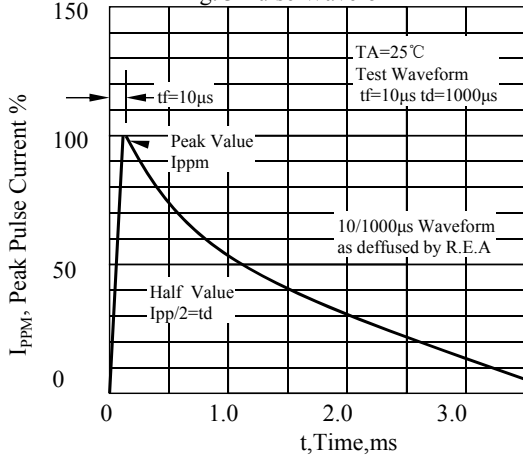


Fig. 4-Typical Junction Capacitance Unidirectional

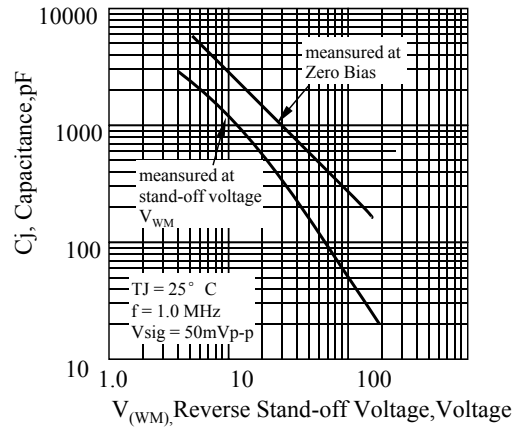


Fig 5. - typical transient thermal impedance

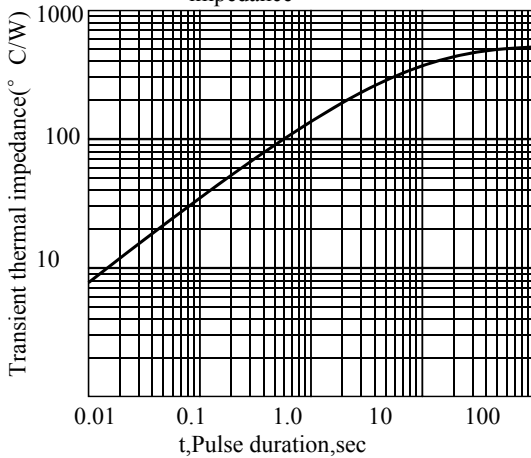
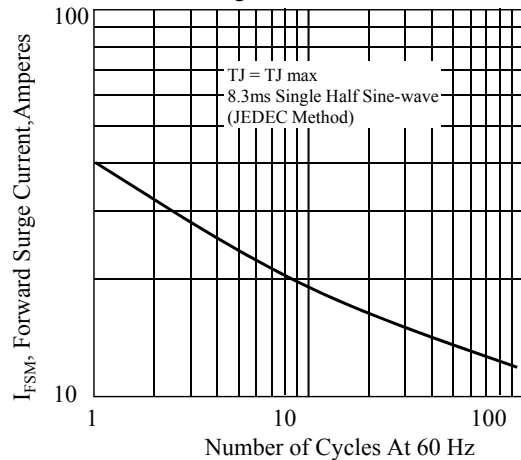


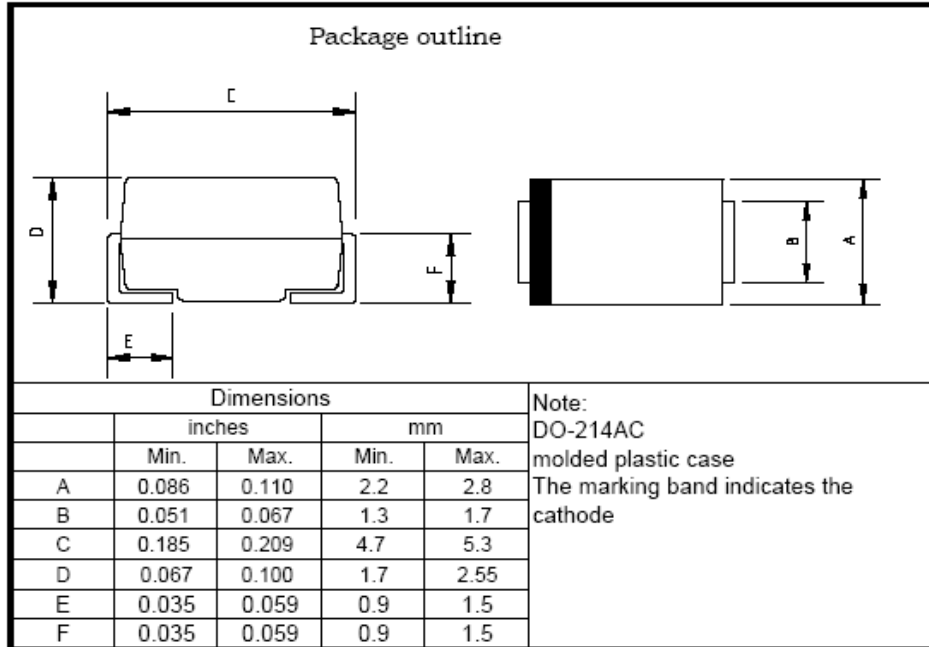
Fig. 6-Maximum Non-Repetitive Peak Forward Surge Current Unidirectional



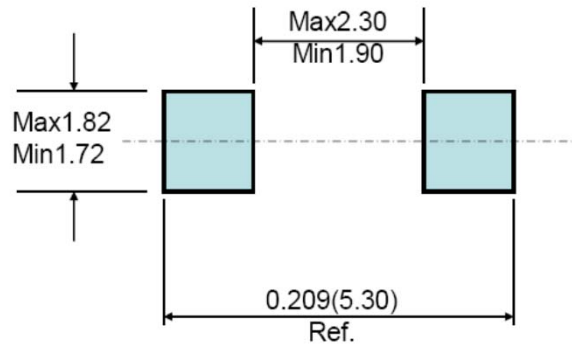
## S-SMAJ\*\*\* A Series

### 3. dimension:

SMA



### Mounting Pad Layout ---SMA



## S-SMAJ\*\*\* A Series

### 4. Update Record

版次	更新记录	更新作者	更新日期
1	第一版	谭志伟	2017.11.13