

**SMA**


Bi-directional



Uni-direction

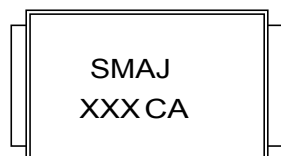
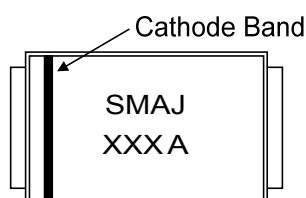
Symbol

**Features**

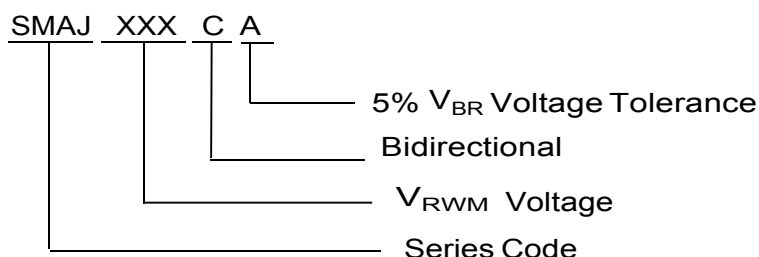
- Peak power dissipation 400W@10 x 1000 us Pulse
- Low incremental surge resistance
- Excellent clamping capability
- Glass passivated junction
- Fast response time
- Typical IR less than 1uA above 10V
- Halogen free and RoHS compliant

**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

**Making Code & information**


Package	Packing Description	Packing Quantity
SMA	Tape/Reel, 11" reel	5000


**Maximum Ratings & Thermal Characteristics**

(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us Waveform (Note 1, 2, FIG.1)	$P_{PPM}$	Min 400	W
Power Dissipation on Infinite Heat Sink at $T_L=50^\circ\text{C}$	$P_D$	3.3	W
Peak Pulse Current of on 10/1000us Waveform (Note 1, FIG.3)	$I_{PPM}$	See Table 1	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave (Note 2. 3)	$I_{FSM}$	40	A
Operating Junction Temperature Range	$T_J$	-55 to 150	°C
Storage Temperature Range	$T_{STG}$	-55 to 150	°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.

## Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

Type Number		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)	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> (uA)
SMAJ5.0A	SMAJ5.0CA	5.0	6.40	7.00	10	9.2	43.5	500
SMAJ6.0A	SMAJ6.0CA	6.0	6.67	7.37	10	10.3	38.8	500
SMAJ6.5A	SMAJ6.5CA	6.5	7.22	7.98	10	11.2	35.7	300
SMAJ7.0A	SMAJ7.0CA	7.0	7.78	8.60	10	12.0	33.3	200
SMAJ7.5A	SMAJ7.5CA	7.5	8.33	9.21	1	12.9	31.0	100
SMAJ8.0A	SMAJ8.0CA	8.0	8.89	9.83	1	13.6	29.4	50
SMAJ8.5A	SMAJ8.5CA	8.5	9.44	10.40	1	14.4	27.8	20
SMAJ9.0A	SMAJ9.0CA	9.0	10.0	11.10	1	15.4	26.0	10
SMAJ10A	SMAJ10CA	10.0	11.10	12.30	1	17.0	23.5	5
SMAJ11A	SMAJ11CA	11.0	12.20	13.50	1	18.2	22.0	1
SMAJ12A	SMAJ12CA	12.0	13.30	14.70	1	19.9	20.1	1
SMAJ13A	SMAJ13CA	13.0	14.40	15.90	1	21.5	18.6	1
SMAJ14A	SMAJ14CA	14.0	15.60	17.20	1	23.2	17.2	1
SMAJ15A	SMAJ15CA	15.0	16.70	18.50	1	24.4	16.4	1
SMAJ16A	SMAJ16CA	16.0	17.80	19.70	1	26.0	15.4	1
SMAJ17A	SMAJ17CA	17.0	18.90	20.90	1	27.6	14.5	1
SMAJ18A	SMAJ18CA	18.0	20.00	22.10	1	29.2	13.7	1
SMAJ20A	SMAJ20CA	20.0	22.20	24.50	1	32.4	12.3	1
SMAJ22A	SMAJ22CA	22.0	24.40	26.90	1	35.5	11.3	1
SMAJ24A	SMAJ24CA	24.0	26.70	29.50	1	38.9	10.3	1
SMAJ26A	SMAJ26CA	26.0	28.90	31.90	1	42.1	9.5	1
SMAJ28A	SMAJ28CA	28.0	31.10	34.40	1	45.4	8.8	1
SMAJ30A	SMAJ30CA	30.0	33.30	36.80	1	48.4	8.3	1
SMAJ33A	SMAJ33CA	33.0	36.70	40.60	1	53.3	7.5	1
SMAJ36A	SMAJ36CA	36.0	40.00	44.20	1	58.1	6.9	1
SMAJ40A	SMAJ40CA	40.0	44.40	49.10	1	64.5	6.2	1
SMAJ43A	SMAJ43CA	43.0	47.80	52.80	1	69.4	5.8	1
SMAJ45A	SMAJ45CA	45.0	50.00	55.30	1	72.7	5.5	1
SMAJ48A	SMAJ48CA	48.0	53.30	58.90	1	77.4	5.2	1
SMAJ51A	SMAJ51CA	51.0	56.70	62.70	1	82.4	4.9	1
SMAJ54A	SMAJ54CA	54.0	60.00	66.30	1	87.1	4.6	1
SMAJ58A	SMAJ58CA	58.0	64.40	71.20	1	93.6	4.3	1
SMAJ60A	SMAJ60CA	60.0	66.70	73.70	1	96.8	4.1	1
SMAJ64A	SMAJ64CA	64.0	71.10	78.60	1	103.0	3.9	1
SMAJ70A	SMAJ70CA	70.0	77.80	86.00	1	113.0	3.5	1
SMAJ75A	SMAJ75CA	75.0	83.30	92.10	1	121.0	3.3	1
SMAJ78A	SMAJ78CA	78.0	86.70	95.80	1	126.0	3.2	1
SMAJ85A	SMAJ85CA	85.0	94.40	104.00	1	137.0	2.9	1
SMAJ90A	SMAJ90CA	90.0	100.00	111.00	1	146.0	2.7	1
SMAJ100A	SMAJ100CA	100.0	111.00	123.00	1	162.0	2.5	1
SMAJ110A	SMAJ110CA	110.0	122.00	135.00	1	177.0	2.3	1
SMAJ120A	SMAJ120CA	120.0	133.00	147.00	1	193.0	2.1	1
SMAJ130A	SMAJ130CA	130.0	144.00	159.00	1	209.0	1.9	1
SMAJ150A	SMAJ150CA	150.0	167.00	185.00	1	243.0	1.6	1
SMAJ160A	SMAJ160CA	160.0	178.00	197.00	1	259.0	1.5	1
SMAJ170A	SMAJ170CA	170.0	189.00	209.00	1	275.0	1.5	1
SMAJ180A	SMAJ180CA	180.0	201.00	222.00	1	292.0	1.4	1
SMAJ190A	SMAJ190CA	190.0	211.00	233.00	1	308.0	1.3	1
SMAJ200A	SMAJ200CA	200.0	224.00	247.00	1	324.0	1.2	1
SMAJ210A	SMAJ210CA	210.0	237.00	263.00	1	340.0	1.2	1
SMAJ220A	SMAJ220CA	220.0	246.00	272.00	1	356.0	1.1	1
SMAJ250A	SMAJ250CA	250.0	279.00	309.00	1	405.0	1.0	1
SMAJ300A	SMAJ300CA	300.0	335.00	371.00	1	486.0	0.8	1
SMAJ350A	SMAJ350CA	350.0	391.00	432.00	1	567.0	0.7	1
SMAJ400A	SMAJ400CA	400.0	447.00	494.00	1	648.0	0.6	1
SMAJ440A	SMAJ440CA	440.0	492.00	543.00	1	713.0	0.6	1

NOTE: For Bi-directional type having V<sub>RMW</sub> of 10 Volts and less, the I<sub>R</sub> limit is double.  
 For parts without A, the V<sub>BR</sub> is ± 10% and V<sub>C</sub> is 5% higher than with A parts.

## Ratings and Characteristic Curves

(Ratings at 25°C ambient temperature unless otherwise specified).



Fig.1 Peak Pulse Power Rating

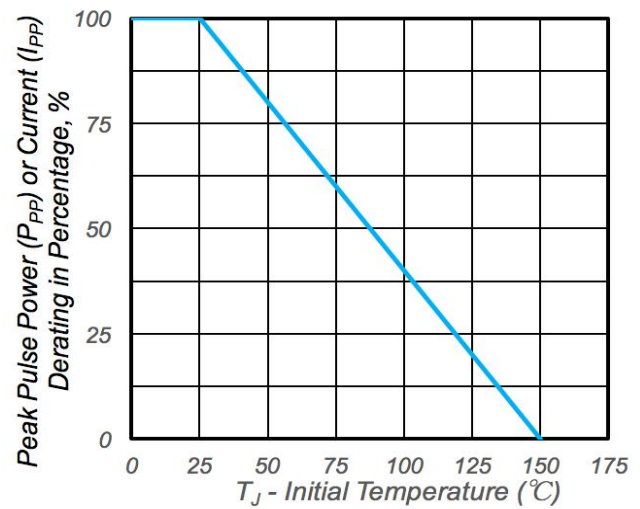


Fig.2 Pulse Derating Curve

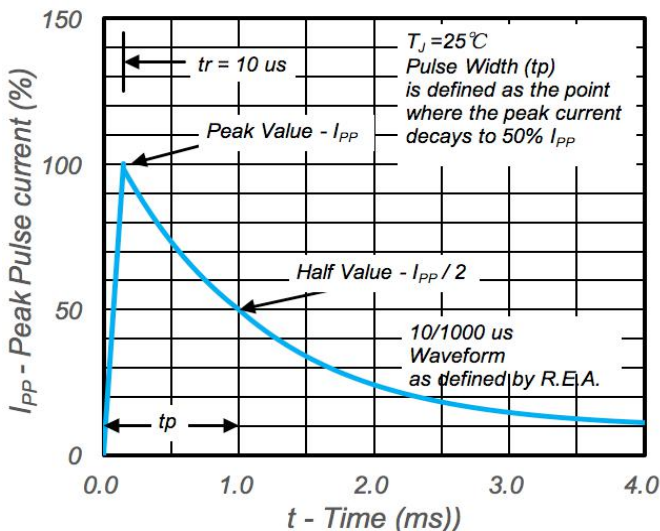


Fig.3 Pulse Waveform

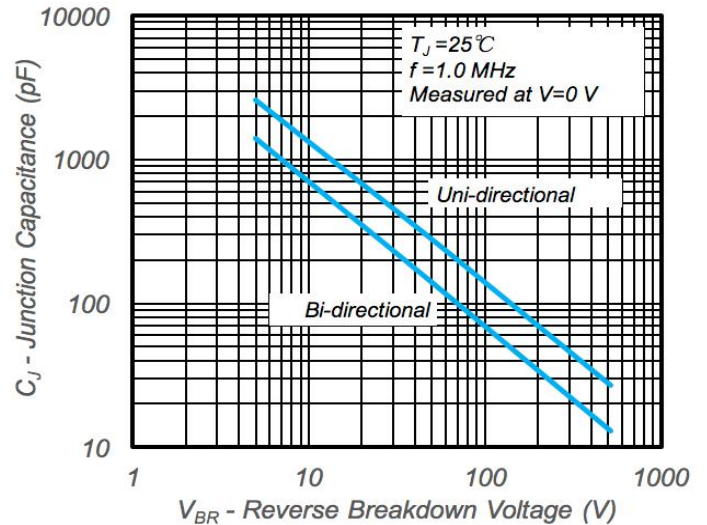


Fig.4 Typical Junction Capacitance

## Package Outline Dimensions: SMA(DO-214AC)

Dim	Millimeters		Inches	
	Min	Max	Min	Max
L	4.1	4.3	0.161	0.169
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
H	2.05	2.35	0.081	0.093
H1	2.0	2.2	0.079	0.087

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