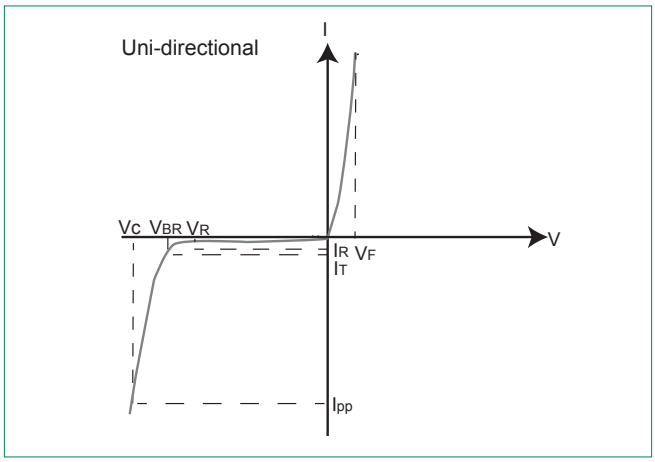
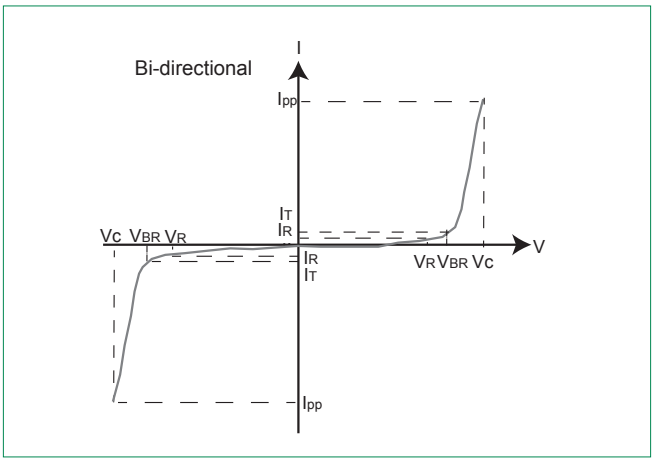
Electrical Characteristics (T_A=25°C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts) @ I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_C @ I_{PP} (V)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Reverse Leakage I_R @ V_R (µA)	Agency Recognition
		UNI	BI		MIN	MAX					
SMA6J5.0A	SMA6J5.0CA	6BA	6WE	5	6.40	7.00	10	9.2	66.0	800	X
SMA6J6.0A	SMA6J6.0CA	6AG	6WG	6	6.67	7.37	10	10.3	61.0	800	X
SMA6J6.5A	SMA6J6.5CA	6AK	6WK	6.5	7.22	7.98	10	11.2	56.0	500	X
SMA6J7.0A	SMA6J7.0CA	6AM	6WM	7	7.78	8.60	10	12.0	50.0	200	X
SMA6J7.5A	SMA6J7.5CA	6AP	6WP	7.5	8.33	9.21	1	12.9	46.5	100	X
SMA6J8.0A	SMA6J8.0CA	6AR	6WR	8	8.89	9.83	1	13.6	44.1	50	X
SMA6J8.5A	SMA6J8.5CA	6AT	6WT	8.5	9.44	10.40	1	14.4	41.7	20	X
SMA6J9.0A	SMA6J9.0CA	6AV	6WV	9	10.0	11.1	1	15.4	39.0	10	X
SMA6J10A	SMA6J10CA	6AX	6WX	10	11.1	12.3	1	17.0	37.0	5	X
SMA6J11A	SMA6J11CA	6AZ	6WZ	11	12.2	13.5	1	18.2	33.0	1	X
SMA6J12A	SMA6J12CA	6BE	6XE	12	13.3	14.7	1	19.9	31.0	1	X
SMA6J13A	SMA6J13CA	6BG	6XG	13	14.4	15.9	1	21.5	29.0	1	X
SMA6J14A	SMA6J14CA	6BK	6XK	14	15.6	17.2	1	23.2	25.8	1	X
SMA6J15A	SMA6J15CA	6BM	6XM	15	16.7	18.5	1	24.4	25.1	1	X
SMA6J16A	SMA6J16CA	6BP	6XP	16	17.8	19.7	1	26.0	23.1	1	X
SMA6J17A	SMA6J17CA	6BR	6XR	17	18.9	20.9	1	27.6	22.6	1	X
SMA6J18A	SMA6J18CA	6BT	6XT	18	20.0	22.1	1	29.2	21.5	1	X
SMA6J20A	SMA6J20CA	6BV	6XV	20	22.2	24.5	1	32.4	19.4	1	X
SMA6J22A	SMA6J22CA	6BX	6XX	22	24.4	26.9	1	35.5	17.0	1	X
SMA6J24A	SMA6J24CA	6BZ	6XZ	24	26.7	29.5	1	38.9	16.0	1	X
SMA6J26A	SMA6J26CA	6CE	6YE	26	28.9	31.9	1	42.1	14.9	1	X
SMA6J28A	SMA6J28CA	6CG	6YG	28	31.1	34.4	1	45.4	13.8	1	X
SMA6J30A	SMA6J30CA	6CK	6YK	30	33.3	36.8	1	48.4	12.5	1	X
SMA6J33A	SMA6J33CA	6CM	6YM	33	36.7	40.6	1	53.3	11.8	1	X
SMA6J36A	SMA6J36CA	6CP	6YP	36	40.0	44.2	1	58.1	10.4	1	X
SMA6J40A	SMA6J40CA	6CR	6YR	40	44.4	49.1	1	64.5	9.7	1	X
SMA6J43A	SMA6J43CA	6CT	6YT	43	47.8	52.8	1	69.4	8.7	1	X
SMA6J45A	SMA6J45CA	6CV	6YV	45	50.0	55.3	1	72.7	8.3	1	X
SMA6J48A	SMA6J48CA	6CX	6YX	48	53.3	58.9	1	77.4	8.1	1	X
SMA6J51A	SMA6J51CA	6CZ	6YZ	51	56.7	62.7	1	82.4	7.4	1	X
SMA6J54A	SMA6J54CA	6RE	6ZE	54	60.0	66.3	1	87.1	6.9	1	X
SMA6J58A	SMA6J58CA	6RG	6ZG	58	64.4	71.2	1	93.6	6.7	1	X
SMA6J60A	SMA6J60CA	6RK	6ZK	60	66.7	73.7	1	96.8	6.2	1	X
SMA6J64A	SMA6J64CA	6RM	6ZM	64	71.1	78.6	1	103	5.9	1	X
SMA6J70A	SMA6J70CA	6RP	6ZP	70	77.8	86.0	1	113	5.5	1	X
SMA6J75A	SMA6J75CA	6RR	6ZR	75	83.3	92.1	1	121	5.0	1	X
SMA6J78A	SMA6J78CA	6RT	6ZT	78	86.7	95.8	1	126	4.8	1	X
SMA6J85A	SMA6J85CA	6RV	6ZV	85	94.4	104	1	137	4.6	1	X
SMA6J90A	SMA6J90CA	6RX	6ZX	90	100	111	1	146	4.2	1	X
SMA6J100A	-	6RZ	-	100	111	123	1	162	3.8	1	X
SMA6J110A	-	6SE	-	110	122	135	1	177	3.5	1	X
SMA6J120A	-	6SG	-	120	133	147	1	193	3.2	1	X
SMA6J130A	-	6SK	-	130	144	159	1	209	2.9	1	X

For bidirectional type having V_R of 10 volts and less, the I_R limit is double.

I-V Curve Characteristics





P_{PPM} Peak Pulse Power Dissipation – Max power dissipation
V_R Stand-off Voltage -- Maximum voltage that can be applied to the TVS without operation
V_{BR} Breakdown Voltage – Maximum voltage that flows though the TVS at a specified test current (I_T)
V_C Clamping Voltage -- Peak voltage measured across the TVS at a specified I_{PPM} (peak impulse current @ 10/1000)
I_R Reverse Leakage Current -- Current measured at V_R
V_F Forward Voltage Drop for Uni-directional

Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

Figure 1 - TVS Transients Clamping Waveform

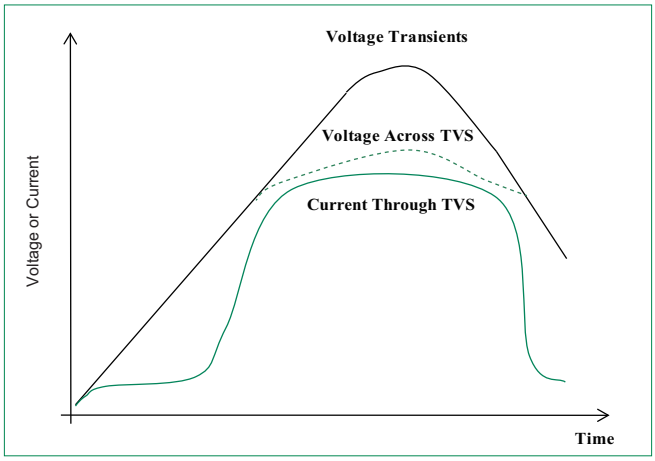
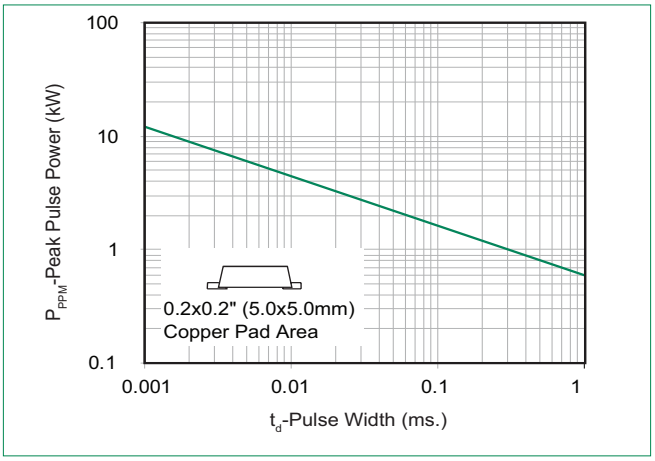


Figure 2 - Peak Pulse Power Rating Curve



Revised: JC.01/05/21

Ratings and Characteristic Curves (T_A=25°C unless otherwise noted) (Continued)

Figure 3 - Peak Pulse Power Derating Curve

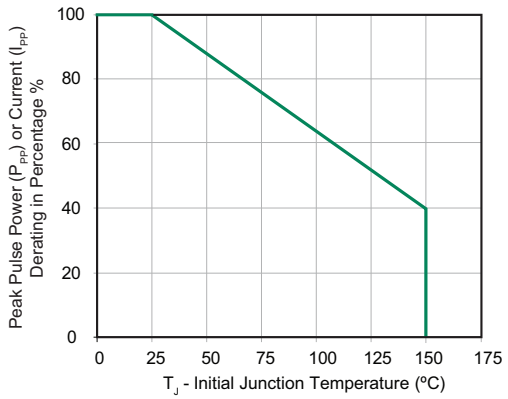


Figure 4 - Pulse Waveform

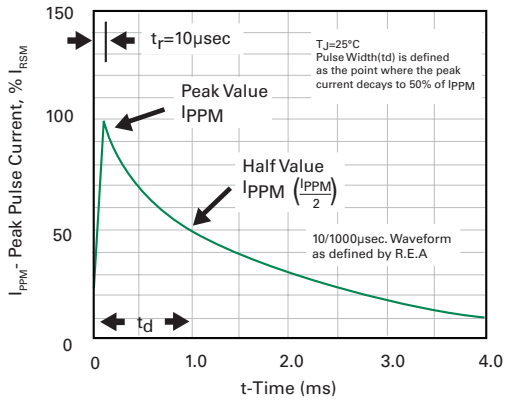


Figure 5 - Typical Transient Thermal Impedance

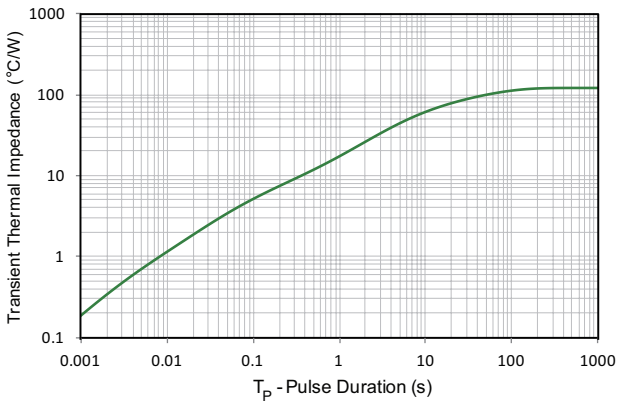


Figure 6 - Peak Forward Voltage Drop vs Peak Forward Current (typical values)

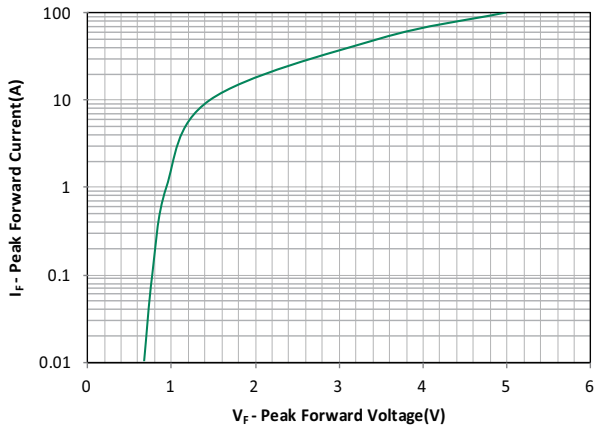


Figure 7 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

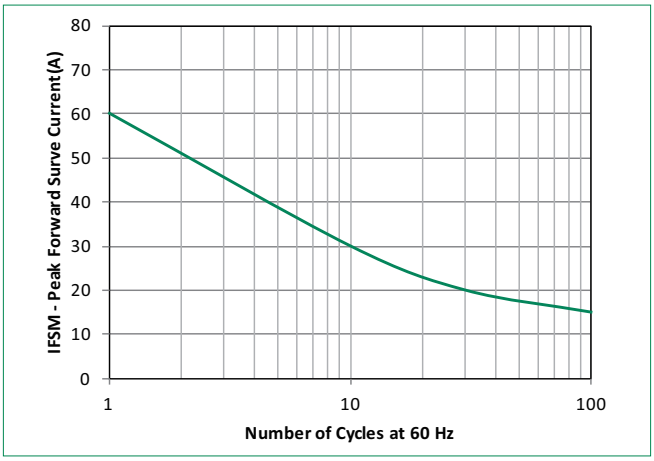
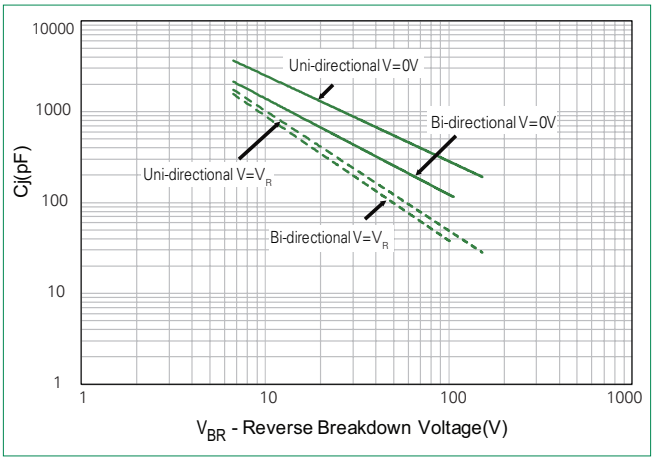
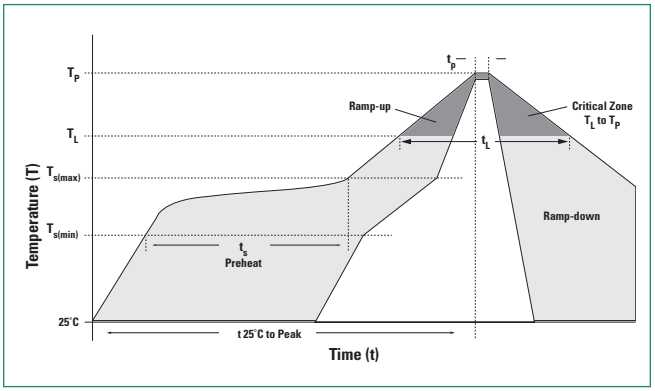


Figure 8 - Typical Junction Capacitance



Soldering Parameters

Reflow Condition		Lead–free assembly
Pre Heat	- Temperature Min ($T_{s(min)}$)	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 – 120 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_P)		$260^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		30 seconds max
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		260°C



Physical Specifications

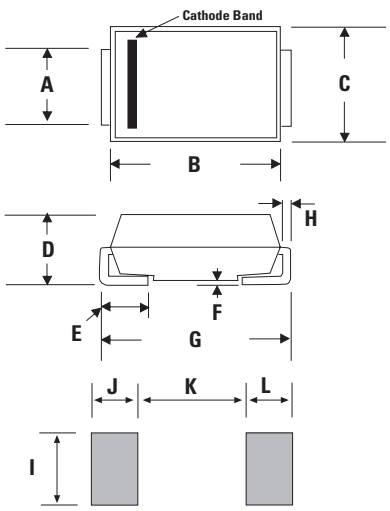
Weight	0.002 ounce, 0.061 gram
Case	JEDEC DO-214AC Molded Plastic over glass passivated junction
Polarity	Color band denotes cathode except Bipolar
Terminal	Matte Tin-plated leads, Solderable per JESD22-B102

Environmental Specifications

High Temp. Storage	JESD22-A103
HTRB	JESD22-A108
Temperature Cycling	JESD22-A104
MSL	JEDEC-J-STD-020, Level 1
H3TRB	JESD22-A101
RSH	JESD22-A111

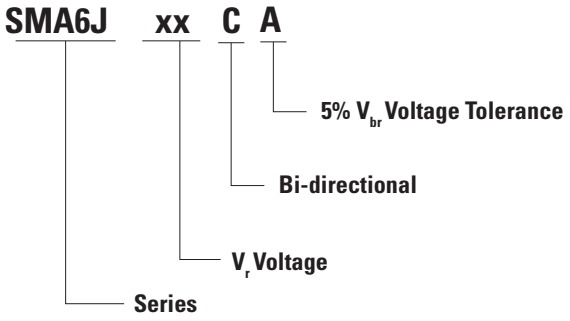
Dimensions

DO-214AC (SMA)

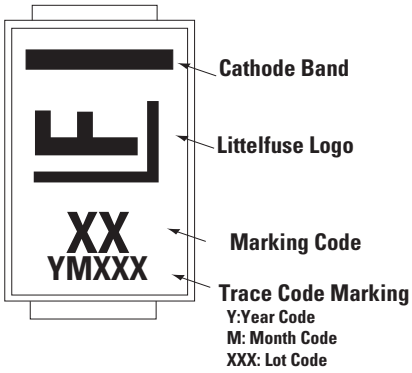


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.049	0.065	1.250	1.650
B	0.157	0.181	3.990	4.600
C	0.095	0.110	2.400	2.790
D	0.075	0.090	1.900	2.290
E	0.030	0.060	0.780	1.520
F	-	0.008	-	0.203
G	0.189	0.208	4.800	5.280
H	0.006	0.012	0.152	0.305
I	0.070	-	1.800	-
J	0.082	-	2.100	-
K	-	0.090	-	2.300
L	0.082	-	2.100	-

Part Numbering System



Part Marking System



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
SMA6JxxXX	DO-214AC	5000	Tape & Reel - 12mm tape/13" reel	EIA RS-481

Tape and Reel Specification