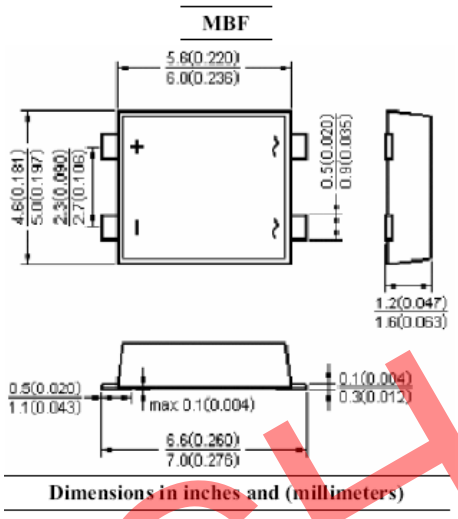
MBF005 THRU MBF10

Single-Phase Glass Passivated Silicon Bridge Rectifier

Reverse Voltage - 50 to 1000 V

Forward Current – 0.5 A



Features

- Glass passivated chip junction
- Low forward voltage drop
- Low leakage current
- Ideal for printed circuit board

Mechanical Data

- Case: Molded plastic, MBF
- Terminals: Solder plated, solderable per J-STD-002B and JESD22-B102D
- Mounting position: Polarity symbols marked on body

Absolute Maximum Ratings and Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	MBF005	MBF01	MBF02	MBF04	MBF06	MBF08	MBF10	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T_A = 30 °C on Glass-epoxy P.C.B [1] on Aluminum Substrate [2]	$I_{F(AV)}$	0.5 0.8							A
Peak Forward Surge Current 8.3 ms Single Half-sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30							A
Maximum Forward Voltage at 0.4 A	V_F	1							V
Maximum Reverse Current at Rated DC Blocking Voltage at T_A = 25 °C at T_A = 125 °C	I_R	5 100							μA
Typical Junction Capacitance [3]	C_J	13							pF
Typical Thermal Resistance [1, 2]	$R_{\theta JA}$	85 70							°C/W
Typical Thermal Resistance [1]	$R_{\theta JL}$	20							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150							°C

[1] On glass epoxy P.C.B. mounted on 0.05" X 0.05" (1.3 X1.3 mm) pads

[1] On aluminum substrate P.C.B. with an area of 0.8 " X 0.8" (20 X 20mm) mounted

[3] Measured at 1 MHz and applied reverse voltage of 4 V

Fig.1 Derating Curve For Output Rectified Current

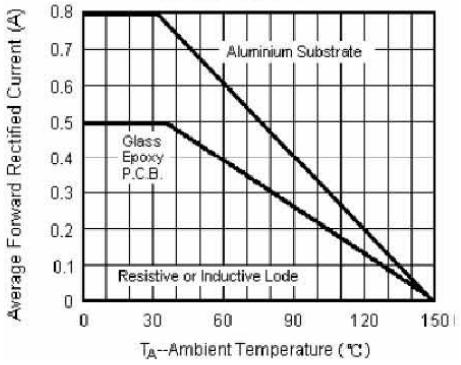


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current Per Leg

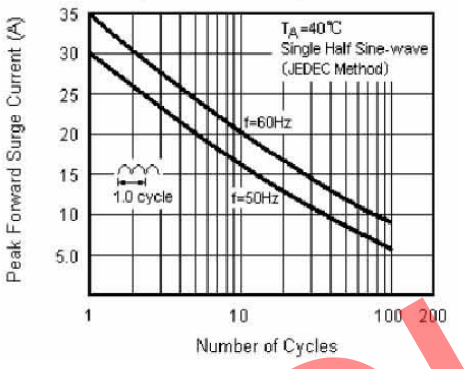


Fig.3 Typical Forward Voltage Characteristics Per Leg

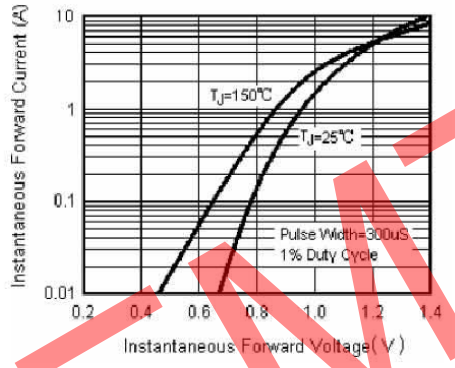


Fig.4 Typical Reverse Leakage Characteristics Per Leg

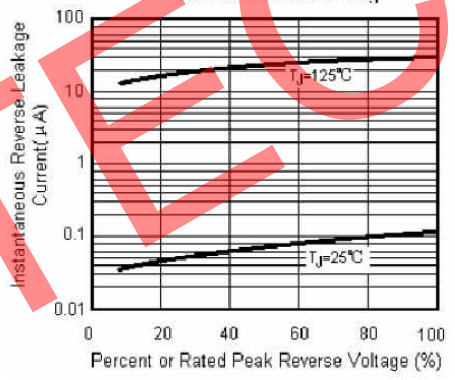


Fig.5 Typical Junction Capacitance Per Leg