

DESCRIPTION

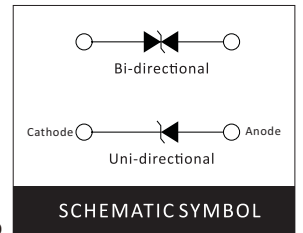
The SMA6J series of DO-214AC(SMA) small and flat lead lowprofile plastic package is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

FEATURES

- > 600W peak pulsepower capability at 10/1000μs waveform
- > For surface mounted applications to optimize board space
- > Typical failure mode is short from over-specified voltage or current
- > Glass passivated junction
- > Excellent clamping capability
- > Halogen free and RoHS compliant

APPLICATIONS

SMA6J devices are ideal for the protection of portable devices/hard drives, notebooks, VCC busses, POS terminal, SSDs, power supplies, monitors, and vulnerable circuit used in other consumer applications.



MAXIMUM RATINGS AND THERMAL CHARACTERISTICS @ 25°C UNLESS OTHERWISE SPECIFIED

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power dissipation at 10/1000μs waveform (Note1, 2)	PPPM	600	Watts
Steady State Power Dissipation at TA=50°C(Note2).	PM(AV)	3.3	Watts
Operating junction Temperature Rang	T _J	-55~125	°C
Storage Temperature Range	T _{STG}	-55~150	°C
Typical thermal resistance junction to ambient	R _{θJA}	120	°C/W

Notes:
 1. Non-repetitive current pulse.
 2. Mounted on 5.0x5.0mm copper pad to each terminal.

ELECTRICAL CHARACTERISTICS PER LINE@ 25°C UNLESS OTHERWISE SPECIFIED

PART NUMBER		DEVICE MARKING CODE		REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE @IT	TEST CURRENT	MAXIMUM CLAMPING VOLTAGE @I _{PP}	PEAK PULSE CURRENT	REVERSE LEAKAGE @V _{RWM}
Unidirectional	Bidirectional	Uni	Bi	V _{RWM} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
SMA6J5.0A	SMA6J5.0CA	6KE	6AE	5.0	6.40~7.00	10.0	9.2	65.3	800
SMA6J6.0A	SMA6J6.0CA	6KG	6AG	6.0	6.67~7.37	10.0	10.3	58.3	800
SMA6J6.5A	SMA6J6.5CA	6KK	6AK	6.5	7.22~7.98	10.0	11.2	53.6	500
SMA6J7.0A	SMA6J7.0CA	6KM	6AM	7.0	7.78~8.60	10.0	12.0	50.0	200
SMA6J7.5A	SMA6J7.5CA	6KP	6AP	7.5	8.33~9.21	1.0	12.9	46.6	100
SMA6J8.0A	SMA6J8.0CA	6KR	6AR	8.0	8.89~9.83	1.0	13.6	44.2	50
SMA6J8.5A	SMA6J8.5CA	6KT	6AT	8.5	9.44~10.40	1.0	14.4	41.7	20
SMA6J9.0A	SMA6J9.0CA	6KV	6AV	9.0	10.00~11.10	1.0	15.4	39.0	10
SMA6J10A	SMA6J10CA	6KX	6AX	10.0	11.10~12.30	1.0	17.0	35.3	5
SMA6J11A	SMA6J11CA	6KZ	6AZ	11.0	12.20~13.50	1.0	18.2	33.0	1
SMA6J12A	SMA6J12CA	6LE	6BE	12.0	13.30~14.70	1.0	19.9	30.2	1
SMA6J13A	SMA6J13CA	6LG	6BG	13.0	14.40~15.90	1.0	21.5	28.0	1

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Unidirectional	Bidirectional	Uni	Bi	V _{RWM} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
SMA6J14A	SMA6J14CA	6LK	6BK	14.0	15.60~17.20	1.0	23.2	25.9	1
SMA6J15A	SMA6J15CA	6LM	6BM	15.0	16.70~18.50	1.0	24.4	24.6	1
SMA6J16A	SMA6J16CA	6LP	6BP	16.0	17.80~19.70	1.0	26.0	23.1	1
SMA6J17A	SMA6J17CA	6LR	6BR	17.0	18.90~20.90	1.0	27.6	21.8	1
SMA6J18A	SMA6J18CA	6LT	6BT	18.0	20.00~22.10	1.0	29.2	20.6	1
SMA6J20A	SMA6J20CA	6LV	6BV	20.0	22.20~24.50	1.0	32.4	18.6	1
SMA6J22A	SMA6J22CA	6LX	6BX	22.0	24.40~26.90	1.0	35.5	16.9	1
SMA6J24A	SMA6J24CA	6LZ	6BZ	24.0	26.70~29.50	1.0	38.9	15.5	1
SMA6J26A	SMA6J26CA	6ME	6CE	26.0	28.90~31.90	1.0	42.1	14.3	1
SMA6J28A	SMA6J28CA	6MG	6CG	28.0	31.10~34.40	1.0	45.4	13.3	1
SMA6J30A	SMA6J30CA	6MK	6CK	30.0	33.30~36.80	1.0	48.4	12.4	1
SMA6J33A	SMA6J33CA	6MM	6CM	33.0	36.70~40.60	1.0	53.3	11.3	1
SMA6J36A	SMA6J36CA	6MP	6CP	36.0	40.00~44.20	1.0	58.1	10.4	1
SMA6J40A	SMA6J40CA	6MR	6CR	40.0	44.40~49.10	1.0	64.5	9.3	1
SMA6J43A	SMA6J43CA	6MT	6CT	43.0	47.80~52.80	1.0	69.4	8.7	1
SMA6J45A	SMA6J45CA	6MV	6CV	45.0	50.00~55.30	1.0	72.7	8.3	1
SMA6J48A	SMA6J48CA	6MX	6CX	48.0	53.30~58.90	1.0	77.4	7.8	1
SMA6J51A	SMA6J51CA	6MZ	6CZ	51.0	56.70~62.70	1.0	82.4	7.3	1
SMA6J54A	SMA6J54CA	6NE	6DE	54.0	60.00~66.30	1.0	87.1	6.9	1
SMA6J58A	SMA6J58CA	6NG	6DG	58.0	64.40~71.20	1.0	93.6	6.5	1
SMA6J60A	SMA6J60CA	6NK	6DK	60.0	66.70~73.70	1.0	96.8	6.2	1
SMA6J64A	SMA6J64CA	6NM	6DM	64.0	71.10~78.60	1.0	103.0	5.9	1
SMA6J70A	SMA6J70CA	6NP	6DP	70.0	77.80~86.00	1.0	113.0	5.3	1
SMA6J75A	SMA6J75CA	6NR	6DR	75.0	83.30~92.10	1.0	121.0	5.0	1
SMA6J78A	SMA6J78CA	6NT	6DT	78.0	86.70~95.80	1.0	126.0	4.8	1
SMA6J85A	SMA6J85CA	6NV	6DV	85.0	94.40~104.00	1.0	137.0	4.4	1
SMA6J90A	SMA6J90CA	6NX	6DX	90.0	100.00~111.00	1.0	146.0	4.1	1
SMA6J100A	SMA6J100CA	6NZ	6DZ	100.0	111.00~123.00	1.0	162.0	3.7	1
SMA6J110A	SMA6J110CA	6PE	6EE	110.0	122.00~135.00	1.0	177.0	3.4	1
SMA6J120A	SMA6J120CA	6PG	6EG	120.0	133.00~147.00	1.0	193.0	3.1	1
SMA6J130A	SMA6J130CA	6PK	6EK	130.0	144.00~159.00	1.0	209.0	2.9	1
SMA6J150A	SMA6J150CA	6PM	6EM	150.0	167.00~185.00	1.0	243.0	2.5	1

RATINGS AND CHARACTERISTIC CURVES ($T_A=25^\circ\text{C}$ unless otherwise noted)

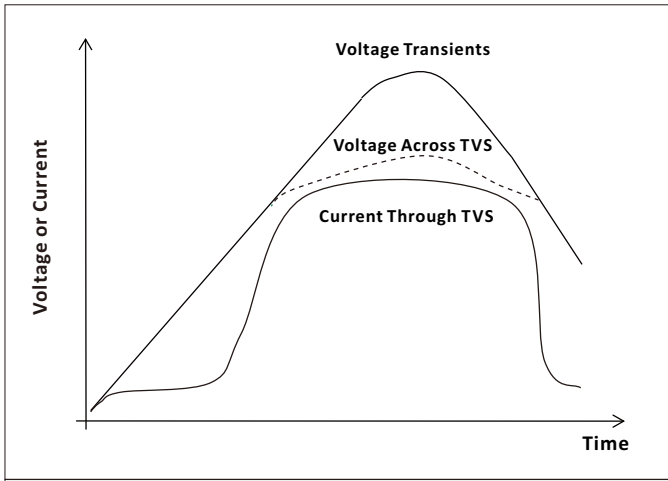


Figure 1 - TVS Transients Clamping Waveform

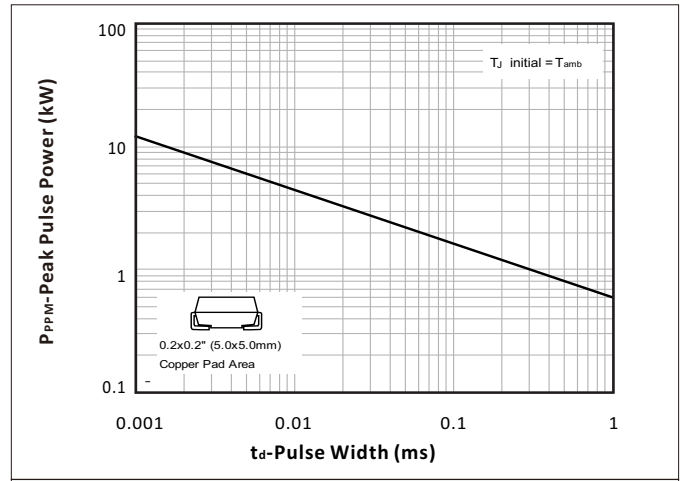


Figure 2 - Peak Pulse Power Rating Curve

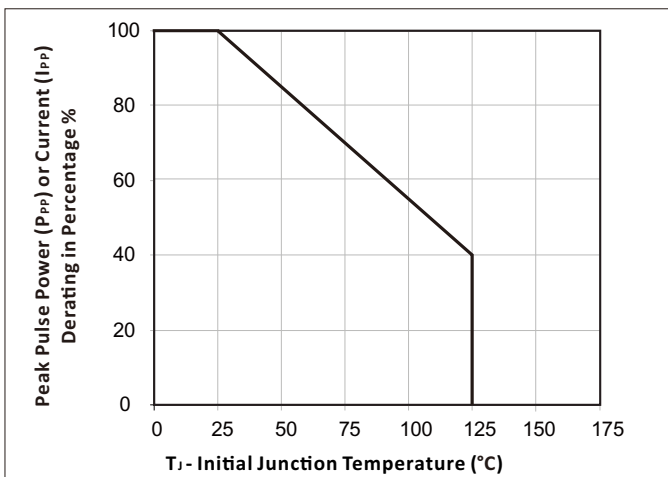


Figure 3 - Peak Pulse Power Derating Curve

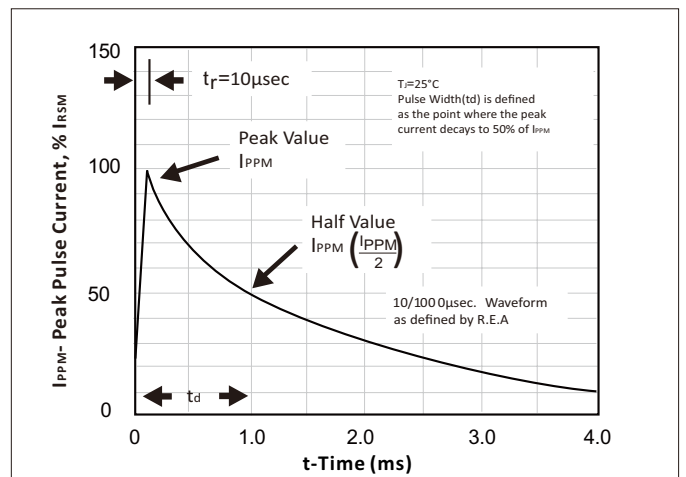
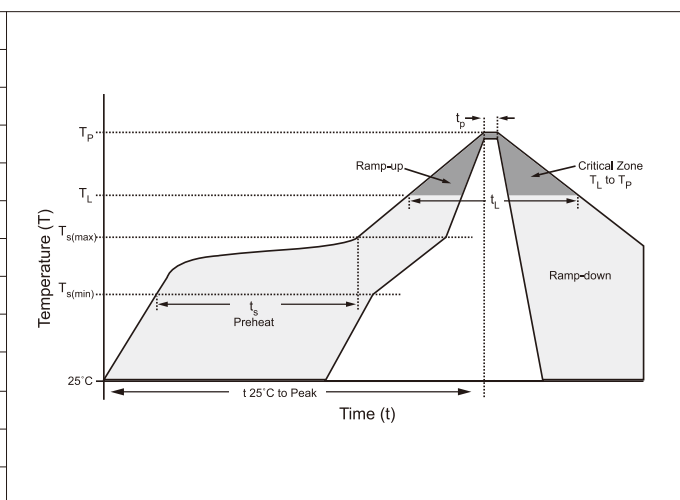


Figure 4 - Pulse Waveform - 10/1000µS

SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (min to max) (ts)	60 – 180 secs
Average ramp up rate (Liquidus Temp (TL) to peak)		3°C/second max
Ts(max) to TL - Ramp-up Rate		3°C/second max
Reflow	Temperature (TL) (Liquidus)	217°C
	Time (min to max) (tL)	60 – 150 seconds
Peak Temperature (TP)		260°C
Time within 5°C of actual peak Temperature (tp)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (TP)		8 minutes Max.
Do not exceed		260°C



DO-214AC(SMA) PACKAGE DIMENSION

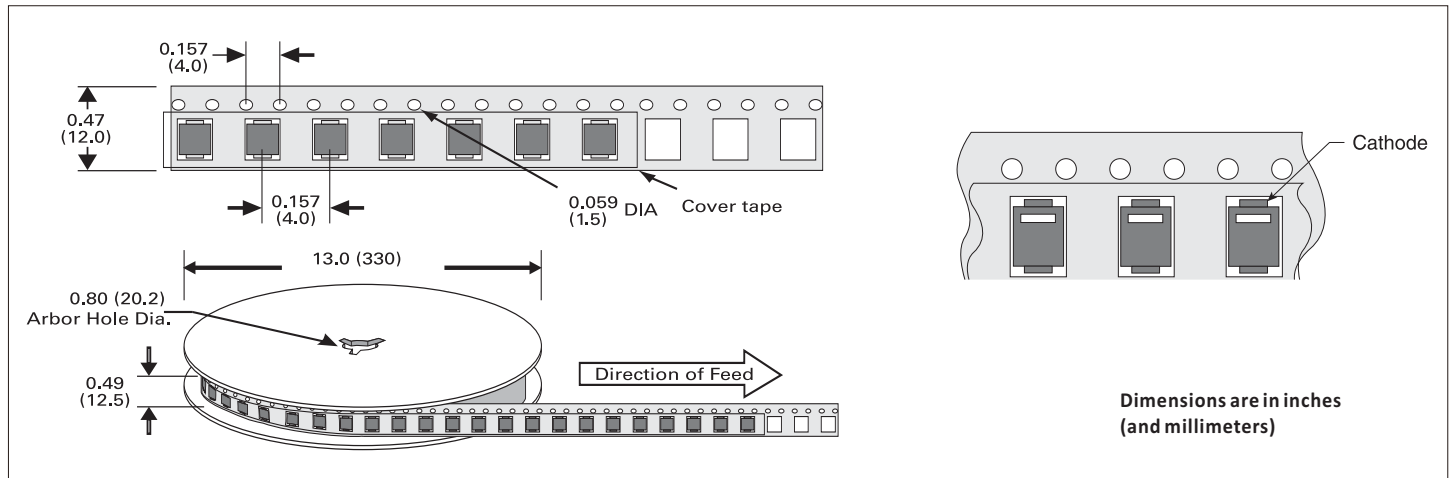
Item	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.23	1.63	0.048	0.064
B	4.10	4.55	0.161	0.179
C	2.60	2.80	0.102	0.110
D	2.15	2.35	0.085	0.093
E	0.75	1.51	0.030	0.059
F	0.02	0.20	0.001	0.008
G	4.87	5.22	0.192	0.206
H	0.15	0.30	0.006	0.012

NOTES:
1. Dimensions are exclusive of mold flash and metal burrs
2. Cathode Band is only applicable to the unidirectional package

RECOMMENDED PAD LAYOUT DIMENSION

Item	Millimeters		Inches	
	Min	Max	Min	Max
A	1.63	-	0.064	-
B	1.45	-	0.057	-
C	-	2.28	-	0.090
D	1.45	-	0.057	-
E	5.28 REF		0.208 REF	

TAPE AND REEL SPECIFICATION



ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SMA6Jxx(C)A	DO-214AC(SMA)	5000PCS	13"