

# SMAJ Series

Surface mount transient voltage suppressor power 400 watts

Stand-Off Voltage : 5.0V~440V

## FEATURES

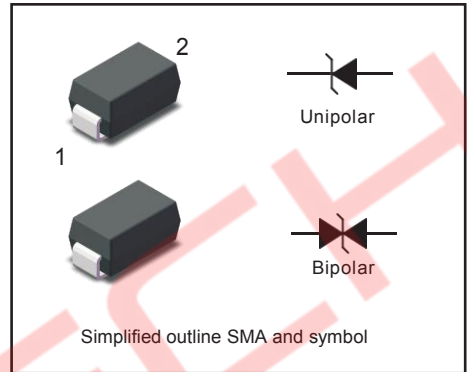
- For surface mounted applications in order to optimize board space.
- Low profile package
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability

## MECHANICAL DATA

- Case: SMA
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.055g / 0.002oz

## 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 Contact Air	$V_{ESD1}$ $V_{ESD2}$	$\pm 30$ $\pm 30$	kV
Typical Thermal Resistance Junction to Ambient(Note 2)	$R_{\theta JA}$	100	$^{\circ}\text{C}/\text{W}$
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  $5\text{mm}^2$  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 10/1000 $\mu\text{S}$ .

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Characteristics at Ta = 25°C

Table 1

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current	Package	
			V <sub>BR</sub> @ I <sub>T</sub>						SMA	
			V <sub>RRM</sub>	Min					Max	I <sub>T</sub>
UNI	BI	V	V	V	mA	µA	V	A	UNI	BI
SMAJ5.0AT	SMAJ5.0CAT	5	6.4	7	10	800	9.2	43.5	AE	WE
SMAJ6.0AT	SMAJ6.0CAT	6	6.67	7.37	10	800	10.3	38.8	AG	WG
SMAJ6.5AT	SMAJ6.5CAT	6.5	7.22	7.98	10	500	11.2	35.7	AK	WK
SMAJ7.0AT	SMAJ7.0CAT	7	7.78	8.6	10	200	12	33.3	AM	WM
SMAJ7.5AT	SMAJ7.5CAT	7.5	8.33	9.21	1	100	12.9	31	AP	WP
SMAJ8.0AT	SMAJ8.0CAT	8	8.89	9.83	1	50	13.6	29.4	AR	WR
SMAJ8.5AT	SMAJ8.5CAT	8.5	9.44	10.4	1	20	14.4	27.8	AT	WT
SMAJ9.0AT	SMAJ9.0CAT	9	10	11.1	1	10	15.4	26	AV	WV
SMAJ10AT	SMAJ10CAT	10	11.1	12.3	1	5	17	23.5	AX	WX
SMAJ11AT	SMAJ11CAT	11	12.2	13.5	1	1	18.2	22	AZ	WZ
SMAJ12AT	SMAJ12CAT	12	13.3	14.7	1	1	19.9	20.1	BE	XE
SMAJ13AT	SMAJ13CAT	13	14.4	15.9	1	1	21.5	18.6	BG	XG
SMAJ14AT	SMAJ14CAT	14	15.6	17.2	1	1	23.2	17.2	BK	XK
SMAJ15AT	SMAJ15CAT	15	16.7	18.5	1	1	24.4	16.4	BM	XM
SMAJ16AT	SMAJ16CAT	16	17.8	19.7	1	1	26	15.4	BP	XP
SMAJ17AT	SMAJ17CAT	17	18.9	20.9	1	1	27.6	14.5	BR	XR
SMAJ18AT	SMAJ18CAT	18	20	22.1	1	1	29.2	13.7	BT	XT
SMAJ20AT	SMAJ20CAT	20	22.2	24.5	1	1	32.4	12.3	BV	XV
SMAJ22AT	SMAJ22CAT	22	24.4	26.9	1	1	35.5	11.3	BX	XX
SMAJ24AT	SMAJ24CAT	24	26.7	29.5	1	1	38.9	10.3	BZ	XZ
SMAJ26AT	SMAJ26CAT	26	28.9	31.9	1	1	42.1	9.5	CE	YE
SMAJ28AT	SMAJ28CAT	28	31.1	34.4	1	1	45.4	8.8	CG	YG
SMAJ30AT	SMAJ30CAT	30	33.3	36.8	1	1	48.4	8.3	CK	YK
SMAJ33AT	SMAJ33CAT	33	36.7	40.6	1	1	53.3	7.5	CM	YM
SMAJ36AT	SMAJ36CAT	36	40	44.2	1	1	58.1	6.9	CP	YP
SMAJ40AT	SMAJ40CAT	40	44.4	49.1	1	1	64.5	6.2	CR	YR
SMAJ43AT	SMAJ43CAT	43	47.8	52.8	1	1	69.4	5.8	CT	YT
SMAJ45AT	SMAJ45CAT	45	50	55.3	1	1	72.7	5.5	CV	YV
SMAJ48AT	SMAJ48CAT	48	53.3	58.9	1	1	77.4	5.2	CX	YX
SMAJ51AT	SMAJ51CAT	51	56.7	62.7	1	1	82.4	4.9	CZ	YZ
SMAJ54AT	SMAJ54CAT	54	60	66.3	1	1	87.1	4.6	RE	ZE
SMAJ58AT	SMAJ58CAT	58	64.4	71.2	1	1	93.6	4.3	RG	ZG
SMAJ60AT	SMAJ60CAT	60	66.7	73.7	1	1	96.8	4.1	RK	ZK
SMAJ64AT	SMAJ64CAT	64	71.1	78.6	1	1	103	3.9	RM	ZM
SMAJ70AT	SMAJ70CAT	70	77.8	86	1	1	113	3.5	RP	ZP
SMAJ75AT	SMAJ75CAT	75	83.3	92.1	1	1	121	3.3	RR	ZR
SMAJ78AT	SMAJ78CAT	78	86.7	95.8	1	1	126	3.2	RT	ZT
SMAJ85AT	SMAJ85CAT	85	94.4	104	1	1	137	2.9	RV	ZV
SMAJ90AT	SMAJ90CAT	90	100	111	1	1	146	2.7	RX	ZX
SMAJ100AT	SMAJ100CAT	100	111	123	1	1	162	2.5	RZ	ZZ
SMAJ110AT	SMAJ110CAT	110	122	135	1	1	177	2.3	SE	VE
SMAJ120AT	SMAJ120CAT	120	133	147	1	1	193	2.1	SG	VG
SMAJ130AT	SMAJ130CAT	130	144	159	1	1	209	1.9	SK	VK
SMAJ150AT	SMAJ150CAT	150	167	185	1	1	243	1.6	SM	VM
SMAJ160AT	SMAJ160CAT	160	178	197	1	1	259	1.5	SP	VP
SMAJ170AT	SMAJ170CAT	170	189	209	1	1	275	1.5	SR	VR
SMAJ180AT	SMAJ180CAT	180	201	222	1	1	292	1.4	ST	VT
SMAJ200AT	SMAJ200CAT	200	224	247	1	1	324	1.2	SV	VV
SMAJ220AT	SMAJ220CAT	220	246	272	1	1	356	1.1	SX	VX
SMAJ250AT	SMAJ250CAT	250	279	309	1	1	405	1	SZ	VZ
SMAJ300AT	SMAJ300CAT	300	335	371	1	1	486	0.8	TE	UE
SMAJ350AT	SMAJ350CAT	350	391	432	1	1	567	0.7	TG	UG
SMAJ400AT	SMAJ400CAT	400	447	494	1	1	648	0.6	TK	UK
SMAJ440AT	SMAJ440CAT	440	492	543	1	1	713	0.6	TM	UM



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Fig.1 Peak Pulse Power Rating Curve

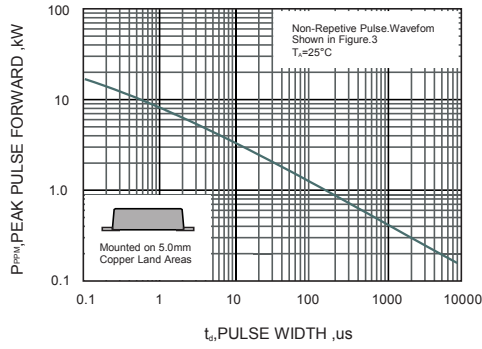


Fig.2 Forward Current Derating Curve

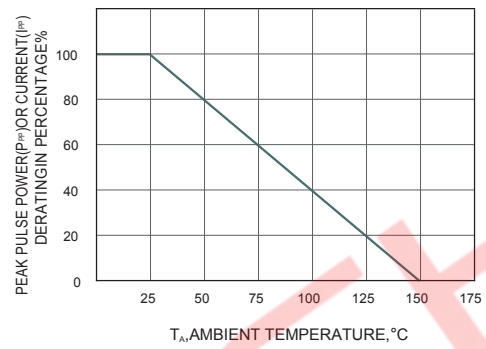


Fig.3 Pulse Waveform

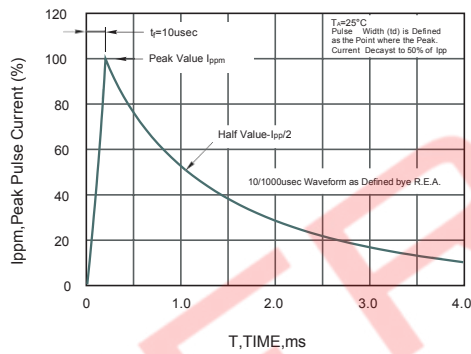
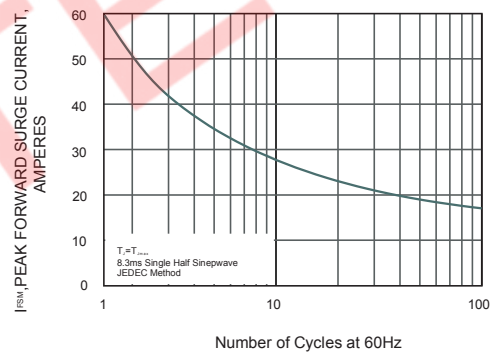


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

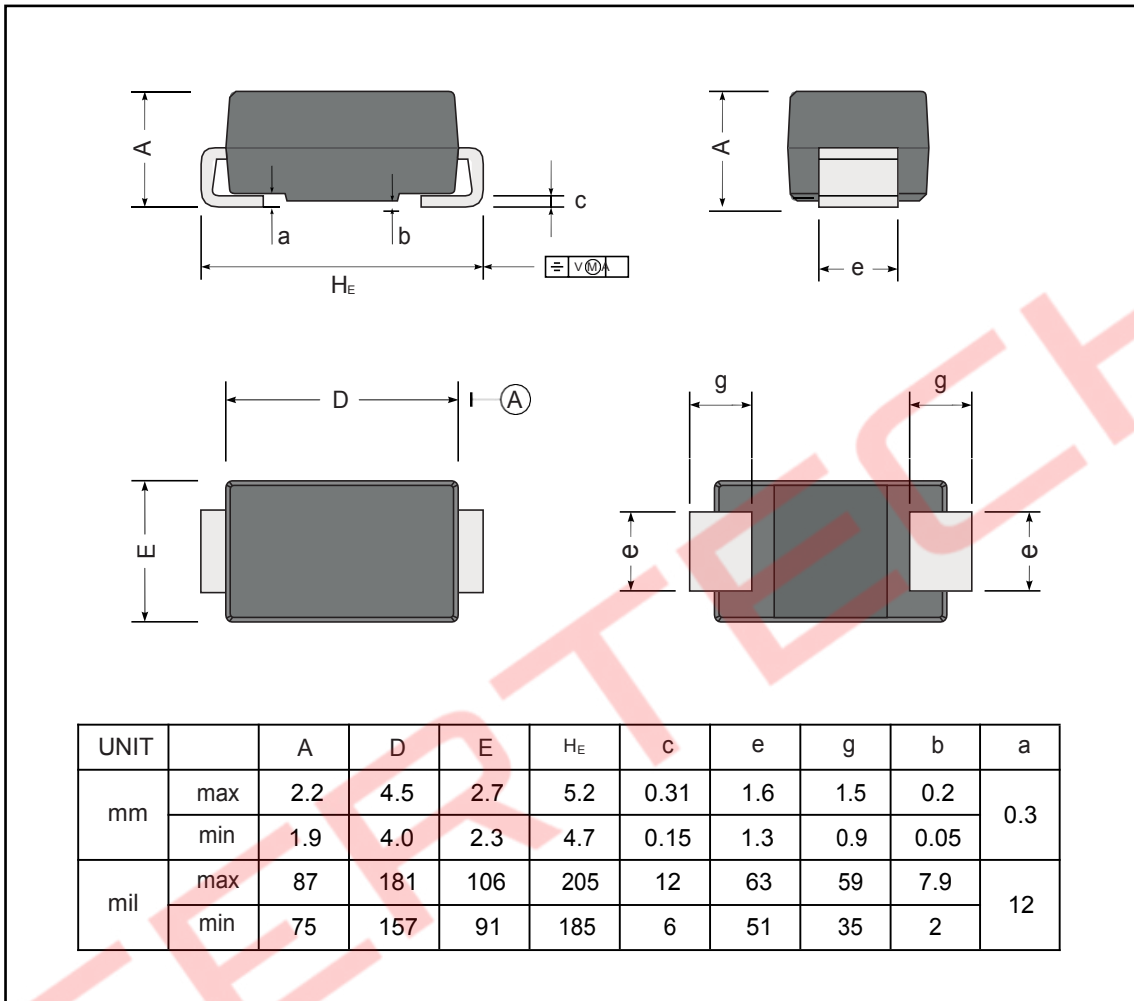


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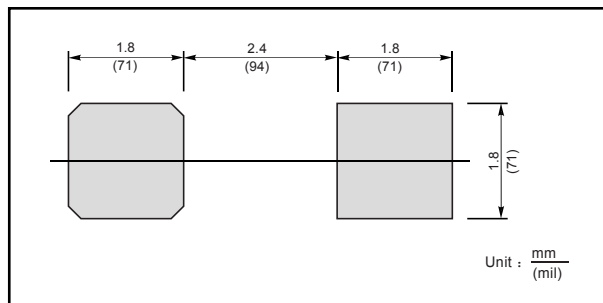
## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SMA



### The recommended mounting pad size



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