

RoHS Compliant Product

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

FEATURES

- High Current Capability
- Low Forward Voltage Drop
- Low Reverse Current
- Low Thermal Resistance
- Excellent High Temperature Stability
- Low Power Loss And High Efficiency
- High Forward Surge Capability
- Meet ISO 16750-2 Load Dump Test (Varied by Test Condition)
- Meets MSL level 1, per J-STD-020

MECHANICAL DATE

- Terminals: Matte tin plated, solderable per MIL-STD-750, Method 2026, J-STD-002 and JESD 22-B102
- Molding Compound Flammability Rating:UL94-0
- HE3 suffix meets JESD 201 class 2 whisker test
- Polarity: Heatsink is anode

APPLICATION

- High Peak Power
- High-Temperature
- Clamping Diode
- Load Switching and Lighting

PACKAGE INFORMATION

Package	MPQ	Leader Size
DO-218	0.5K	13 inch

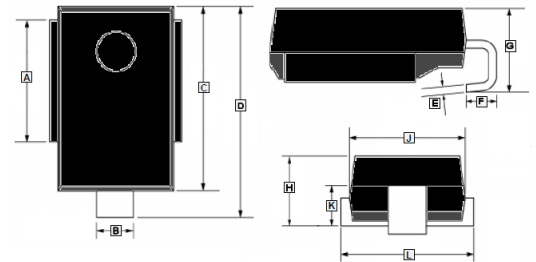
ORDER INFORMATION

Part Number	Type
SM8MxxT-C Series	Lead (Pb)-free and Halogen-free

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Peak Pulse Power Dissipation	P _{PPM}	10/1000µs waveform	6600
		10/10000µs waveform	5200
Power Dissipation on Infinite Heatsink @T _C =25°C	P _D	8	W
Peak Forward Surge Current, 8.3ms single half sine-wave	I _{FSM}	700	A
Typical Thermal Resistance, Junction-Case	R _{θJC}	0.9	°C/W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55~175	°C

DO-218



	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	8.7	9.3	G	4.7	5.7
B	2.3	3	H	4.7	5.25
C	13.2	13.8	J	8.2	8.8
D	15	16	K	2.65	3.55
E	0.45	0.9	L	9.5	10.5
F	1.5	2.7			



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

Part Number	Breakdown Voltage $V_{BR}(V)$		Test Current $I_T(mA)$	Stand-OFF Voltage $V_{WM}(V)$	Maximum Reverse Leakage at V_{WM} $I_D(\mu A)$	Maximum Leakage at V_{WM} $T_J=175^\circ\text{C}$ $I_D(\mu A)$	Max. Peak Pulse Current at 10/1000 us Waveform (A)	Maximum Clamping Voltage at I_{PPM} VC (V)
	Min.	Max.						
SM8M10T-C	11.1	13.6	5	10	15	250	351	18.8
SM8M10AT-C		12.3	5	10	15	250	388	17
SM8M11T-C	12.2	14.9	5	11	10	150	328	20.1
SM8M11AT-C		13.5	5	11	10	150	363	18.2
SM8M12T-C	13.3	16.3	5	12	10	150	300	22
SM8M12AT-C		14.7	5	12	10	150	332	19.9
SM8M13T-C	14.4	17.6	5	13	10	150	277	23.8
SM8M13AT-C		15.9	5	13	10	150	307	21.5
SM8M14T-C	15.6	19.1	5	14	10	150	256	25.8
SM8M14AT-C		17.2	5	14	10	150	284	23.2
SM8M15T-C	16.7	20.4	5	15	10	150	245	26.9
SM8M15AT-C		18.5	5	15	10	150	270	24.4
SM8M16T-C	17.8	21.8	5	16	10	150	229	28.8
SM8M16AT-C		19.7	5	16	10	150	254	26
SM8M17T-C	18.9	23.1	5	17	10	150	216	30.5
SM8M17AT-C		20.9	5	17	10	150	239	27.6
SM8M18T-C	20	24.4	5	18	10	150	205	32.2
SM8M18AT-C		22.1	5	18	10	150	226	29.2
SM8M20T-C	22.2	27.1	5	20	10	150	184	35.8
SM8M20AT-C		24.5	5	20	10	150	204	32.4
SM8M22T-C	24.4	29.8	5	22	10	150	168	39.4
SM8M22AT-C		26.9	5	22	10	150	186	35.5
SM8M24T-C	26.7	32.6	5	24	10	150	153	43
SM8M24AT-C		29.5	5	24	10	150	170	38.9
SM8M26T-C	28.9	35.3	5	26	10	150	142	46.6
SM8M26AT-C		31.9	5	26	10	150	157	42.1
SM8M27T-C	24	30	10	22	1	50	75	40
SM8M28T-C	31.1	38	5	28	10	150	132	50.1
SM8M28AT-C		34.4	5	28	10	150	145	45.4
SM8M30T-C	33.3	40.7	5	30	10	150	123	53.5
SM8M30AT-C		36.8	5	30	10	150	136	48.4
SM8M33T-C	36.7	44.9	5	33	10	150	115	59
SM8M33AT-C		40.6	5	33	10	150	124	53.3
SM8M36T-C	40	48.9	5	36	10	150	103	64.3
SM8M36AT-C		44.2	5	36	10	150	114	58.1
SM8M40T-C	44.4	54.3	5	40	10	150	92.4	71.4
SM8M40AT-C		49.1	5	40	10	150	102	64.5
SM8M43T-C	47.8	58.4	5	43	10	150	86	76.7
SM8M43AT-C		52.8	5	43	10	150	95.1	69.4

Note:

- For all types maximum $V_F=1.8V$ at $I_F=100A$ measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.

RATINGS AND CHARACTERISTIC CURVES

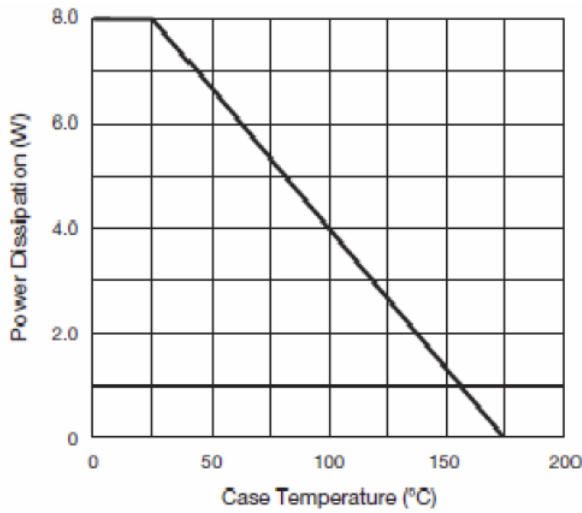


Fig. 1 - Power Derating Curve

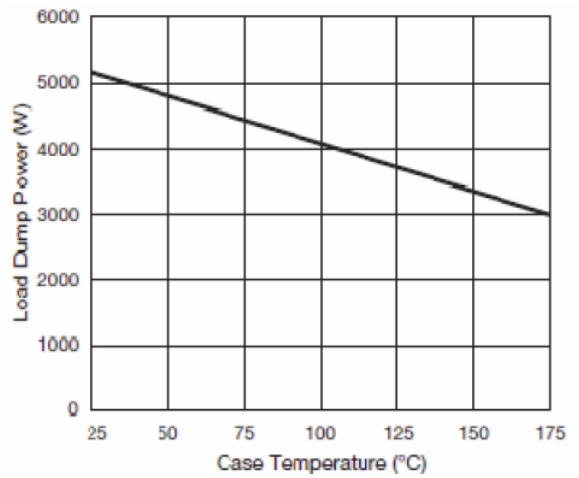


Fig. 2 - Load Dump Power Characteristics (10 ms Exponential Waveform)

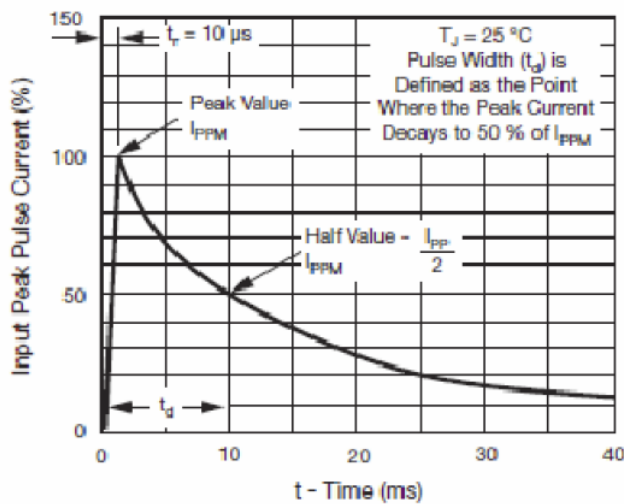


Fig. 3 - Pulse Waveform

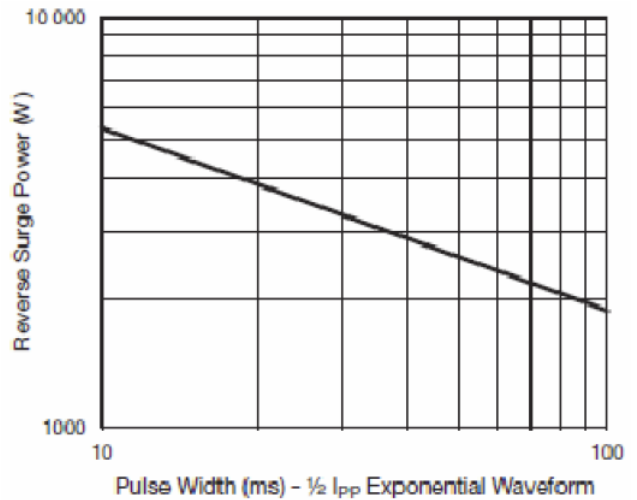


Fig. 4 - Reverse Power Capability

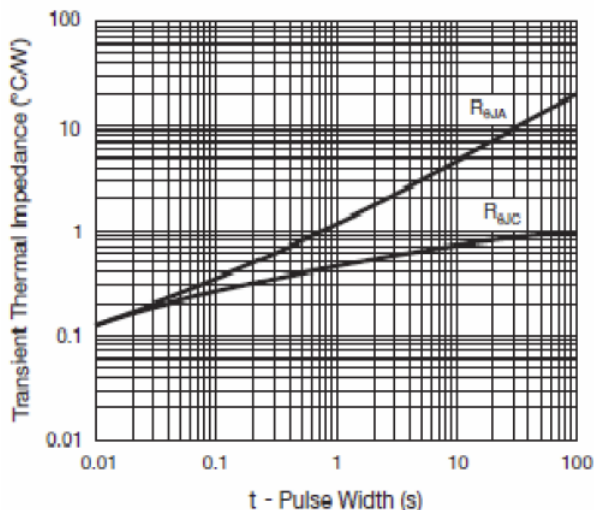


Fig. 5 - Typical Transient Thermal Impedance

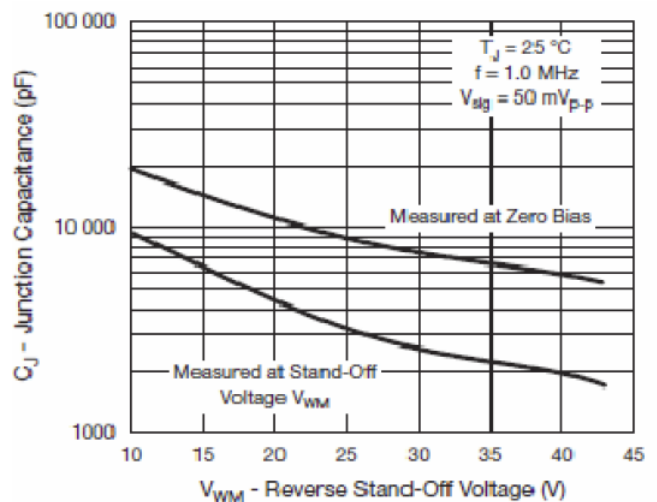


Fig. 6 - Typical Junction Capacitance