

## Features

- Peak power dissipation 400W@10 x 1000 us Pulse
- Low incremental surge resistance
- Excellent clamping capability
- Glass passivated junction
- Fast response time
- Typical IR less than 1uA above 10V
- Halogen free and RoHS compliant



SMA top view



Bi-directional



Uni-direction

## Mechanical Data

- CASE: SMAJ(DO-214AC) Molded Plastic
- Polarity: By cathode band denotes uni-directional device, none cathode band denotes bi-directional device
- Mounting Position: Any



Pb-Free



RoHS



Halogen-Free

## Maximum Ratings ( $T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$P_{PPM}$	Peak Pulse Power Dissipation on 10/1000 us Waveform (Note1,2,FIG.1)	Min400	W
$P_D$	Power Dissipation on Infinite Heat Sink at $T_L=50^\circ\text{C}$	3.3	W
$I_{PPM}$	Peak Pulse Current of on 10/1000 us Waveform (Note1,FIG.3)	SeeTable1	A
$I_{FSM}$	Peak Forward Surge Current, 8.3ms Single Half Sine-Wave (Note2.3)	40	A
$T_J$	Operating Junction Temperature Range	-55~+150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~+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 5.0x5.0mm<sup>2</sup> (0.03mm thick) Copper Pads to each terminal.
3. Measured on 8.3ms single half sine-wave, or equivalent square wave, for Unidirectional device only.

**T<sub>a</sub>=25°C unless otherwise specified**

Typ Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @ I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @ I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @ V <sub>RMW</sub>
Uni	Bi	Uni	Bi	V <sub>RMW</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (μA)
SMAJ5.0A	SMAJ5.0CA	AE	WE	5.0	6.40	7.07	10	9.2	43.5	800.0
SMAJ6.0A	SMAJ6.0CA	AG	WG	6.0	6.67	7.37	10	10.3	38.8	800.0
SMAJ6.5A	SMAJ6.5CA	AK	WK	6.5	7.22	7.98	10	11.2	35.7	500.0
SMAJ7.0A	SMAJ7.0CA	AM	WM	7.0	7.78	8.60	10	12.0	33.3	200.0
SMAJ7.5A	SMAJ7.5CA	AP	WP	7.5	8.33	9.21	1	12.9	31.0	100.0
SMAJ8.0A	SMAJ8.0CA	AR	WR	8.0	8.89	9.83	1	13.6	29.4	50.0
SMAJ8.5A	SMAJ8.5CA	AT	WT	8.5	9.44	10.40	1	14.4	27.8	10.0
SMAJ9.0A	SMAJ9.0CA	AV	WV	9.0	10.00	11.10	1	15.4	26.0	5.0
SMAJ10A	SMAJ10CA	AX	WX	10	11.10	12.30	1	17.0	23.5	1.0
SMAJ11A	SMAJ11CA	AZ	WZ	11	12.20	13.50	1	18.2	22.0	1.0
SMAJ12A	SMAJ12CA	BE	XE	12	13.30	14.70	1	19.9	20.1	1.0
SMAJ13A	SMAJ13CA	BG	XG	13	14.40	15.90	1	21.5	18.6	1.0
SMAJ14A	SMAJ14CA	BK	XK	14	15.60	17.20	1	23.2	17.2	1.0
SMAJ15A	SMAJ15CA	BM	XM	15	16.70	18.50	1	24.4	16.4	1.0
SMAJ16A	SMAJ16CA	BP	XP	16	17.80	19.70	1	26.0	15.4	1.0
SMAJ17A	SMAJ17CA	BR	XR	17	18.90	20.90	1	27.6	14.5	1.0
SMAJ18A	SMAJ18CA	BT	XT	18	20.00	22.10	1	29.2	13.7	1.0
SMAJ20A	SMAJ20CA	BV	XV	20	22.20	24.50	1	32.4	12.3	1.0
SMAJ22A	SMAJ22CA	BX	XX	22	24.40	26.90	1	35.5	11.3	1.0
SMAJ24A	SMAJ24CA	BZ	XZ	24	26.70	29.50	1	38.9	10.3	1.0
SMAJ26A	SMAJ26CA	CE	YE	26	28.90	31.90	1	42.1	9.5	1.0
SMAJ28A	SMAJ28CA	CG	YG	28	31.10	34.40	1	45.4	8.8	1.0
SMAJ30A	SMAJ30CA	CK	YK	30	33.30	36.80	1	48.4	8.3	1.0
SMAJ33A	SMAJ33CA	CM	YM	33	36.70	40.60	1	53.3	7.5	1.0
SMAJ36A	SMAJ36CA	CP	YP	36	40.00	44.20	1	58.1	6.9	1.0
SMAJ40A	SMAJ40CA	CR	YR	40	44.40	49.10	1	64.5	6.2	1.0
SMAJ43A	SMAJ43CA	CT	YT	43	47.80	52.80	1	69.4	5.8	1.0
SMAJ45A	SMAJ45CA	CV	YV	45	50.00	55.30	1	72.7	5.5	1.0
SMAJ48A	SMAJ48CA	CX	YX	48	53.30	58.90	1	77.4	5.2	1.0
SMAJ51A	SMAJ51CA	CZ	YZ	51	56.70	62.70	1	82.4	4.9	1.0
SMAJ54A	SMAJ54CA	RE	ZE	54	60.00	66.30	1	87.1	4.6	1.0
SMAJ58A	SMAJ58CA	RG	ZG	58	64.40	71.20	1	93.6	4.3	1.0
SMAJ60A	SMAJ60CA	RK	ZK	60	66.70	73.70	1	96.8	4.1	1.0
SMAJ64A	SMAJ64CA	RM	ZM	64	71.10	78.60	1	103.0	3.9	1.0
SMAJ70A	SMAJ70CA	RP	ZP	70	77.80	86.00	1	113.0	3.5	1.0
SMAJ75A	SMAJ75CA	RR	ZR	75	83.30	92.10	1	121.0	3.3	1.0
SMAJ78A	SMAJ78CA	RT	ZT	78	86.70	95.80	1	126.0	3.2	1.0
SMAJ85A	SMAJ85CA	RV	ZV	85	94.40	104.00	1	137.0	2.2	1.0
SMAJ90A	SMAJ90CA	RX	ZX	90	100.00	111.00	1	146.0	2.1	1.0
SMAJ100A	SMAJ100CA	RZ	ZZ	100	111.00	123.00	1	162.0	1.9	1.0
SMAJ110A	SMAJ110CA	SE	VE	110	122.00	135.00	1	177.0	1.7	1.0
SMAJ120A	SMAJ120CA	VG	VG	120	133.00	147.00	1	193.0	1.6	1.0
SMAJ130A	SMAJ130CA	VK	VK	130	144.00	159.00	1	209.0	1.4	1.0
SMAJ150A	SMAJ150CA	VM	VM	150	167.00	185.00	1	243.0	1.2	1.0
SMAJ160A	SMAJ160CA	SP	VP	160	178.00	197.00	1	259.0	1.2	1.0
SMAJ170A	SMAJ170CA	SR	VR	170	189.00	209.00	1	275.0	1.09	1.0
SMAJ188A	SMAJ188CA	SS	VS	188	209.00	231.00	1	328.0	0.91	1.0

**Notes:**

For Bi-directional type having VRWM of 10 Volts and less, the IR limit is double.  
 For parts without A, the VBR is ± 10% and VC is 5% higher than with A parts.

Typical Characteristics

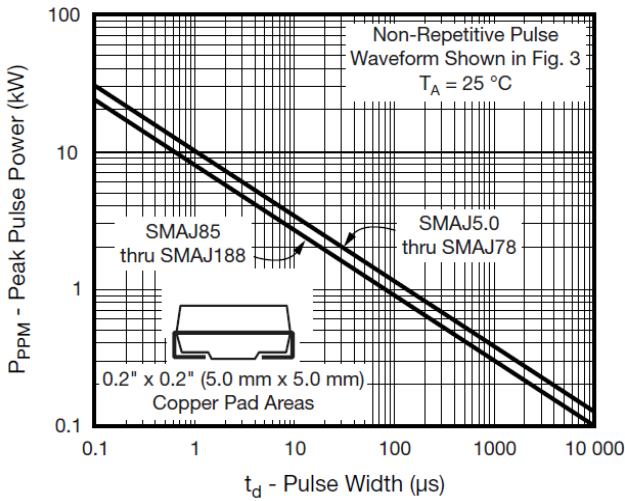


Fig. 1 - Peak Pulse Power Rating Curve

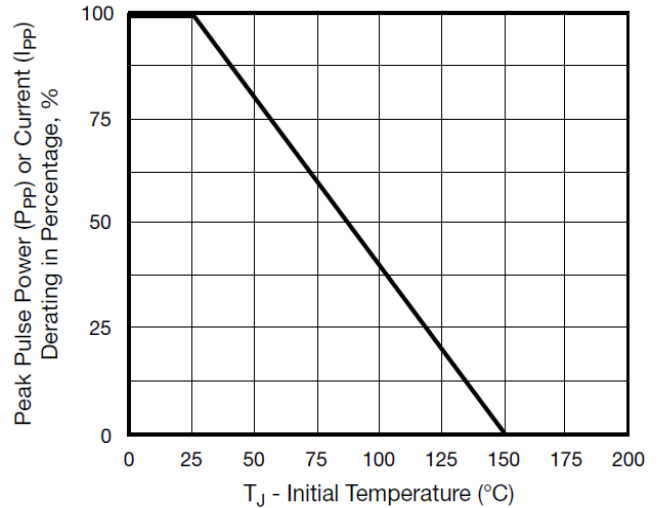


Fig. 2 - Pulse Power or Current vs. Initial Junction Temperature

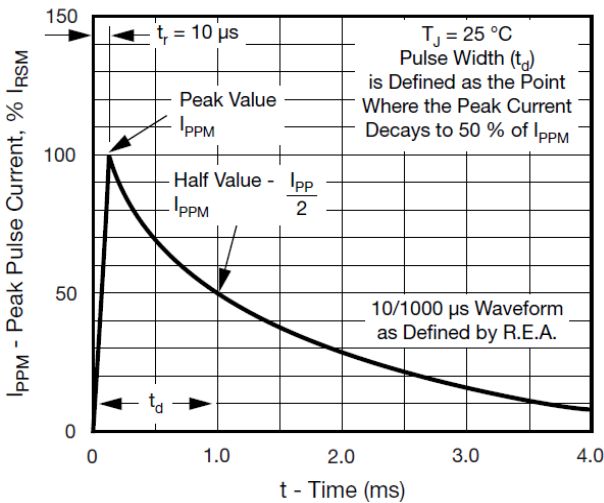


Fig. 3 - Pulse Waveform

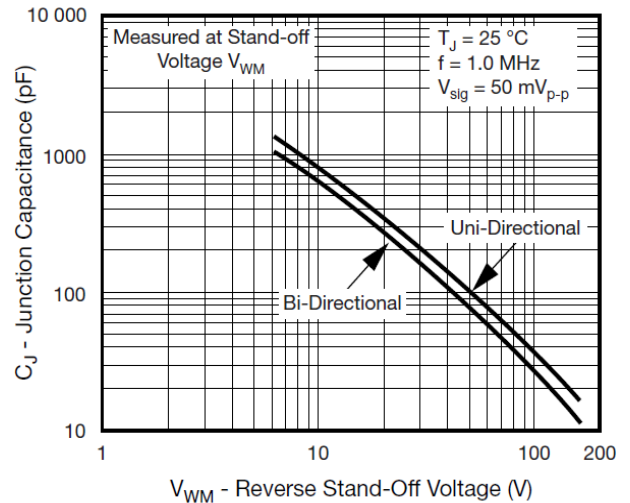
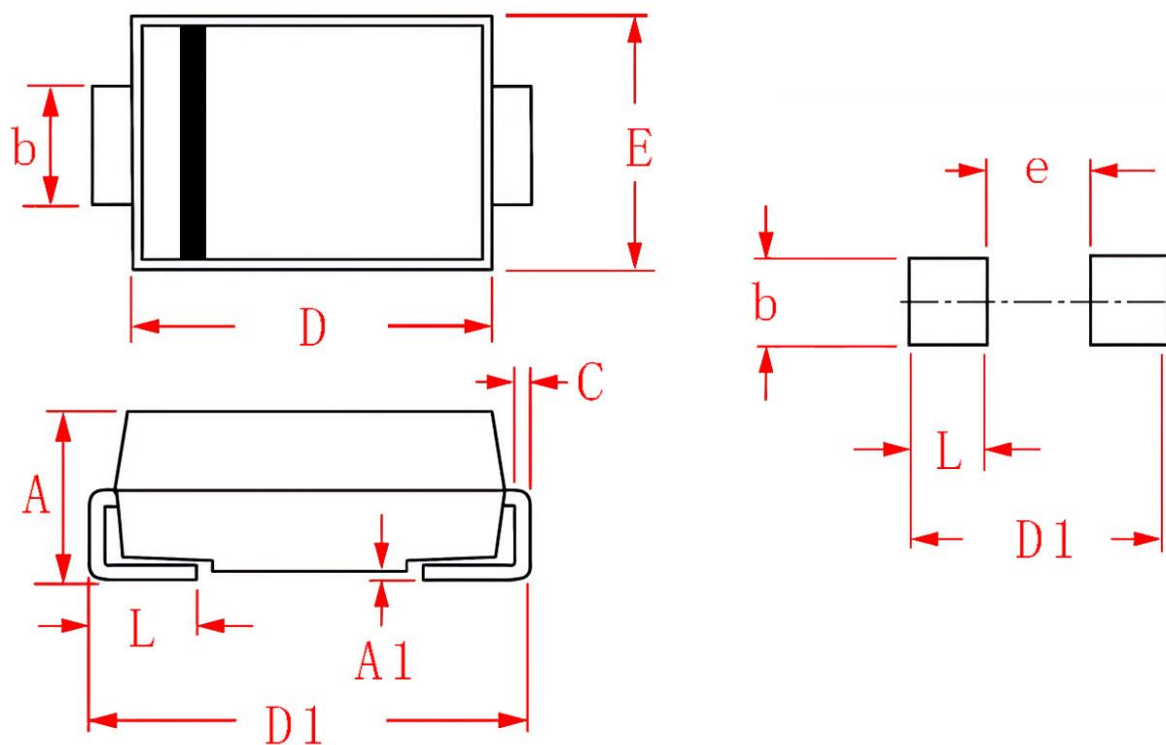


Fig. 4 - Typical Junction Capacitance

SMA Package information

SMA (DO-214AC)



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	1.900	2.200	0.075	0.087
A1	0.050	0.200	0.002	0.008
b	1.300	1.600	0.051	0.063
C	0.150	0.310	0.006	0.012
D	4.000	4.500	0.157	0.177
D1	4.700	5.200	0.185	0.205
E	2.300	2.700	0.090	0.106
e	-	1.880	-	0.074
L	0.900	1.500	0.035	0.059







