MSKSEMI 美森科
SEMICONDUCTOR

ESD TVS TSS MOV GDT PLED

SM6TxxxA(CA)-MS

Product specification

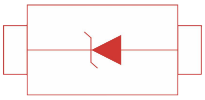
Features

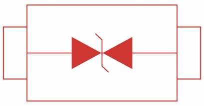
- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition Rate (duty cycle): 0.01%
- Fast reponse time: typically less than 1ps from 0 volts to VBR min.
- Typical ID less than 1μA above 10V
- High temperature soldering: 250°C/10 seconds at terminals
- Plastic package has Underwriters Laboratory
- Flammability Classification 94V-O

MECHANICAL DATA

- Case: JEDEC DO-214AA (SMB) molded plastic over passivated junction
- Terminals: Solder plated solderable per MIL-STD-750, Method 2026
- Polarity: For uni-directional types: Color band denotes positive end (cathode)
- Standard Packaging: 12mm tape (EIA STD RS-481)
- Weight: 0.003 ounces, 0.093 gram

Reference News

PACKAGE OUTLINE	Unipolar	Marking Information
		SM6T XXXA

PACKAGE OUTLINE	Bipolar	Marking Information
		SM6T XXXCA

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

	SYMBOLS	VALUE	UNIT
Peak Pulse Power Dissipation on 10/1000μs waveform (NOTES 1, 2, Fig. 1)	P_{PPM}	Minimum 600	Watts
Peak Pulse Current on 10/1000μs waveform (NOTE 1, Fig. 3)	I_{PPM}	See Table 1	Amps
Power Dissipation on Infinite Heatsink, T_A=50°C	$P_{M(AV)}$	5.0	Watts
Peak Forward Surge Current, 10ms Single Half Sine-wave, Undirectional Only	I_{FSM}	100	Amps
Max. Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-65 to +175	°C
Thermal Resistance Junction to Ambient Air (NOTE 2)	$R_{\Theta JA}$	100	°C/W°
Thermal Resistance Junction to Leads	$R_{\Theta JL}$	20	C/W

NOTES

(1) Non-repetitive current pulse, per Fig. 3 and derated above TA=25°C per Fig. 2
(2) Mounted on 5.0mm^2 (.013mm thick) land areas.
(3) Measured on 8.3ms single half sine-wave or equivalent squarewave, duty cycle 4 pulses per minute maximum.

ELECTRICAL CHARACTERISTICS RATINGS at (T_A=25ºC unless otherwise noted)

Type(1)		Standoff Voltage V_{RM}	Leakage Current(3) I_{RM} @ V_{RM}	Breakdown Voltage V_{BR} @ I_T(2) (Volts)		Test Current I_T	Clamping Voltage V_C @ I_{PP} 10/1000µs		Clamping Voltage V_C @ I_{PP} 8/20µs		α_T Max 10^{-4}/°C
		(Volts)	(µA)	Min	Max	(mA)	(Volts)	(Amps)	(Volts)	(Amps)	
SM6T6V8A-MS	SM6T6V8CA-MS	5.80	1000	6.45	7.14	10	10.5	57.0	13.4	298	5.7
SM6T7V5A-MS	SM6T7V5CA-MS	6.40	500	7.13	7.88	10	11.3	53.0	14.5	276	6.1
SM6T10A-MS	SM6T10CA-MS	8.55	10.0	9.50	10.5	1.0	14.5	41.0	18.6	215	7.3
SM6T12A-MS	SM6T12CA-MS	10.2	5.00	11.4	12.6	1.0	16.7	36.0	21.7	184	7.8
SM6T15A-MS	SM6T15CA-MS	12.8	1.00	14.3	15.8	1.0	21.2	28.0	27.2	147	8.4
SM6T18A-MS	SM6T18CA-MS	15.3	1.00	17.1	18.9	1.0	25.2	24	32.5	123	8.8
SM6T22A-MS	SM6T22CA-MS	18.8	1.00	20.9	23.1	1.0	30.6	20.0	39.3	102	9.2
SM6T24A-MS	SM6T24CA-MS	20.5	1.00	22.8	25.2	1.0	33.2	18.0	42.8	93	9.4
SM6T27A-MS	SM6T27CA-MS	23.1	1.00	25.7	28.4	1.0	37.5	16.0	48.3	83	9.6
SM6T30A-MS	SM6T30CA-MS	25.6	1.00	28.5	31.5	1.0	41.5	14.5	53.5	75	9.7
SM6T33A-MS	SM6T33CA-MS	28.2	1.00	31.4	34.7	1.0	45.7	13.1	59.0	68	9.8
SM6T36A-MS	SM6T36CA-MS	30.8	1.00	34.2	37.8	1.0	49.9	12.0	64.3	62	9.9
SM6T39A-MS	SM6T39CA-MS	33.3	1.00	37.1	41.0	1.0	53.9	11.1	69.7	57	10.0
SM6T68A-MS	SM6T68CA-MS	58.1	1.00	64.6	71.4	1.0	92.0	6.50	121	33	10.4
SM6T100A-MS	SM6T100CA-MS	85.5	1.00	95.0	105	1.0	137	4.40	178	22.5	10.6
SM6T150A-MS	SM6T150CA-MS	128	1.00	143	158	1.0	207	2.90	265	15	10.8
SM6T200A-MS	SM6T200CA-MS	171	1.00	190	210	1.0	274	2.20	353	11.3	10.8
SM6T220A-MS	SM6T220CA-MS	188	1.00	209	231	1.0	328	2.00	388	10.3	10.8

FIG. 1 - PEAK PULSE POWER RATING CURVE

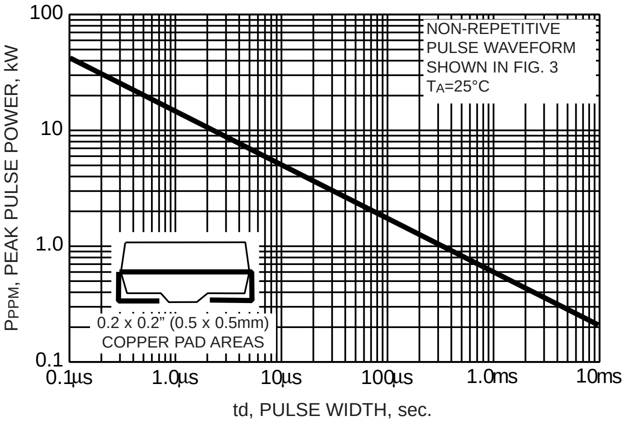


FIG. 2 - PULSE DERATING CURVE

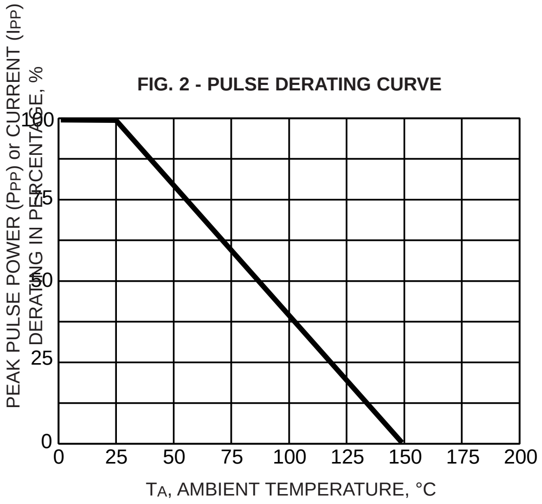


FIG. 3 - PULSE WAVEFORM

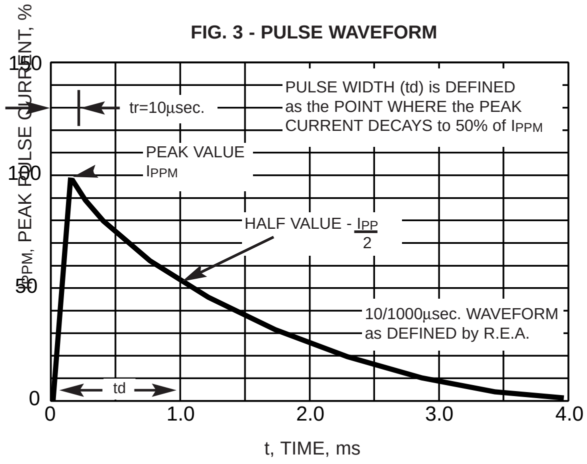


FIG. 4 - TYPICAL JUNCTION CAPACITANCE
UNIDIRECTIONAL

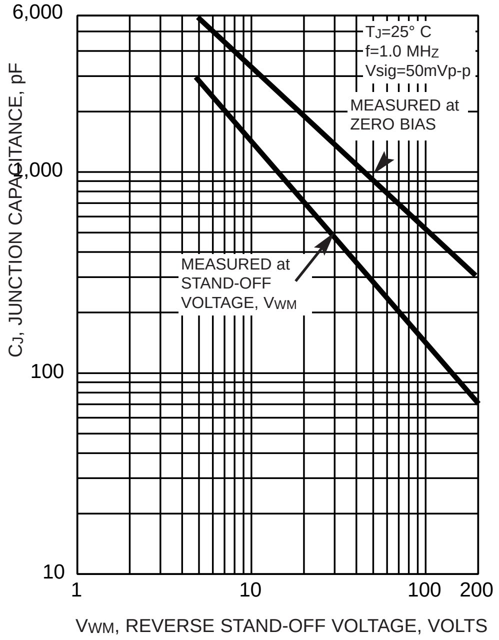


FIG. 5 - TYPICAL JUNCTION CAPACITANCE
BIDIRECTIONAL

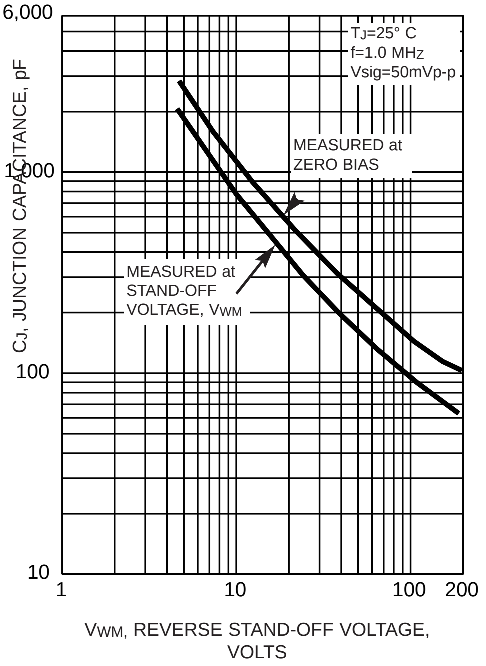
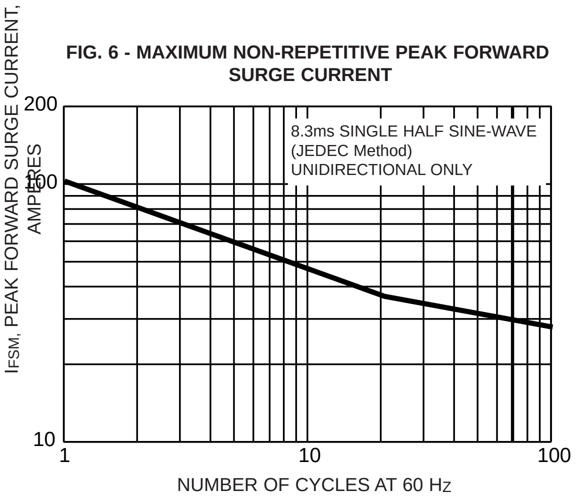
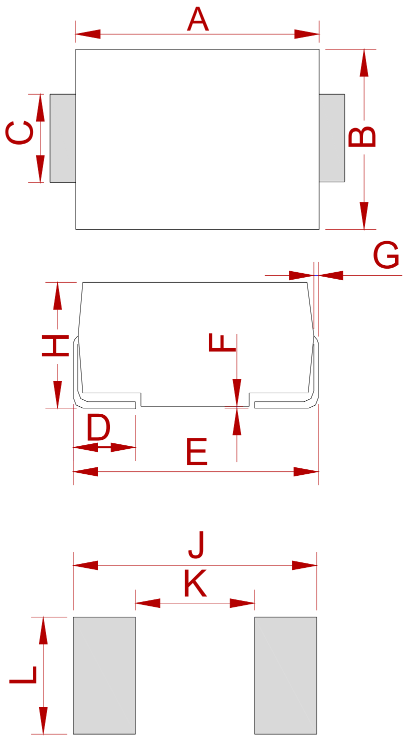


FIG. 6 - MAXIMUM NON-REPETITIVE PEAK FORWARD
SURGE CURRENT



PACKAGE MECHANICAL DATA



DO-214AA (SMB)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.75	0.167	0.187
B	3.30	3.94	0.130	0.155
C	1.85	2.21	0.073	0.087
D	0.76	1.52	0.030	0.060
E	5.08	5.59	0.200	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.11	2.44	0.083	0.096
J	6.80		0.270	
K		2.60		0.100
L	2.40		0.090	

REEL SPECIFICATION

P/N	PKG	QTY
SM6TxxxA(CA)-MS	DO-214AA(SMB)	3000

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