FEATURES

- Junction passivation optimized design passivated anisotropic rectifier technology.
- T_J = 175°C capability suitable for high reliability and automotive requirement.
- Available in Bidirectional polarity.
- Low leakage current.
- High surge capability.
- Meets ISO16750-2 surge specification(varied by test condition).
- Meets ISO7637-2 5a surge specification
- Meet AEC-Q101 Requirements

DO-218AB

Schematic Symbol

TYPICAL APPLICATIONS

- Inductive load switching
- Alternator Load Dump
- Other applications in automotive circuits

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000us waveform	P_{PPM}	8000	W
Peak Pulse Power Dissipation on 10/10000us waveform	P_{PPM}	6000	W
Power Dissipation on Infinite Heat Sink at T_A=25°C	P_D	8.5	W
Peak Pulse Current of on 10/1000us waveform	I_{PPM}	see table	A
Typical thermal resistance, juncon to case	$R_{\theta JC}$	0.90	°C/W
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +175	°C

ELECTRICAL CHARACTERISTICS

Part Number	Device Marking Code	Reverse Stand-off Voltage	Breakdown Voltage Min.@I_T	Breakdown Voltage Max.@I_T	Test Current	Maximum Clamping Voltage @I_{PP}	Peak Pulse Current	Reverse Leakage @V_{RWM}	Reverse Leakage @V_{RWM} T_J=175°C
		V_{RWM}(V)	V_{BR}(V)	V_{BR}(V)	I_T(mA)	V_C(V)	I_{PP}(A)(1)	I_R(uA)(1)	I_R(uA)
SM8T20CA	SM8T20CA	20.0	22.2	24.5	5.0	32.4	247	5.0	150
SM8T22CA	SM8T22CA	22.0	24.4	26.9	5.0	35.5	225	5.0	150
SM8T24CA	SM8T24CA	24.0	26.7	29.5	5.0	38.9	205	5.0	150
SM8T26CA	SM8T26CA	26.0	28.9	31.9	5.0	42.1	190	5.0	150
SM8T28CA	SM8T28CA	28.0	31.1	34.4	5.0	45.4	176	5.0	150
SM8T30CA	SM8T30CA	30.0	33.3	36.8	5.0	48.4	165	5.0	150
SM8T32CA	SM8T32CA	32.0	35.5	39.4	5.0	51.4	156	5.0	150
SM8T33CA	SM8T33CA	33.0	36.7	40.6	5.0	53.3	150	5.0	150
SM8T36CA	SM8T36CA	36.0	40.0	44.2	5.0	58.1	138	5.0	150
SM8T40CA	SM8T40CA	40.0	44.4	49.1	5.0	64.5	124	5.0	150
SM8T43CA	SM8T43CA	43.0	47.8	52.8	5.0	69.4	115	5.0	150

RATINGS AND CHARACTERISTICS CURVES (T_A=25°C)

Figure 1: Power derating curve

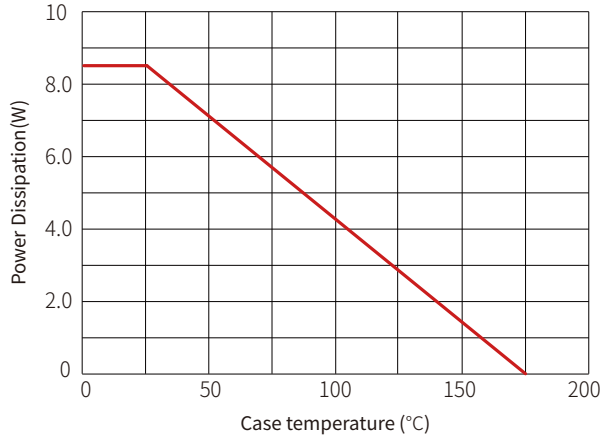


Figure 2: Load Dump Power Characteriscs

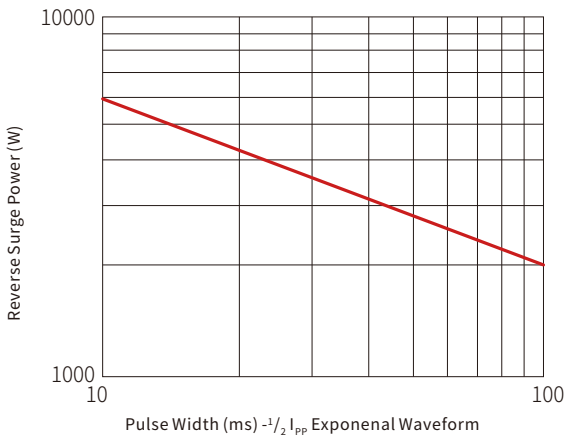


Figure 3: Pulse waveform

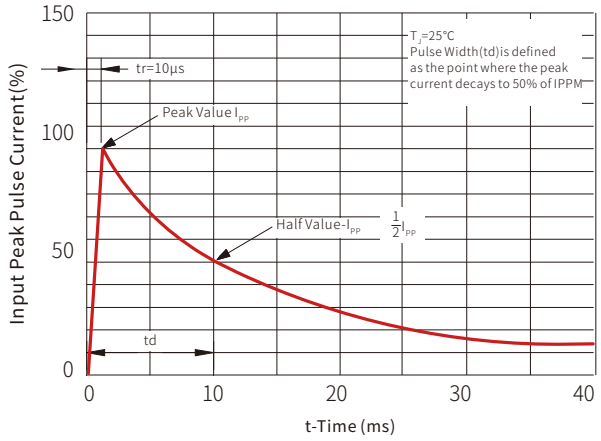
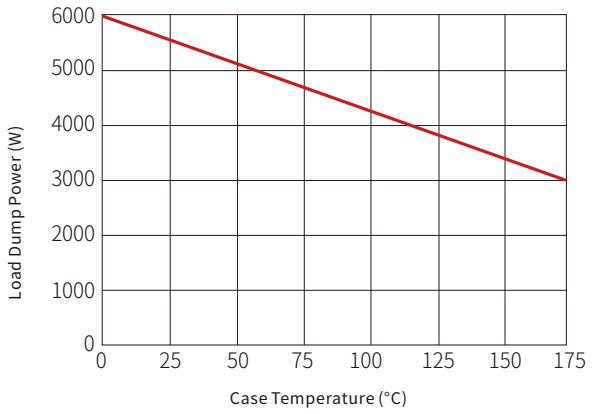
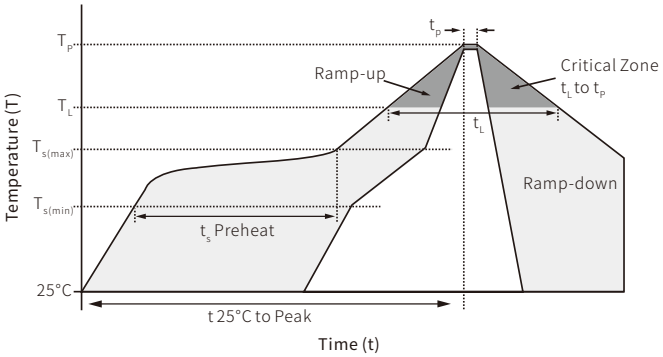


Figure 4: Reverse power capability

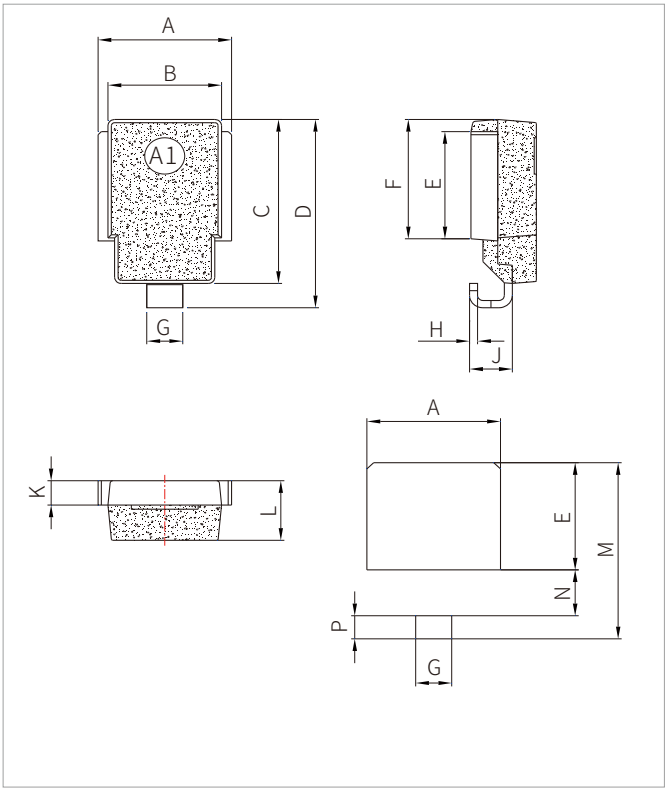


SOLDERING PARAMETERS

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 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°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C



DO-218AB PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	9.5	10.5	0.374	0.413
B	8.3	8.7	0.327	0.342
C	13.3	13.7	0.524	0.539
D	15.0	16.0	0.592	0.628
E	8.5	9.1	0.335	0.358
F	9.5	10.1	0.374	0.398
G	2.4	3.0	0.094	0.118
H	0.5	0.7	0.020	0.028
J	2.7	3.7	0.106	0.146
K	1.9	2.1	0.075	0.083
L	4.7	5.1	0.185	0.201
M	14.2	14.8	0.559	0.583
N	3.5	4.1	0.138	0.161
P	1.6	2.2	0.063	0.087

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SM8TxxCA	DO-218AB	750PCS	13”

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