



MB10F

Rectifier bridge

Features

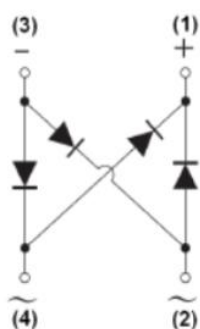
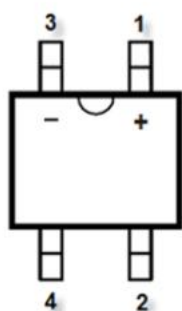
- ◆ Glass Passivated Chip Junction
- ◆ Reverse Voltage :1000V
- ◆ Forward Current :1A
- ◆ High Surge Current Capability
- ◆ Designed for Surface Mount Application
- ◆ Lead-Free Finish; RoHS Compliant
- ◆ Halogen and Antimony Free. “Green” Device



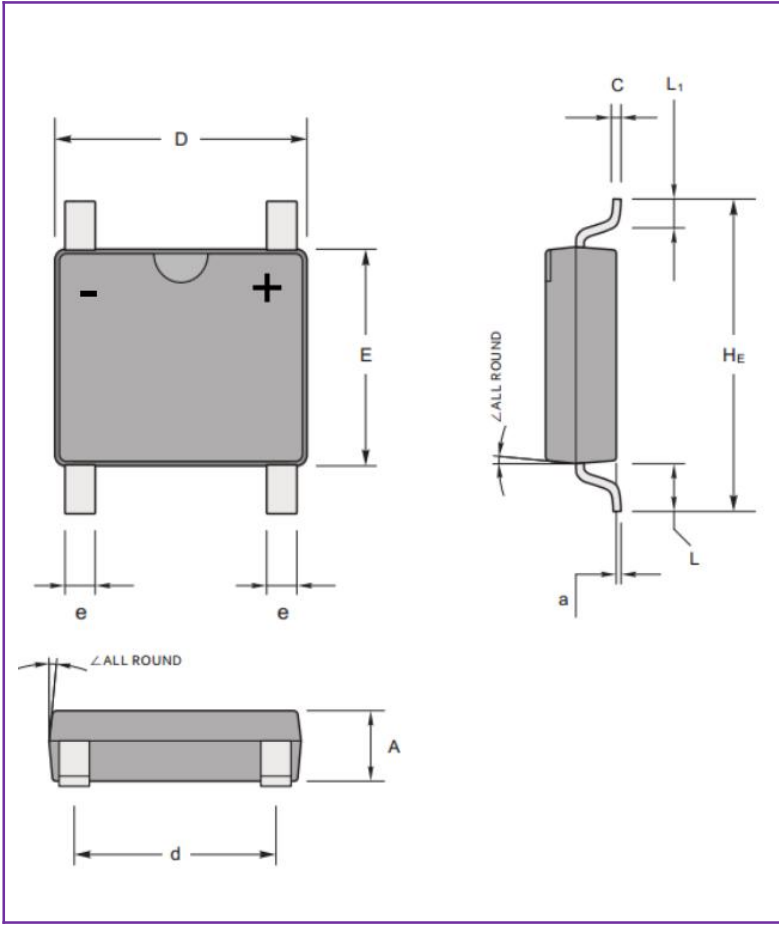
Mechanical Data

- ◆ Package: MBF
- ◆ Package Material: “Green” molding compound
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Weight: 75mg (Approximate)

Schematic



Dimensions (MBF)

	Symbol	Dimension	
		Millimeters	
		Min.	Max.
A		1.20	1.60
C		0.15	0.22
D		4.50	5.00
E		3.60	4.10
HE		6.40	7.00
d		2.30	2.70
e		0.50	0.80
L		1.30	1.70
L1		0.50	1.10
a		--	0.2
∠		7° TYP	

Maximum Ratings (Per Leg) at $T_A=25^{\circ}\text{C}$ unless otherwise specified

Characteristics		Symbol	Value	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	1000	V
Working peak reverse voltage		V_{RWM}	700	V
Maximum DC blocking voltage		V_{DC}	1000	V
Average rectified output current per device		$I_{(AV)}$	1	A
Peak forward surge current, 8.3 ms single half sine-wave		I_{FSM}	35	A
Maximum Forward Voltage Drop@ $I_F = 1\text{A}$		V_F	1.1	V
Typical Junction Capacitance(Note1)		C_J	13	pF
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A=25^{\circ}\text{C}$	I_R	5	μA
	$T_A=125^{\circ}\text{C}$		40	
Typical Thermal Resistance (Note2)		$R_{\theta JA}$	80	$^{\circ}\text{C}/\text{W}$
Operating junction and storage temperature range.		T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
2. Mounted on glass epoxy PC board with $4 \times 1.5'' \times 1.5''$ (3.81×3.81 cm) copper pad.

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

Figure 1. Average Rectified Output Current Derating Curve

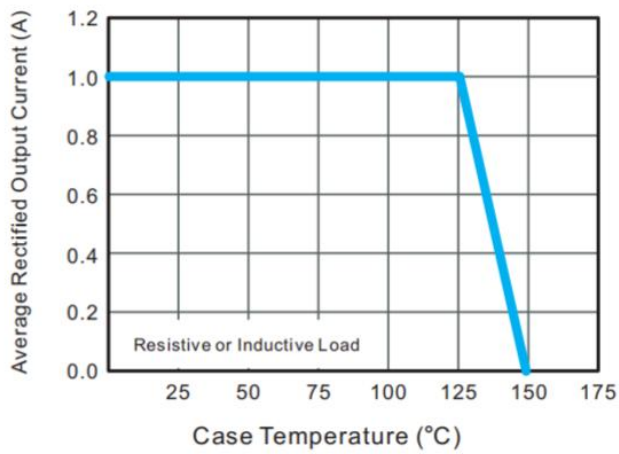


Figure 2. Typical Reverse Characteristics

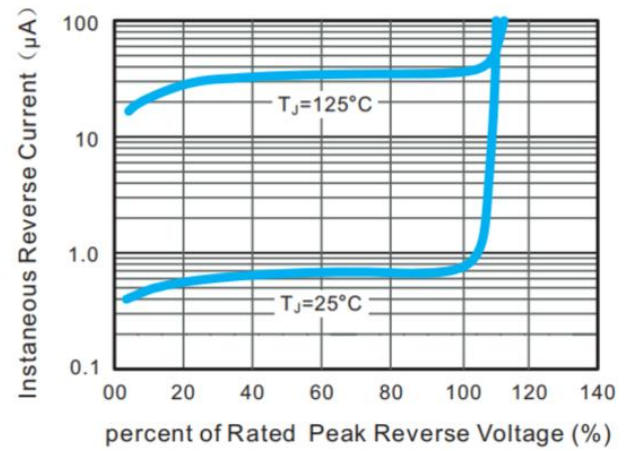


Figure 3. Typical Instantaneous Forward Characteristics

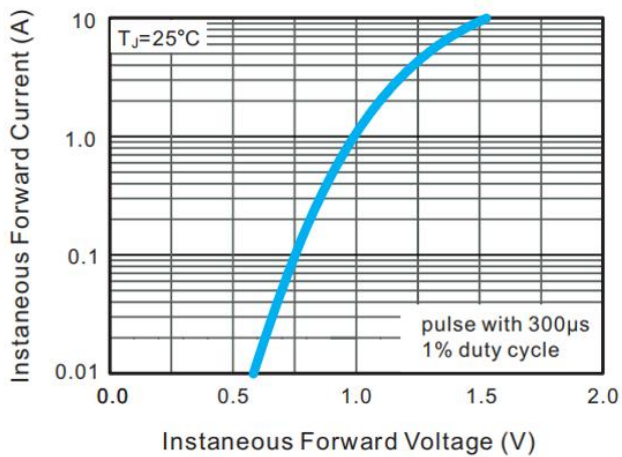


Figure 4. Typical Junction Capacitance

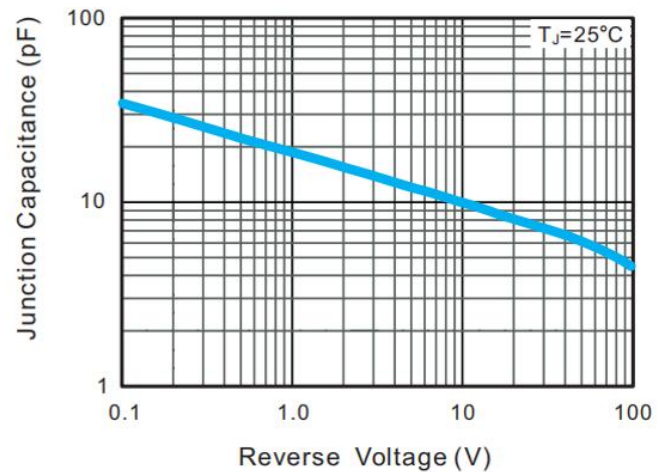
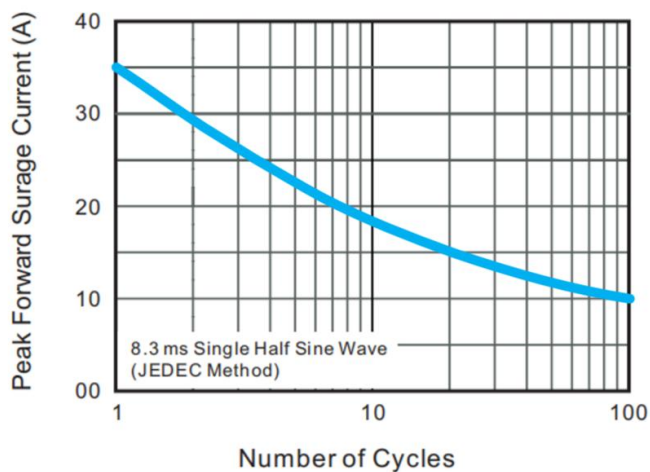
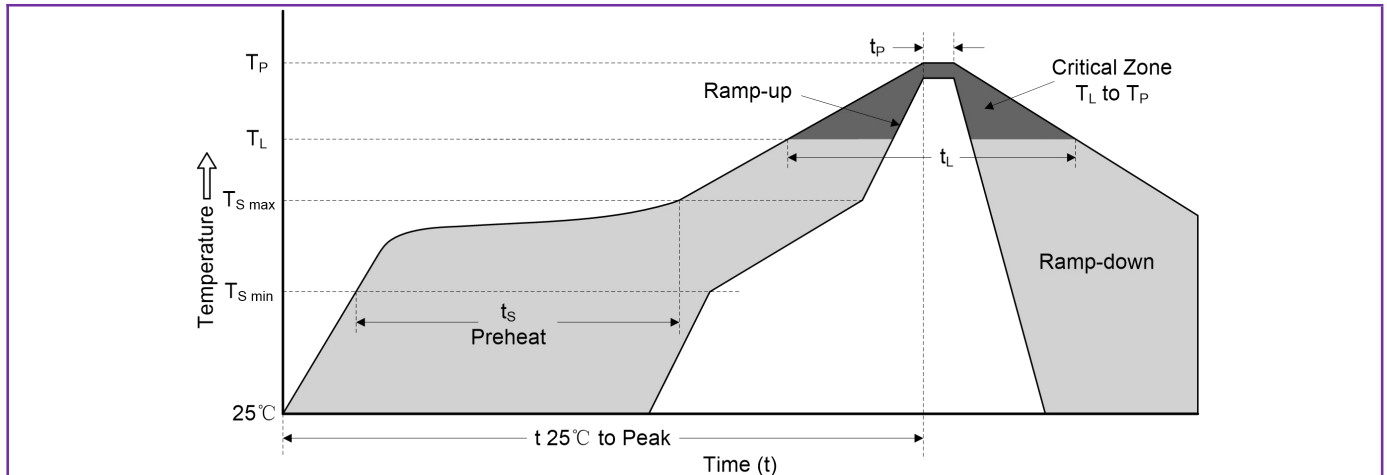


Figure 5. Maximum Non-Repetitive Peak Forward Surge Current



Reflow Soldering Parameters



Reflow Condition		Lead-free Assembly
Pre heat	-Temperature Min ($T_{S\ min}$)	150°C
	-Temperature Max ($T_{S\ max}$)	200°C
	-Time (min to max) (t_s)	60-180 seconds
Average ramp-up rate (T_L to T_P)		3°C/second max.
$T_{S\ max}$ to T_L -Ramp-up Rate		3°C/second max.
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Time (min to max) (t_s)	60-150 seconds
Peak Temperature (T_P)		260(+0/-5)°C
Time within 5°C of actual Peak Temperature (t_P)		20-40 seconds
Ramp-down Rate		6°C/second max.
Time 25°C to Peak Temperature(T_P)		8 minutes max.
Do not exceed		260°C