

MSB Plastic-Encapsulate Bridge Rectifier

Features:

- $I_{F(AV)}$ 3A
- V_{RRM} 1000V
- High surge current capability
- Glass passivated chip

Applications:

- General purpose 1 phase Bridge rectifier applications

Marking

- MSB310

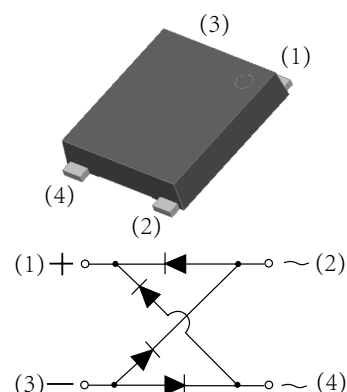
Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions		MSB310
Repetitive Peak Reverse Voltage	V_{RRM}	V			1000
Maximum RMS Voltage	V_{RMS}	V			700
Maximum DC Blocking Voltage	V_{DC}	V			1000
Average Rectified Output Current	I_O	A	60Hz sine wave, R-load, $T_a=100^{\circ}C$	On alumina substrate	3.0
Surge(Non-repetitive)Forward Current	I_{FSM}	A	8.3ms sine wave, 1 cycle, $T_j=25^{\circ}C$		100
Current Squared Time	I^2t	A^2S	$1ms \leq t < 8.3ms$ $T_j=25^{\circ}C$, Rating of per diode		41
Operation Junction and Storage Temperature Range	T_J, T_{stg}	$^{\circ}C$			-55 ~ +150

Electrical Characteristics (T=25°C Unless otherwise specified)

Item	Symbol	Unit	Test Condition		Max
Maximum Peak Forward Voltage	V_{FM}	V	$I_{FM}=3.0A$, Pulse measurement, Rating of per diode		0.98
Maximum Reverse Recovery Time	T_{RR}	ns	Measured with $I_F=0.5A, I_R=1A, I_{RR}=0.25A$		5000
Maximum Peak Reverse Current	I_{RRM1}	μA	$V_{RM}=V_{RRM}$, Pulse measurement, Rating of per diode	$T_A=25^{\circ}C$	5.0
	I_{RRM2}	μA		$T_A=125^{\circ}C$	500
Thermal Resistance	$R_{\theta J-A}$	$^{\circ}C/W$	Between junction and ambient, On alumina substrate		55
	$R_{\theta J-L}$		Between junction and lead		15
	$R_{\theta J-C}$		Between junction and case		10

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Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

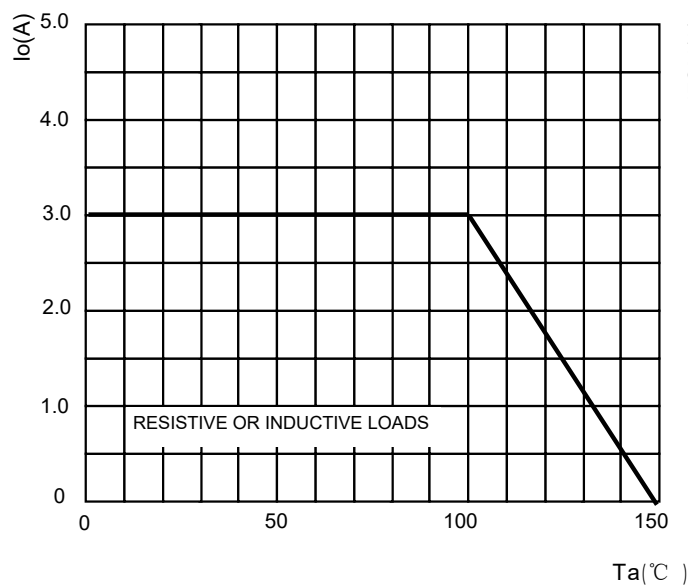


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

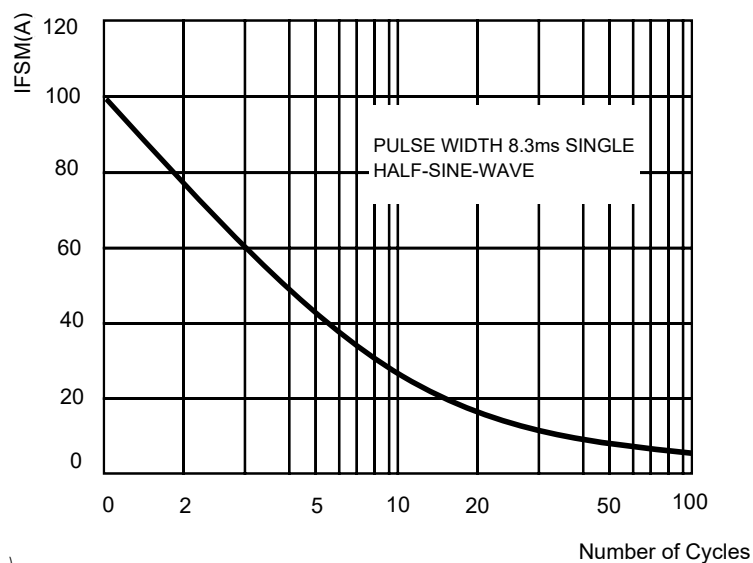


FIG.3: TYPICAL FORWARD CHARACTERISTICS

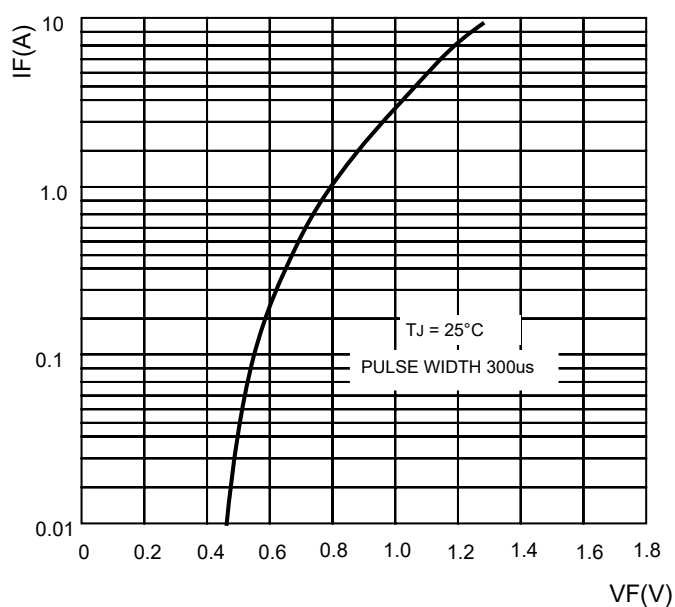
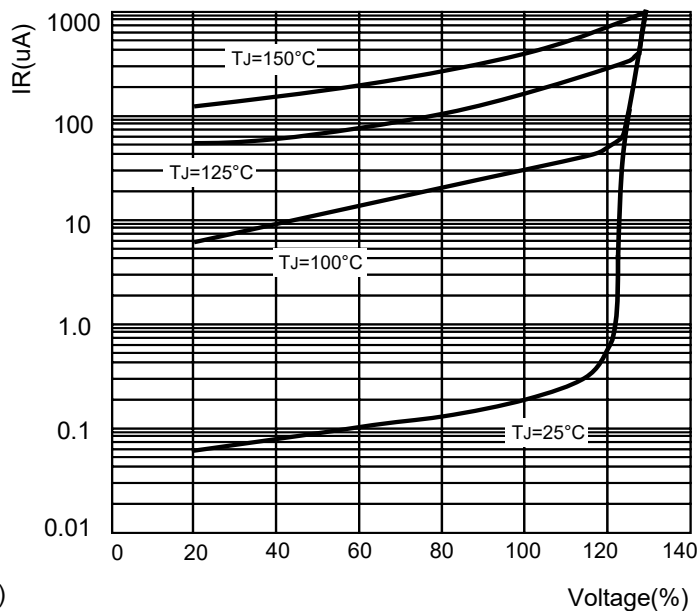
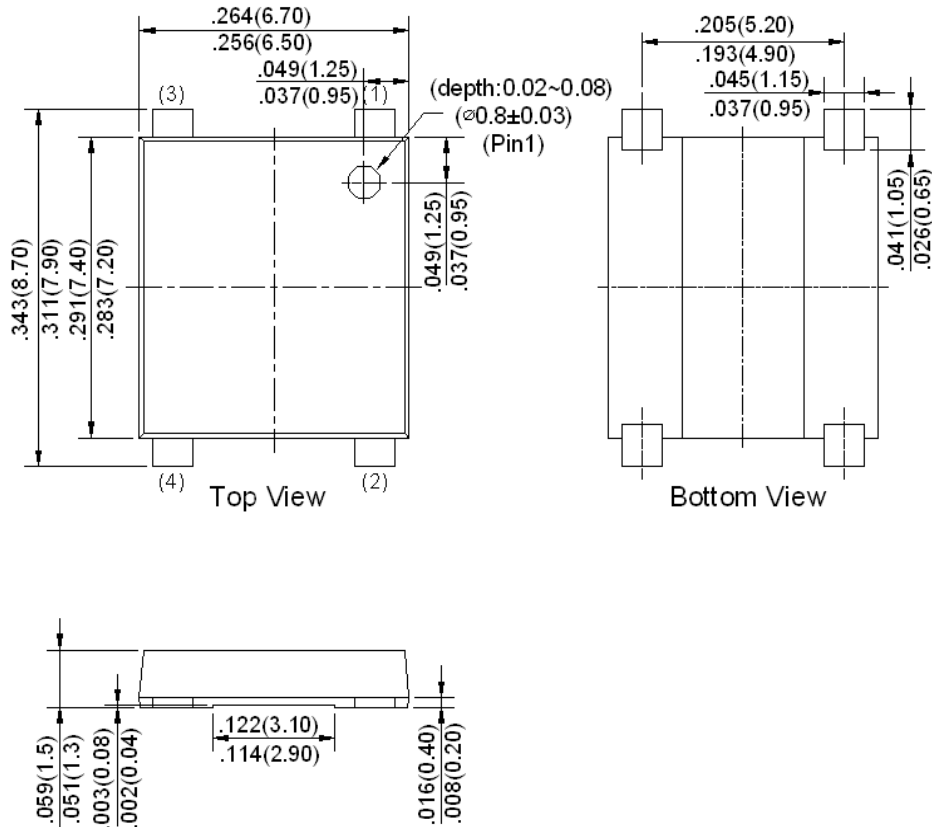


FIG.4: TYPICAL REVERSE CHARACTERISTICS

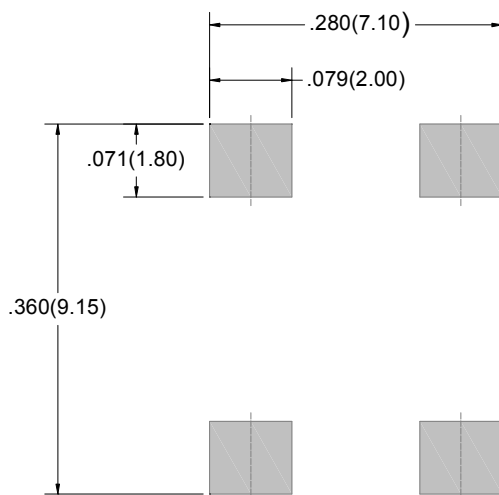


MSB Package Outline Dimensions



Dimensions in inches and (millimeters)

MSB Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.