

Features

- RoHS compliant junction passivation
- SM15SxxA available in Uni-directional polarity only
- SM15SxxCA available in Bi-directional polarity only
- Low leakage current
- Low forward voltage drop
- Compliant to Halogen-free



DO-218AB

Mechanical Characteristics

- Package: DO-218AB
- Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102, HE3 suffix meets JESD 201 class 2 whisker test.
- Polarity: Heatsink is anode.

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation with 10/1000us waveform	P_{PPM}	15000	W
Peak pulse current on 8/20us waveform	I_{PPM}	1000	A
Power dissipation on infinite heatsink at $T_C = 25^{\circ}\text{C}$ (fig.1)	P_D	8.0	W
Peak pulse current with 10/1000us waveform	$I_{PPM}^{(1)}$	See next table	A
Peak forward surge current 8.3ms single half sine-wave	I_{FSM}	100	A
Maximum instantaneous forward voltage at 100A (Only Uni-directional)	$V_F^{(2)}$	5.0	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +175	$^{\circ}\text{C}$

Notes

⁽¹⁾ Non-repetitive current pulse derated above $T_A = 25^{\circ}\text{C}$

⁽²⁾ Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

Electrical Characteristics ($T_C=25^{\circ}\text{C}$, unless otherwise noted)

DEVICE TYPE	BREAKDOWN VOLTAGE V_{BR} (V)			TEST CURRENT I_T (mA)	STAND-OFF VOLTAGE V_{WM} (V)	MAXIMUM REVERSE LEAKAGE AT V_{WM} I_D (μA)	MAXIMUM REVERSE LEAKAGE AT V_{WM} $T_J = 175^{\circ}\text{C}$ I_D (μA)	MAX. PEAK PULSE CURRENT AT 10/1000 μs WAVEFORM (A)	MAXIMUM CLAMPING VOLTAGE AT I_{PPM} V_C (V)
	MIN.	NOM.	MAX.						
SM15S10(C)A	11.1	11.7	12.3	5.0	10.0	200	150	882	17.0
SM15S11(C)A	12.2	12.9	13.5	5.0	11.0	200	150	824	18.2
SM15S12(C)A	13.3	14.0	14.7	5.0	12.0	200	150	754	19.9
SM15S13(C)A	14.4	15.2	15.9	5.0	13.0	200	150	698	21.5
SM15S14(C)A	15.6	16.4	17.2	5.0	14.0	200	150	647	23.2
SM15S15(C)A	16.7	17.6	18.5	5.0	15.0	200	150	615	24.4
SM15S16(C)A	17.8	18.8	19.7	5.0	16.0	200	150	577	26.0
SM15S17(C)A	18.9	19.9	20.9	5.0	17.0	200	150	543	27.6
SM15S18(C)A	20.0	21.1	22.1	5.0	18.0	200	150	514	29.2
SM15S20(C)A	22.2	23.4	24.5	5.0	20.0	10	150	463	32.4
SM15S22(C)A	24.4	25.7	26.9	5.0	22.0	10	150	423	35.5
SM15S24(C)A	26.7	28.1	29.5	5.0	24.0	10	150	386	38.9
SM15S26(C)A	28.9	30.4	31.9	5.0	26.0	10	150	356	42.1
SM15S28(C)A	31.1	32.8	34.4	5.0	28.0	10	150	330	45.4
SM15S30(C)A	33.3	35.1	36.8	5.0	30.0	10	150	310	48.4
SM15S33(C)A	36.7	38.7	40.6	5.0	33.0	10	150	281	53.3
SM15S36(C)A	40.0	42.1	44.2	5.0	36.0	10	150	258	58.1
SM15S40(C)A	44.4	46.8	49.1	5.0	40.0	10	150	233	64.5
SM15S43(C)A	47.8	50.3	52.8	5.0	43.0	10	150	216	69.4
SM15S45(C)A	50.0	52.7	55.3	5.0	45.0	10	150	206	72.7
SM15S48(C)A	53.3	56.1	58.9	5.0	48.0	10	150	194	77.4
SM15S51(C)A	56.7	59.7	62.7	5.0	51.0	10	150	182	82.4
SM15S54(C)A	60.0	63.1	66.3	5.0	54.0	10	150	172	87.1
SM15S58(C)A	64.4	67.8	71.2	5.0	58.0	10	150	160	93.6
SM15S60(C)A	66.7	70.2	73.7	5.0	60.0	10	150	155	96.8
SM15S64(C)A	71.1	74.9	78.6	5.0	64.0	10	150	146	103
SM15S70(C)A	77.8	81.9	86.0	5.0	70.0	10	150	133	113
SM15S75(C)A	83.3	87.7	92.1	5.0	75.0	10	150	124	121
SM15S78(C)A	86.7	91.3	95.8	5.0	78.0	10	150	119	126
SM15S85(C)A	94.4	99.2	104.0	5.0	85.0	10	150	109	137

Ratings and Characteristics Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 - Power Derating Curve

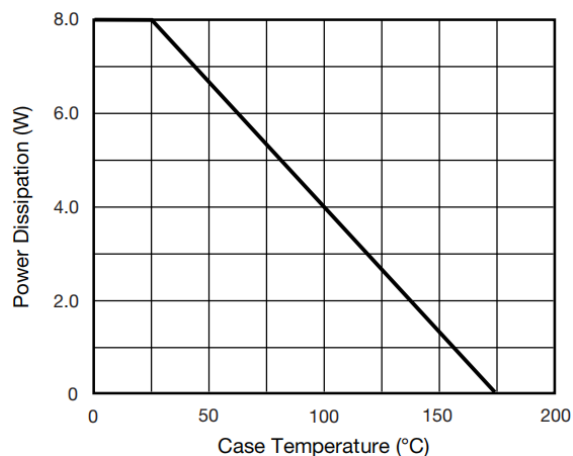


Fig. 2 - Peak Power Dissipation

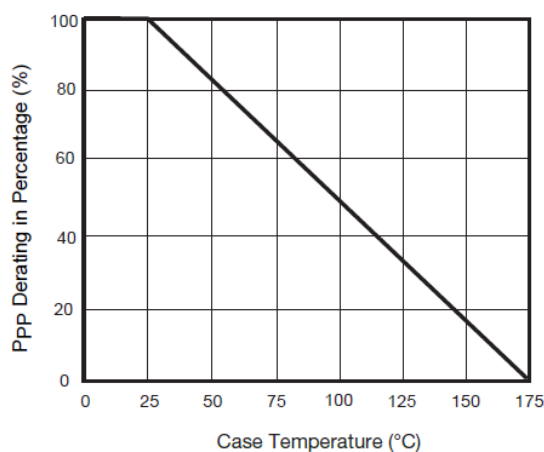


Fig. 3 - Pulse Waveform

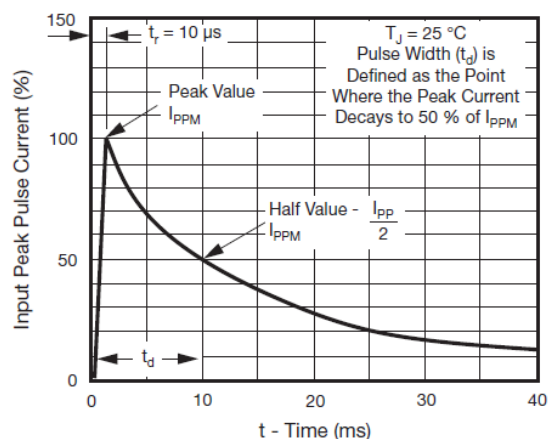
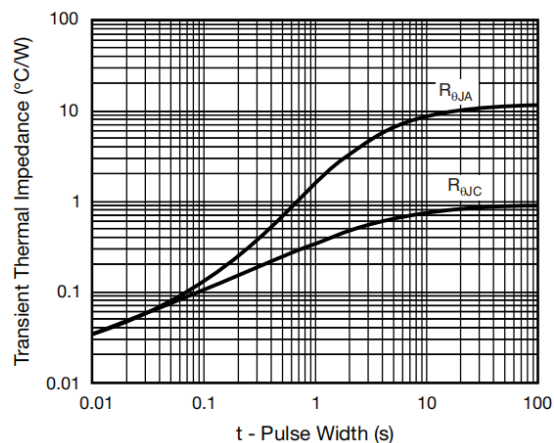
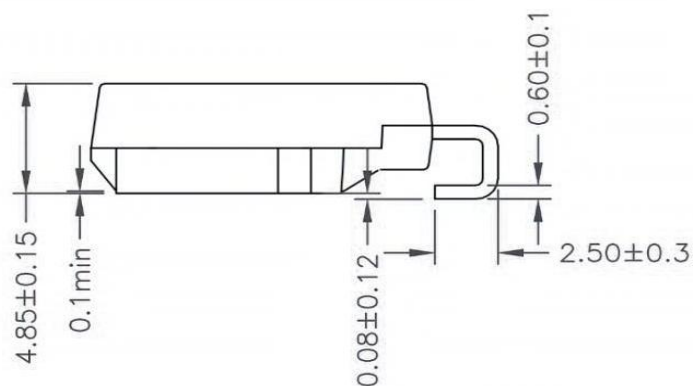
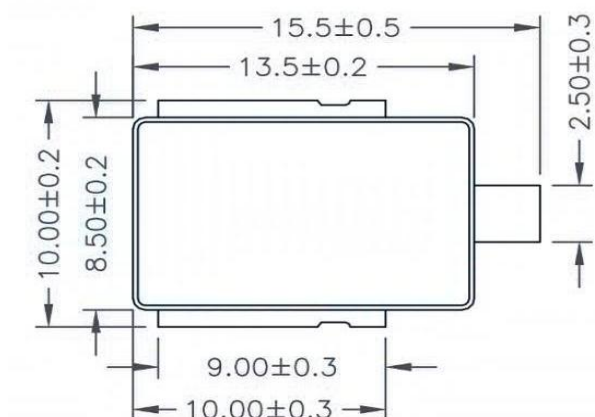


Fig. 4 - Typical Transient Thermal Impedance



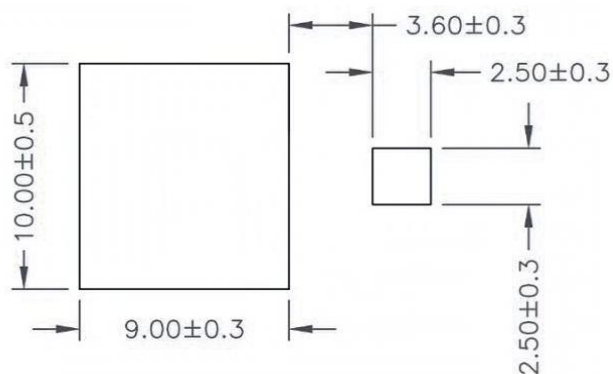
OUTLINE DIMENSIONS

DO-218AB



(millimeters)

MOUNTING PAD LAYOUT



(millimeters)