

# MSB Plastic-Encapsulate Bridge Rectifier

## Bridge Rectifier

### Features:

- $I_{F(AV)}$  6A
- $V_{RRM}$  1000V
- High surge current capability
- Glass passivated chip

### Application's

- General purpose 1 phase Bridge rectifier applications

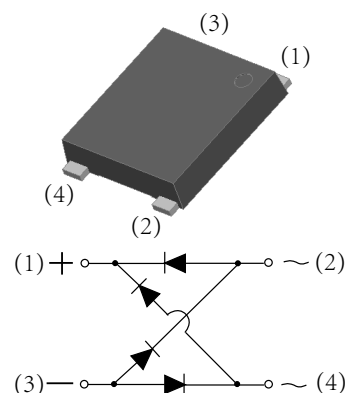
### Marking

- MSB610

### Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	MSB610
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	6.0
Surge(Non-repetitive)Forward Current	$I_{FSM}$	A	8.3ms sine wave, 1 cycle, $T_j=25^\circ\text{C}$	150
Current Squared Time	$I^2t$	$\text{A}^2\text{S}$	$1\text{ms} \leq t < 8.3\text{ms}$ $T_j=25^\circ\text{C}$ , Rating of per diode	45
Operation Junction and Storage Temperature Range	$T_j, T_{stg}$	$^\circ\text{C}$		-55 ~+150

**MSB**



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

Item	Symbol	Unit	Test Condition	Max	
Maximum Peak Forward Voltage	$V_{FM}$	V	$I_{FM}=6.0\text{A}$ , 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	$I_{RRM1}$	$\mu\text{A}$	$V_{RM}=V_{RRM}$ , Pulse measurement, Rating of per diode	$T_A=25^\circ\text{C}$	5.0
	$I_{RRM2}$	$\mu\text{A}$		$T_A=125^\circ\text{C}$	500
Thermal Resistance	$R_{\theta J-A}$	$^\circ\text{C}/\text{W}$	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

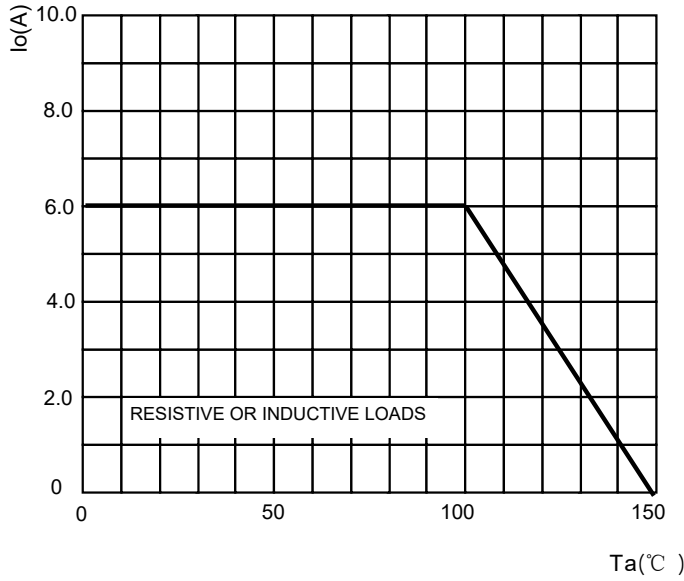


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

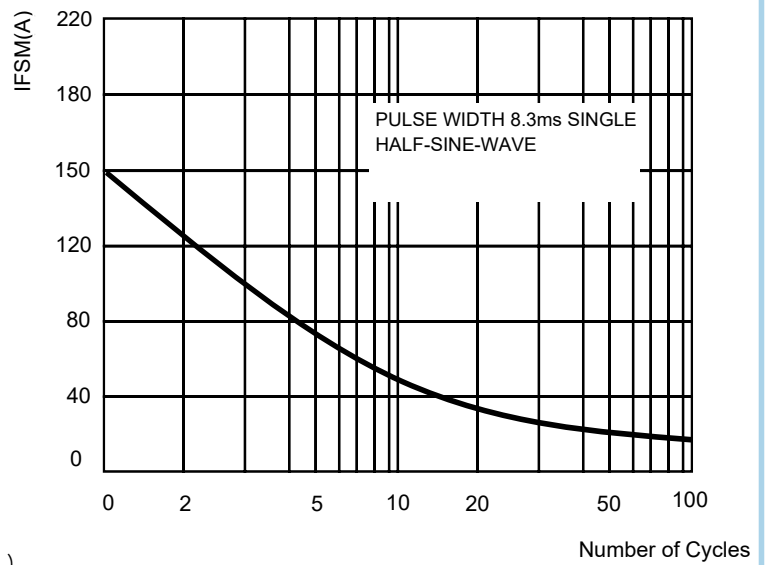


FIG.3: TYPICAL FORWARD CHARACTERISTICS

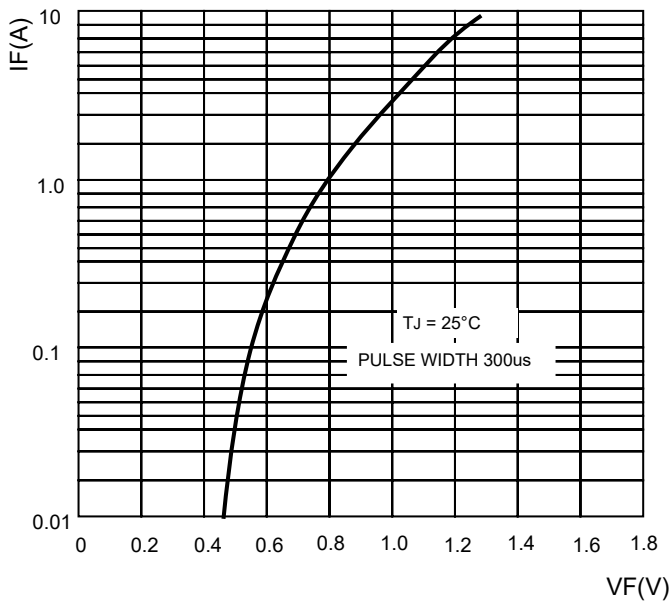
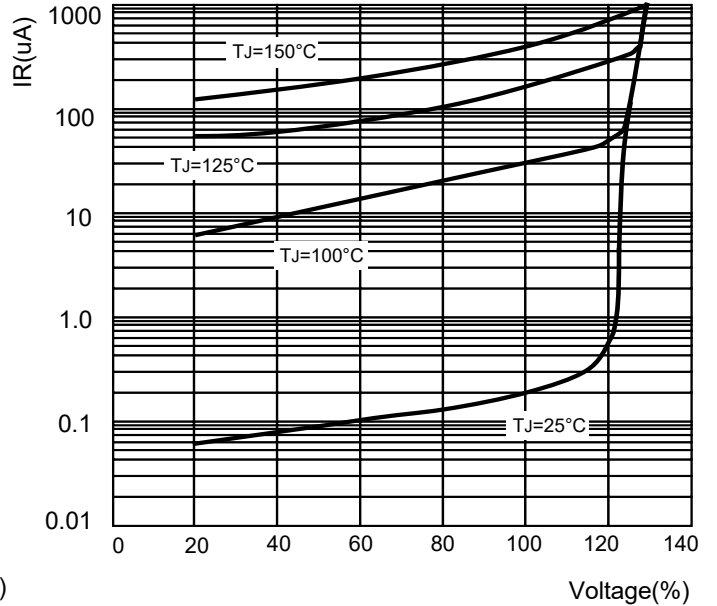
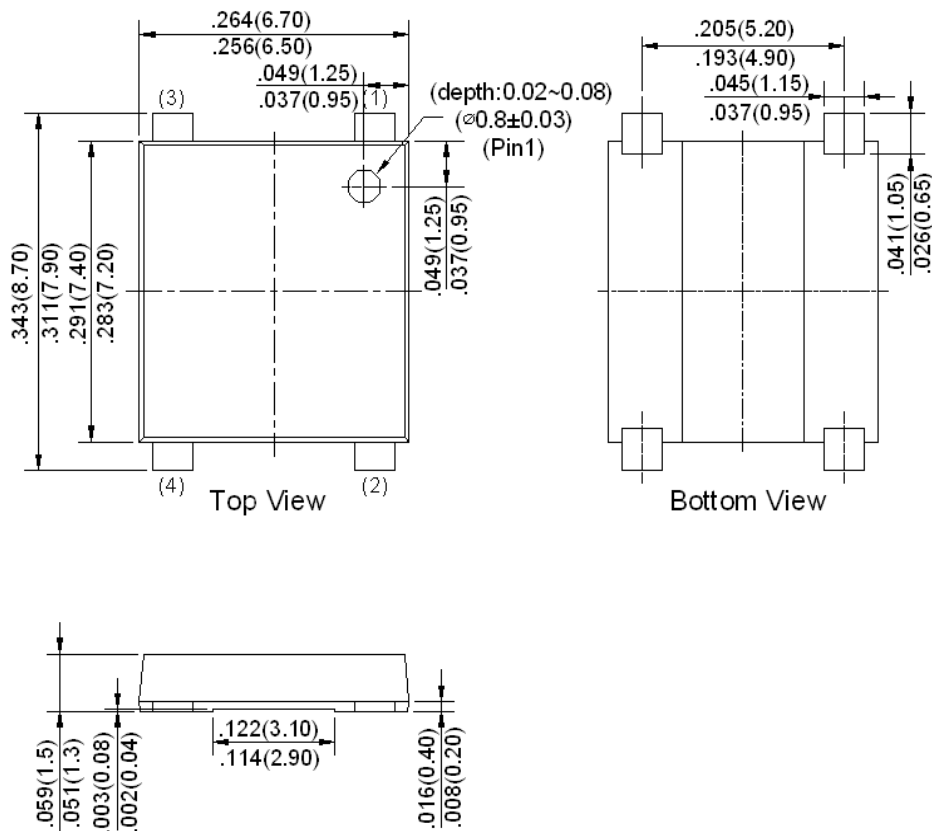


FIG.4: TYPICAL REVERSE CHARACTERISTICS

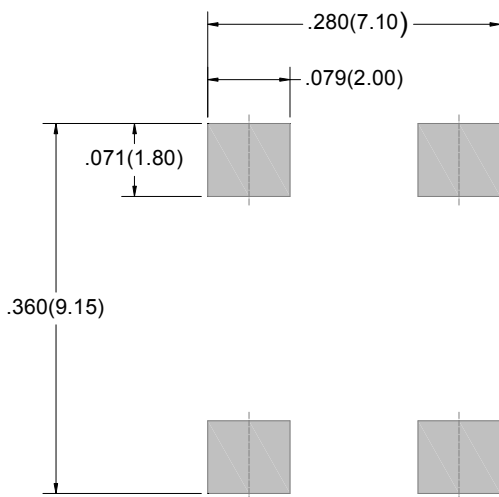


### UMSB Package Outline Dimensions



Dimensions in inches and (millimeters)

### UMSB Suggested Pad Layout



**Note:**

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