

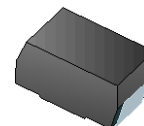
RoHS Compliant Product

A suffix of "-C" specifies halogen-free and lead-free

FEATURES

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Available in Unidirectional and Bidirectional
- Low incremental surge resistance, excellent clamping capability
- Very fast response time
- High temperature soldering guaranteed: 260°C/10s at terminals
- Meets MSL level 1

SMA



MECHANICAL DATA

- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: For uni-directional types the band denotes cathode end, no marking on bi-directional types

PACKAGE INFORMATION

Package	MPQ	Leader Size
SMA	5K	13 inch

ORDER INFORMATION

Part Number	Type
SMA6J Series-C	Lead (Pb)-free and Halogen-free

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Ratings		Symbol	Value	Units
Maximum Instantaneous Forward Voltage	25A for unidirectional only	V _F	3.5	V
Peak Pulse Power Dissipation ^{1 2} @10/1000us waveform		P _{PP}	600	W
Peak Pulsed Current ¹ @10/1000us waveform		I _{PP}	See next table.	A
Peak Forward Surge Current @8.3ms single half sine-wave for uni-directional only ²		I _{FSM}	60	A
Power Dissipation @T _L =75°C		P _D	3	W
Operating Junction & Storage Temperature Range		T _J , T _{STG}	-55~150	°C
Thermal Resistance Ratings				
Thermal Resistance Junction-Ambient		R _{θJA}	120	°C/W
Thermal Resistance Junction-Lead		R _{θJL}	30	

Notes:

1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2.
2. Mounted on 0.2 x 0.2" (5 x 5mm) copper pads to each terminal.

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Maximum Clamping Voltage V_C @ I_{PP}	Maximum Peak Pulse Current	Maximum Reverse Leakage I_R @ V_{RWM}
			Min	Max				
Directional		V_{RWM}	V_{BR}		I_T^1	V_C	I_{PP}^2	I_R
Uni	Bi	V	V	V	mA	V	A	μA
SMA6J5.0A-C	-	5	6.4	7.07	10	9.2	65.22	800
SMA6J6.0A-C	-	6	6.67	7.37	10	10.3	58.25	800
SMA6J6.5A-C	-	6.5	7.22	7.98	10	11.2	53.57	500
SMA6J7.0A-C	-	7	7.78	8.6	10	12	50	200
SMA6J7.5A-C	-	7.5	8.33	9.21	1	12.9	46.51	100
SMA6J8.0A-C	-	8	8.89	9.83	1	13.6	44.12	50
SMA6J8.5A-C	-	8.5	9.44	10.4	1	14.4	41.67	10
SMA6J9.0A-C	-	9	10	11.1	1	15.4	38.96	5
SMA6J10A-C	-	10	11.1	12.3	1	17	35.29	5
SMA6J11A-C	SMA6J11CA-C	11	12.2	13.5	1	18.2	32.97	5
SMA6J12A-C	SMA6J12CA-C	12	13.3	14.7	1	19.9	30.15	5
SMA6J13A-C	SMA6J13CA-C	13	14.4	15.9	1	21.5	27.91	1
SMA6J14A-C	SMA6J14CA-C	14	15.6	17.2	1	23.2	25.86	1
SMA6J15A-C	SMA6J15CA-C	15	16.7	18.5	1	24.4	24.59	1
SMA6J16A-C	SMA6J16CA-C	16	17.8	19.7	1	26	23.08	1
SMA6J17A-C	SMA6J17CA-C	17	18.9	20.9	1	27.6	21.74	1
SMA6J18A-C	SMA6J18CA-C	18	20	22.1	1	29.2	20.55	1
SMA6J19A-C	SMA6J19CA-C	19	21.1	23.3	1	30.8	19.49	1
SMA6J20A-C	SMA6J20CA-C	20	22.2	24.5	1	32.4	18.52	1
SMA6J22A-C	SMA6J22CA-C	22	24.4	26.9	1	35.5	16.9	1
SMA6J24A-C	SMA6J24CA-C	24	26.7	29.5	1	38.9	15.42	1
SMA6J26A-C	SMA6J26CA-C	26	28.9	31.9	1	42.1	14.25	1
SMA6J28A-C	SMA6J28CA-C	28	31.1	34.4	1	45.4	13.22	1
SMA6J30A-C	SMA6J30CA-C	30	33.3	36.8	1	48.4	12.4	1
SMA6J33A-C	SMA6J33CA-C	33	36.7	40.6	1	53.3	11.26	1
SMA6J36A-C	SMA6J36CA-C	36	40	44.2	1	58.1	10.33	1
SMA6J40A-C	SMA6J40CA-C	40	44.4	49.1	1	64.5	9.3	1
SMA6J43A-C	SMA6J43CA-C	43	47.8	52.8	1	69.4	8.65	1
SMA6J45A-C	SMA6J45CA-C	45	50	55.3	1	72.7	8.25	1
SMA6J48A-C	SMA6J48CA-C	48	53.3	58.9	1	77.4	7.75	1

ELECTRICAL CHARACTERISTICS (Rating $T_A=25^\circ\text{C}$ unless otherwise specified)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Maximum Clamping Voltage V_C @ I_{PP}	Maximum Peak Pulse Current	Maximum Reverse Leakage I_R @ V_{RWM}
			Min	Max				
Directional		V_{RWM}	V_{BR}		I_T^1	V_C	I_{PP}^2	I_R
Uni	Bi	V	V	V	mA	V	A	μA
SMA6J51A-C	SMA6J51CA-C	51	56.7	62.7	1	82.4	7.28	1
SMA6J54A-C	SMA6J54CA-C	54	60	66.3	1	87.1	6.89	1
SMA6J58A-C	SMA6J58CA-C	58	64.4	71.2	1	93.6	6.41	1
SMA6J60A-C	SMA6J60CA-C	60	66.7	73.7	1	96.8	6.2	1
SMA6J64A-C	SMA6J64CA-C	64	71.1	78.6	1	103	5.83	1
SMA6J70A-C	SMA6J70CA-C	70	77.8	86	1	113	5.31	1
SMA6J75A-C	SMA6J75CA-C	75	83.3	92.1	1	121	4.96	1
SMA6J78A-C	SMA6J78CA-C	78	86.7	95.8	1	126	4.76	1
SMA6J80A-C	SMA6J80CA-C	80	88.8	97.6	1	129	4.63	1
SMA6J85A-C	SMA6J85CA-C	85	94.4	104	1	137	4.38	1
SMA6J90A-C	-	90	100	111	1	146	4.11	1
SMA6J100A-C	-	100	111	123	1	162	3.7	1
SMA6J110A-C	-	110	122	135	1	177	3.39	1
SMA6J120A-C	-	120	133	147	1	193	3.11	1
SMA6J130A-C	-	130	144	159	1	209	2.87	1

Notes:

1. Pulse test: $t_p \leq 50\text{ms}$
2. Surge current waveform per Fig.3 and derated per Fig.2.

CHARACTERISTICS CURVE

FIG1: Peak Pulse Power Rating Curve

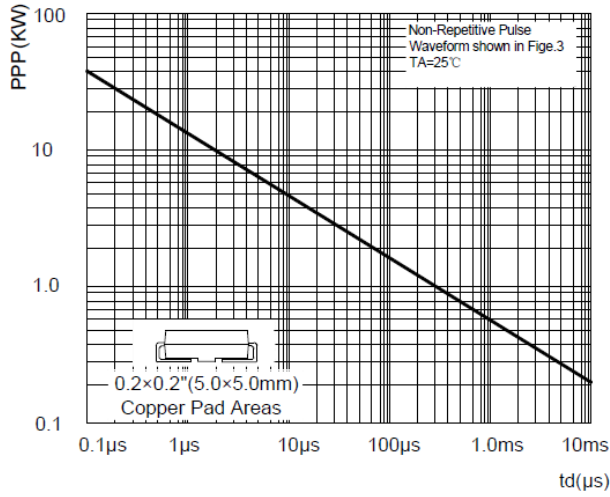


FIG2: Pulse Power or Current vs. Initial Junction Temperature

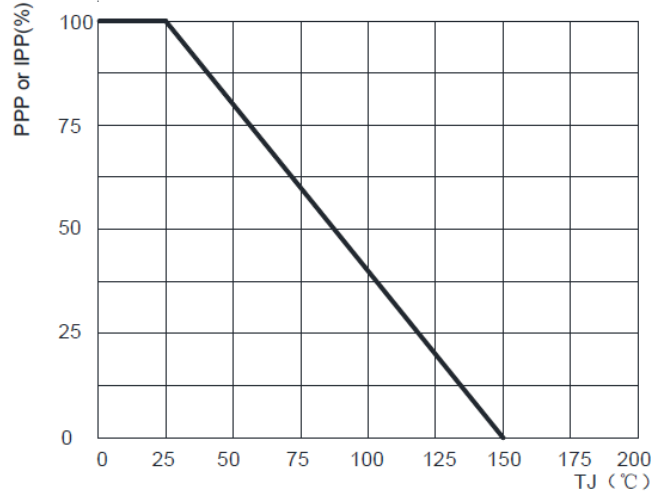


FIG3: Pulse Waveform

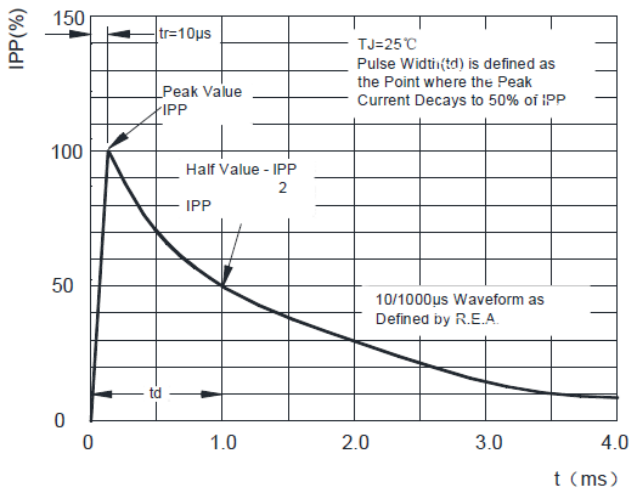


FIG4: Typical Transient Thermal Impedance

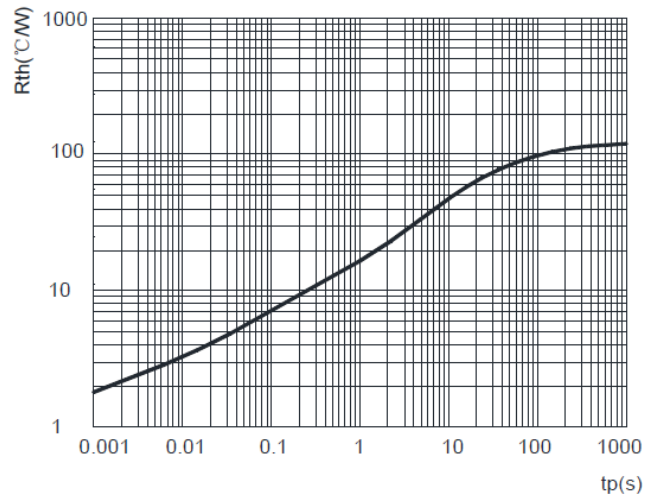


FIG5: Maximum Non-Repetitive Surge Current

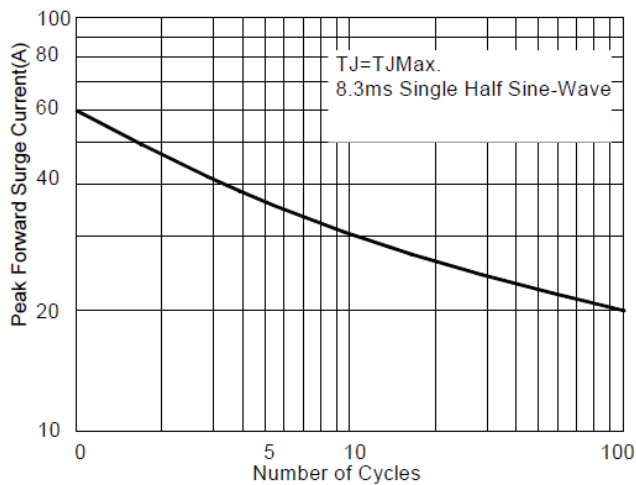
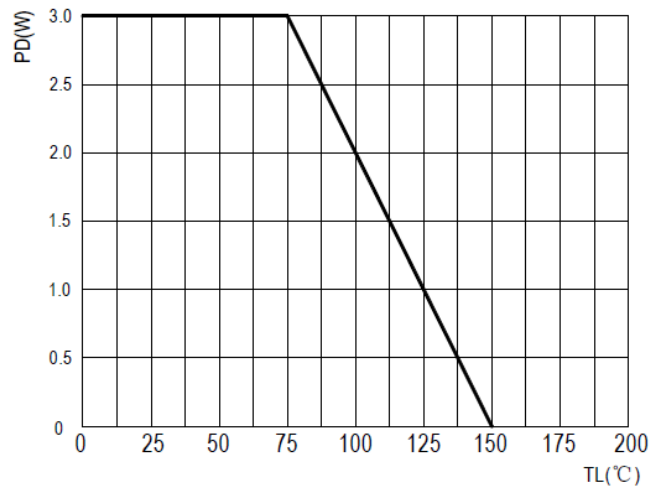
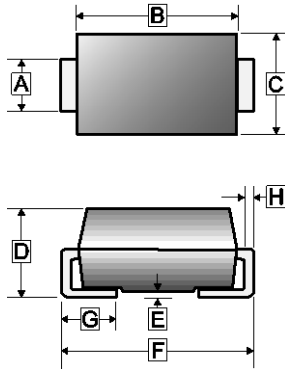


FIG6: Steady State Power Dissipation



PACKAGE OUTLINE DIMENSIONS

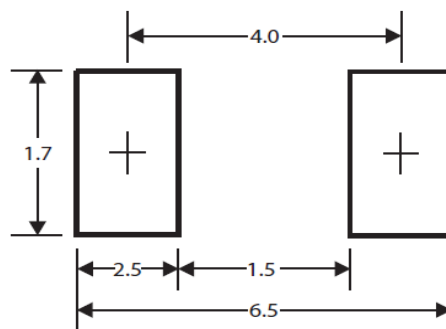
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REF.	Millimeter	
	Min.	Max.
A	1.23	1.65
B	3.99	4.75
C	2.30	2.90
D	1.90	2.62
E	-	0.3
F	4.70	5.28
G	0.75	1.52
H	0.15	0.31

MOUNTING PAD LAYOUT

SMA



*Dimensions in millimeters