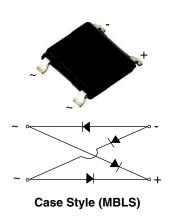
MBL104S, MBL106S, MBL108S, MBL110S

Vishay General Semiconductor

HALOGEN

FREE

Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifier



PRIMARY CHARACTERISTICS					
Package	MBLS				
I _{F(AV)} 1.0 A					
V _{RRM} 400 V, 600 V, 800 V, 1000					
I _{FSM}	30 A				
I _R	5 μΑ				
V _F at I _F = 0.4 A	0.95 V				
T _J max.	150 °C				
Diode variations	Quad				

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 <u>www.vishay.com/doc?99912</u>

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

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)		А				
Peak forward surge current single sine-wave superimposed on rated load	I _{FSM}	30				А	
Rating for fusing (t < 8.3 ms)	l ² t	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

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS SYMBOL MBL104S MBL106S MBL108S MBL110		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	Rated V _R	T _A = 25 °C	= 25 °C I _B ⁽²⁾		5			μA
per diode	naieu v _R	T _A = 125 °C	iR ^(−)	500			μΑ	

Notes

(1) Pulse test: 300 µs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T _A = 25 °c unless otherwise noted)						
PARAMETER	METER SYMBOL MBL104S MBL106S MBL108S MBL110S UNIT					
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	72				°C/W
Typical mermal resistance (9)	$R_{\theta JL}$	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 °C unless otherwise noted)

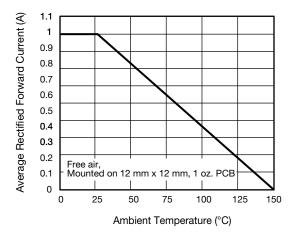


Fig. 1 - Derating Curve for Output Rectified Current

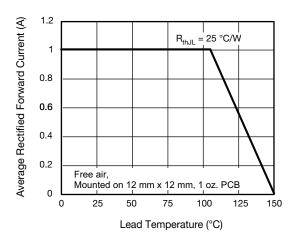


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode



100



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= 150°C

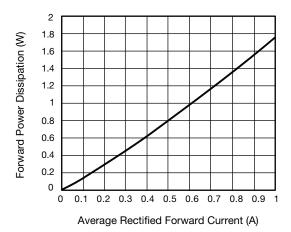
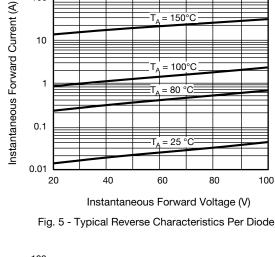


Fig. 3 - Forward Power Dissipation



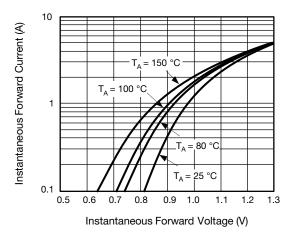


Fig. 4 - Typical Instantaneous Forward Characteristics Per Diode

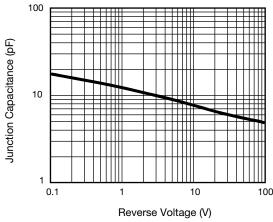
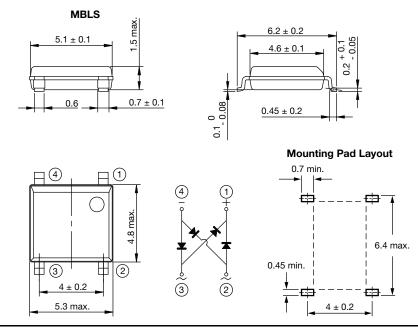


Fig. 6 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in millimeters





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