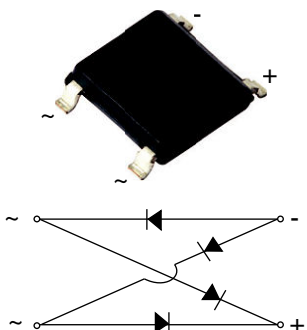


Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifier



Case Style (MBLS)



RoHS
COMPLIANT
HALOGEN
FREE

FEATURES

- UL recognition file number E54214
- Low profile - typical height of 1.4 mm
- Ideal for automated placement
- High surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for power supply, lighting ballaster, battery charger, home appliances, office equipment, and telecommunication applications.

MECHANICAL DATA

Case: MBLS

Epoxy meets UL 94 V-0 flammability rating

Base P/N-M3 - halogen-free, RoHS-compliant, and commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

M3 suffix, meets JESD 201 class 1A whisker test

Polarity: As marked on body

PRIMARY CHARACTERISTICS	
Package	MBLS
$I_{F(AV)}$	1.0 A
V_{RRM}	400 V, 600 V, 800 V, 1000 V
I_{FSM}	30 A
I_R	5 μ A
V_F at $I_F = 0.4$ A	0.95 V
T_J max.	150 °C
Diode variations	Quad

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)						
PARAMETER	SYMBOL	MBL104S	MBL106S	MBL108S	MBL110S	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	400	600	800	1000	V
Maximum average forward output rectified current (fig. 1, fig. 2)	$I_{F(AV)}^{(1)}$	1.0				A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	30				A
Rating for fusing ($t < 8.3$ ms)	I^2t	3.0				A ² s
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150				°C

Note

⁽¹⁾ Device mounted on 0.47" x 0.47" (12 mm x 12 mm) copper pad areas, 1 oz. PCB

**ELECTRICAL CHARACTERISTICS** ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	MBL104S	MBL106S	MBL108S	MBL110S	UNIT
Maximum instantaneous forward voltage drop per diode	I _F = 0.4 A	T _A = 25 °C	V _F ⁽¹⁾	0.95				V
Maximum DC reverse current per diode	Rated V _R	T _A = 25 °C	I _R ⁽²⁾	5				μA
		T _A = 125 °C		500				

Notes

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
(2) Pulse test: Pulse width $\leq 40\text{ ms}$

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	MBL104S	MBL106S	MBL108S	MBL110S	UNIT
Typical thermal resistance ⁽¹⁾	R _{θJA}	72				°C/W
	R _{θJL}	25				

Note

- (1) Device mounted on 0.47" x 0.47" (12 mm x 12 mm) copper pad areas, 1 oz. PCB

ORDERING INFORMATION (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
MBL106S-M3/I	0.136	I	4000	13" diameter plastic tape and reel

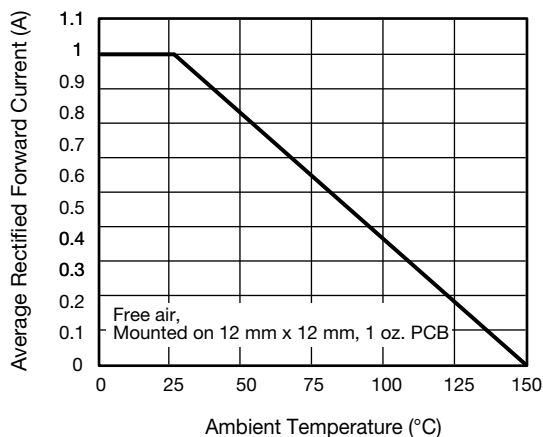
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Fig. 1 - Derating Curve for Output Rectified Current

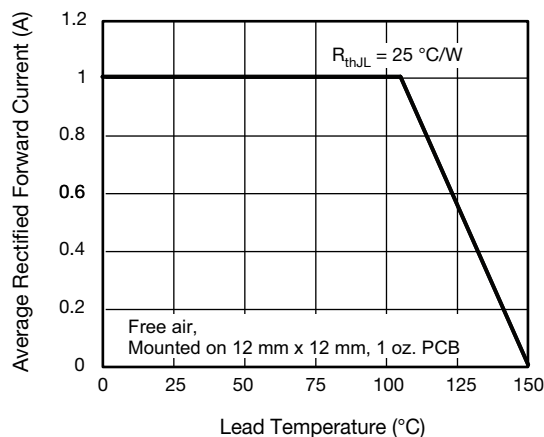


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

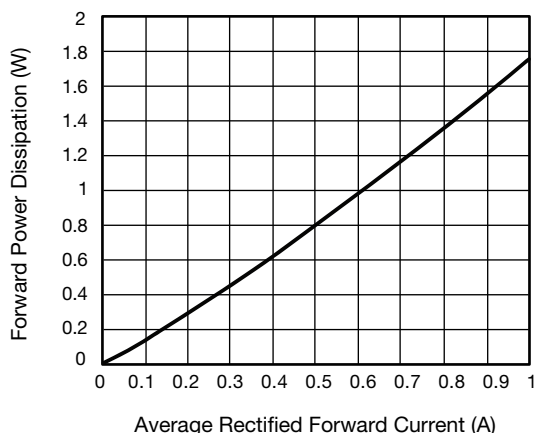


Fig. 3 - Forward Power Dissipation

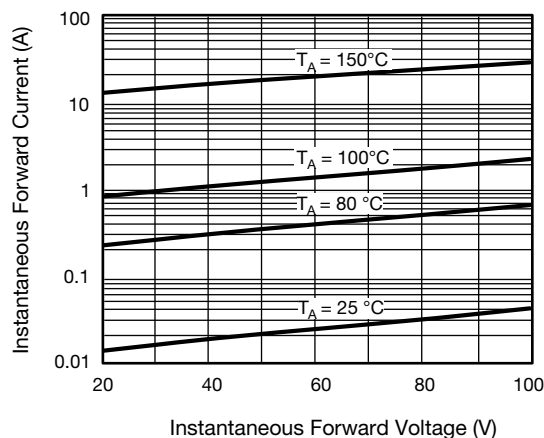


Fig. 5 - Typical Reverse Characteristics Per Diode

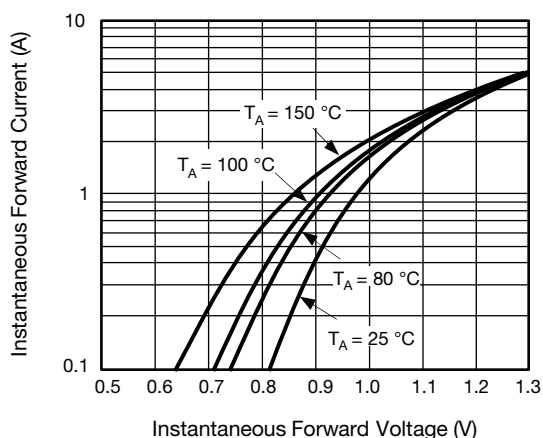


Fig. 4 - Typical Instantaneous Forward Characteristics Per Diode

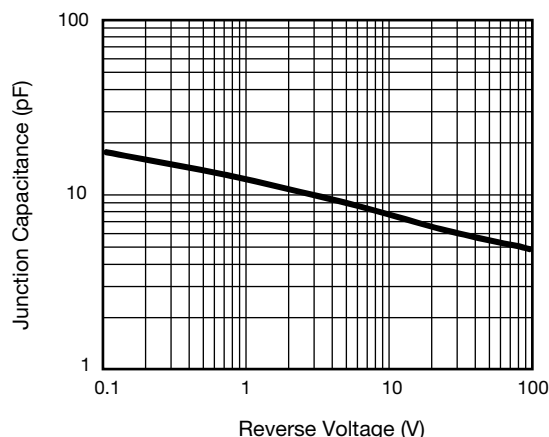
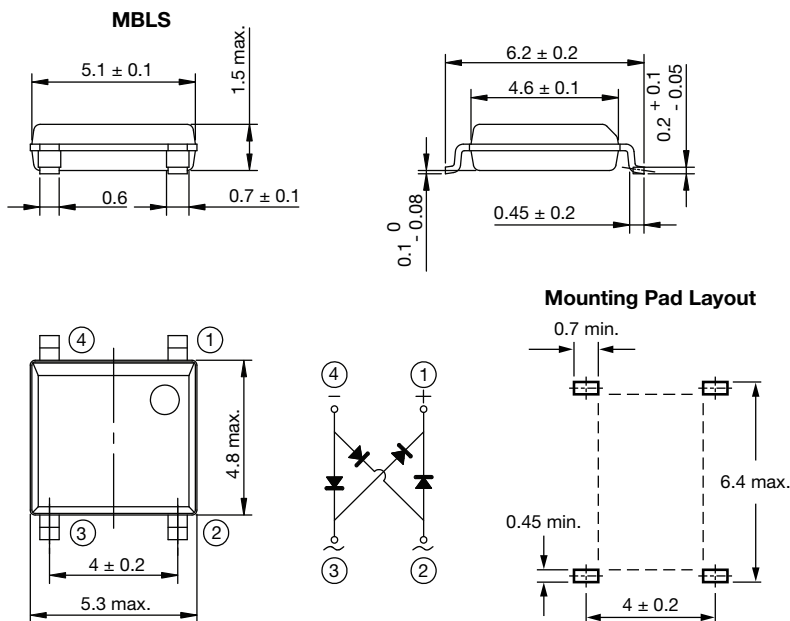


Fig. 6 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in millimeters





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