



MB05S – MB10S

SURFACE MOUNT BRIDGE RECTIFIERS

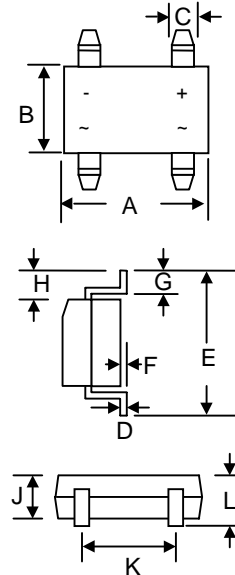
Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop
- High Current Capability
- High Surge Current Capability
- Designed for Surface Mount Application
- Plastic Material – UL Flammability 94V-O

Mechanical Data

- Case: MB-S, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Case
- Weight: 0.22 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version,**

MB-S



MB-S		
Dim	Min	Max
A	4.50	4.95
B	3.60	4.10
C	0.60	0.80
D	0.15	0.35
E	6.40	7.00
	—	0.20
G	0.50	1.10
H	1.30	1.70
J	2.30	2.70
K	2.30	2.70
L	—	3.00
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Characteristic	Symbo	MB05S	MB1S	MB2S	MB4S	MB6S	MB10S	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_R(RMS)$	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1) @ $T_A = 40^\circ C$ Average Rectified Output Current (Note 2) @ $T_A = 40^\circ C$	I_O	0.5 0.8						A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30						A
I^2t Rating for Fusing ($t < 8.3ms$)	I^2t	5.0						A ² s
Forward Voltage per element @ $I_F = 0.5A$	V_{FM}	1.0						V
Peak Reverse Current @ $T_A = 25^\circ C$ At Rated DC Blocking Voltage @ $T_A = 125^\circ C$	I_{RM}	5.0 500						μA
Typical Junction Capacitance per leg (Note 3)	C_j	13						pF
Typical Thermal Resistance per leg (Note 1)	$R_{\theta JA}$ $R_{\theta JL}$	70 20						$^\circ C/W$
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150						$^\circ C$

Note: 1. Mounted on glass epoxy PC board with 1.3mm² solder pad.
2. Mounted on aluminum substrate PC board with 1.3mm² solder pad.
3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.





MB05S – MB10S

SURFACE MOUNT BRIDGE RECTIFIERS

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

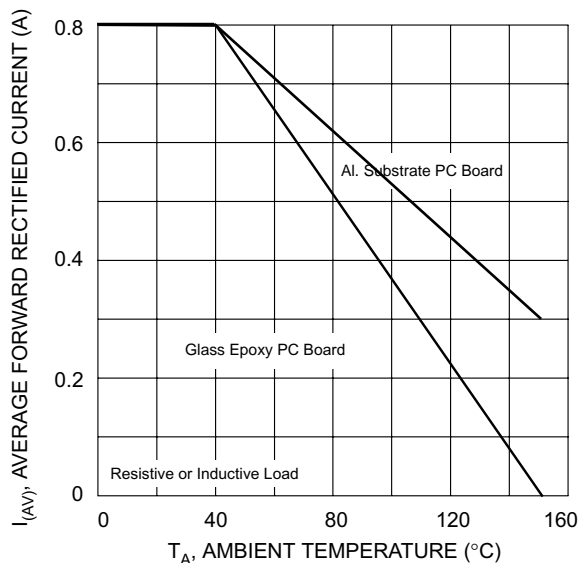


Fig. 1 Output Current Derating Curve

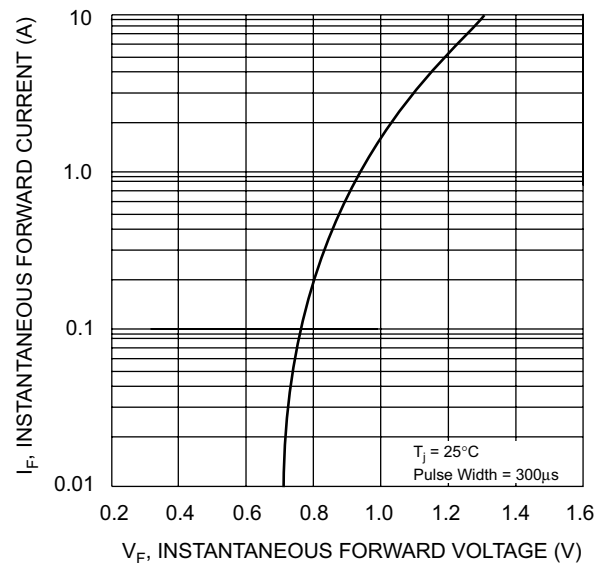


Fig. 2 Typical Forward Characteristics (per leg)

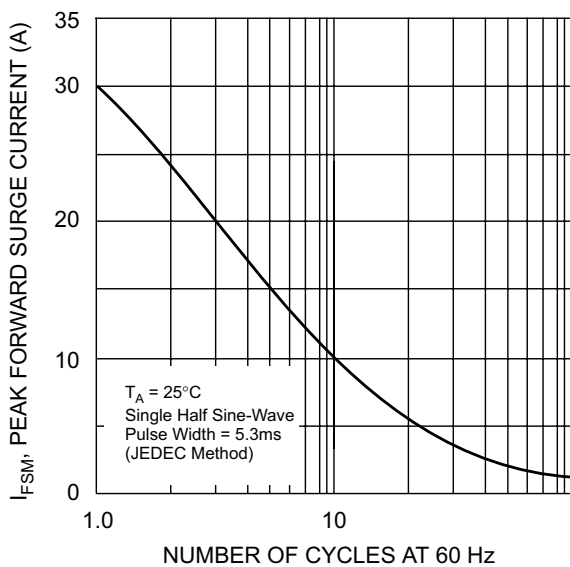


Fig. 3 Maximum Peak Forward Surge Current (per leg)

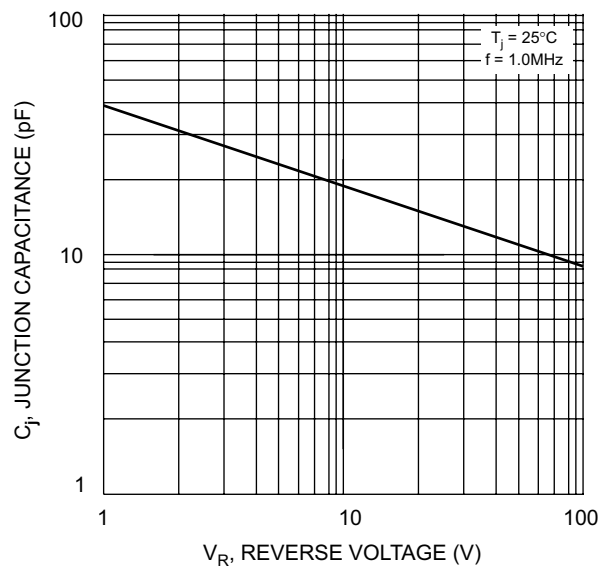


Fig. 4 Typical Junction Capacitance

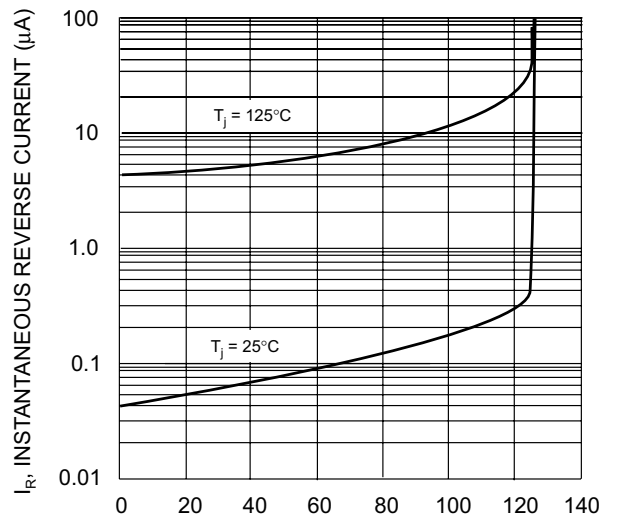


Fig. 5 Typical Reverse Characteristics (per element)