



MSB Plastic-Encapsulate Bridge Rectifier

MSB410 Bridge Rectifier

Features

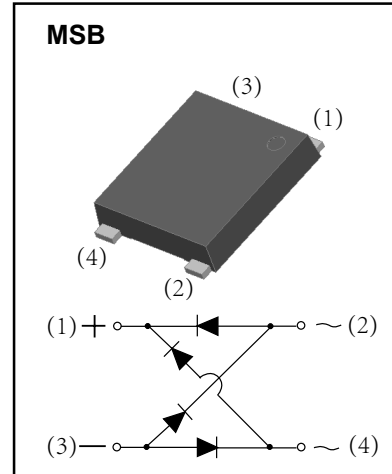
- $I_{F(AV)}$ 4A
- V_{RRM} 1000V
- High surge current capability
- Glass passivated chip

Applications

- General purpose 1 phase Bridge rectifier applications

Marking

- MSB410



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	MSB410
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, $T_a=100^\circ\text{C}$ On alumina substrate	4.0
Surge(Non-repetitive)Forward Current	I_{FSM}	A	8.3ms sine wave, 1 cycle, $T_j=25^\circ\text{C}$	150
Current Squared Time	I^2t	A^2S	$1\text{ms} \leq t < 8.3\text{ms}$ $T_j=25^\circ\text{C}$, Rating of per diode	41.5
Operation Junction and Storage Temperature Range	T_J, T_{stg}	$^\circ\text{C}$		-55 ~+150

Electrical Characteristics ($T=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Test Condition	Max	
Maximum Peak Forward Voltage	V_{FM}	V	$I_{FM}=4.0\text{A}$, Pulse measurement, Rating of per diode	0.98	
Maximum Reverse Recovery Time	T_{RR}	ns	Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{RR}=0.25\text{A}$	5000	
Maximum Peak Reverse Current	I_{RRM1}	μA	$V_{RM}=V_{RRM}$, Pulse measurement, Rating of per diode	$T_A=25^\circ\text{C}$	5.0
	I_{RRM2}	μA		$T_A=125^\circ\text{C}$	500
Thermal Resistance	$R_{\theta J-A}$	$^\circ\text{C/W}$	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	

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

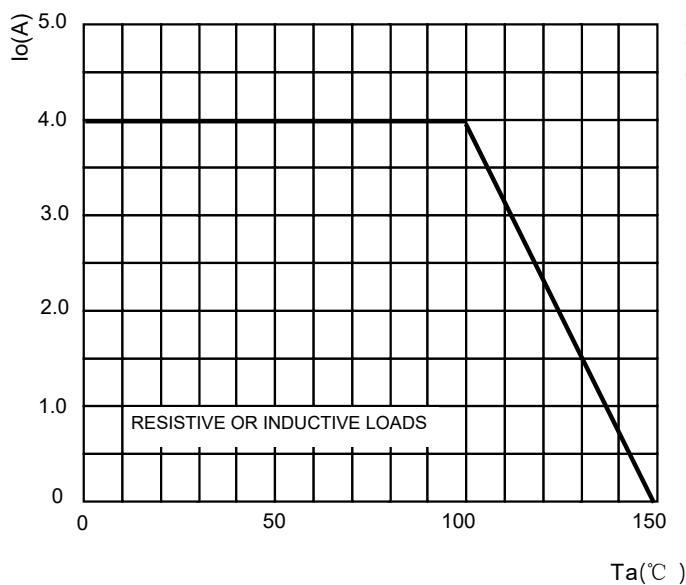


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

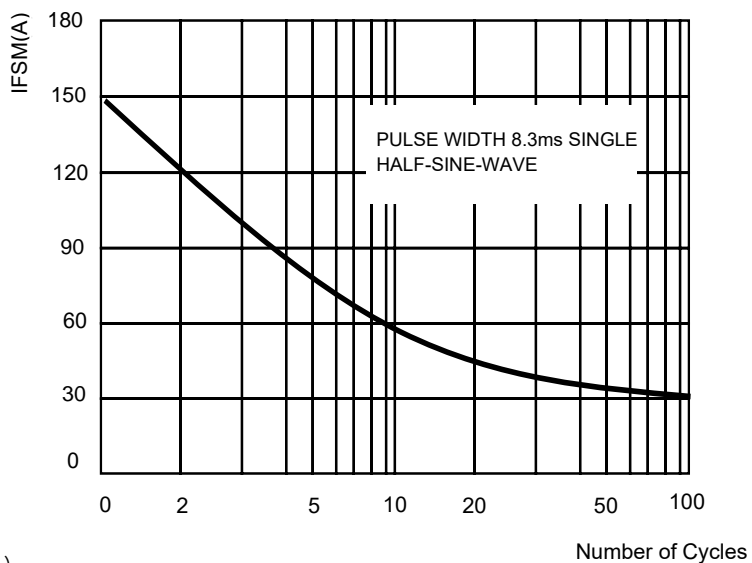


FIG.3: TYPICAL FORWARD CHARACTERISTICS

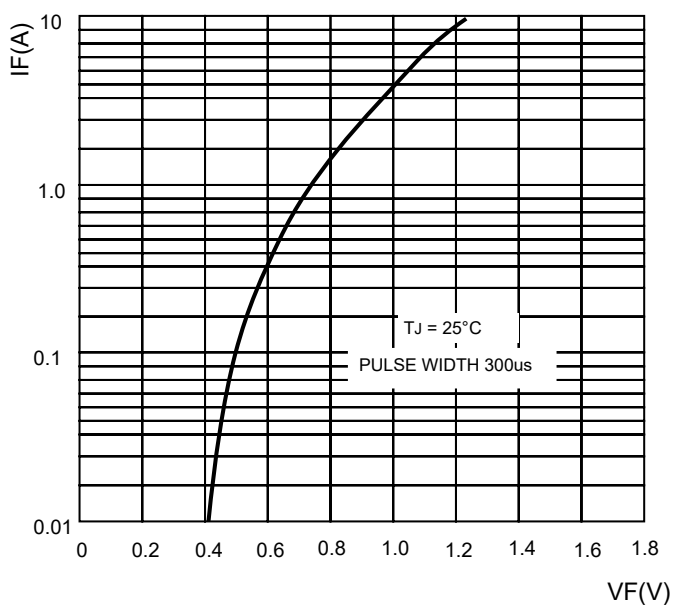
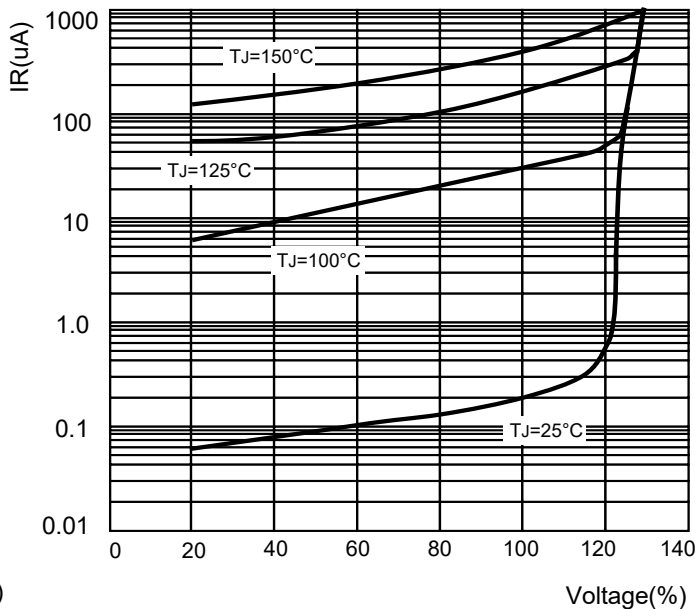
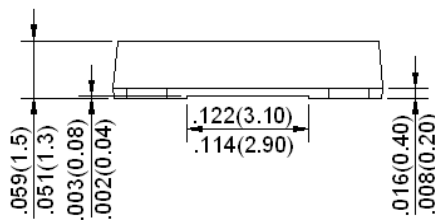
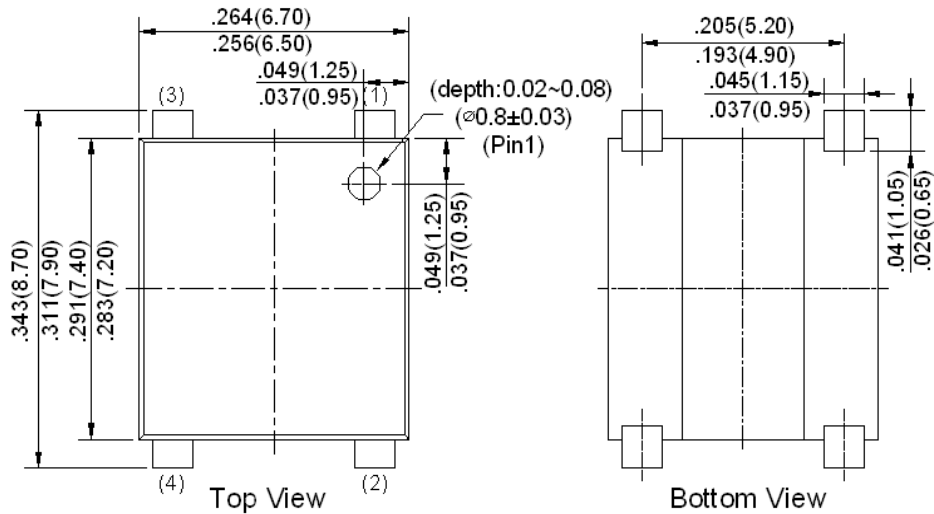


FIG.4: TYPICAL REVERSE CHARACTERISTICS

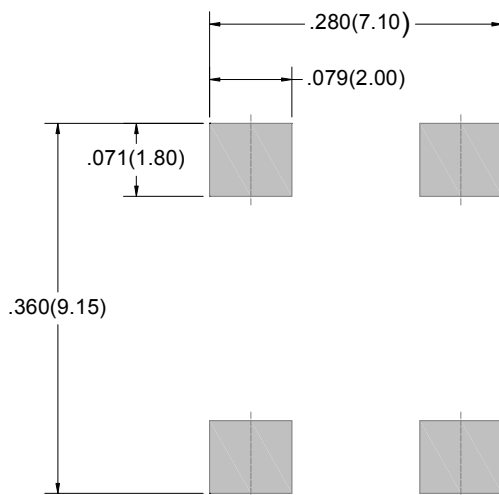


UMSB Package Outline Dimensions



Dimensions in inches and (millimeters)

UMSB Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.