

# MB1F THRU MB10F

## SURFACE MOUNT FAST SWITCHING RECTIFIER

REVERSE VOLTAGE 50 to 1000 Volts FORWARD CURRENT 1.0 Ampere

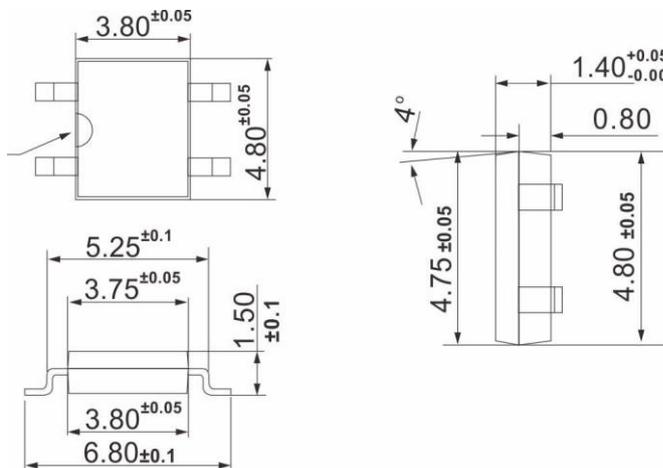
### FEATURES

- ◆ Glass passivated chip junction.
- ◆ Ideal for surface mounted applications.
- ◆ Low leakage.
- ◆ High forward surge current capability.
- ◆ High temperature soldering guaranteed:  
260°C/10 seconds at terminals.

### Mechanical Data

- ◆ Case: Molded plastic body.
- ◆ Epoxy: UL94V-0 rate flame retardant.
- ◆ Polarity: Molded on body.
- ◆ Lead: Plated terminals solderable per MIL-STD-202E  
method 208C.
- ◆ Weight: 0.003 ounce, 0.1 gram.

### MBF



Dimensions in millimeters

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

PARAMETER	SYMBOL	MB1F	MB2F	MB3F	MB4F	MB6F	MB8F	MB10F	UNIT
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 Output Current, 0.06" (1.5mm) lead length at $T_A=40^\circ\text{C}$ (Note 2)	$I_{(AV)}$	1.0							A
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30							A
Rating for Fusing ( $t < 8.3\text{ms}$ )	$I^2t$	10							A <sup>2</sup> s
Maximum Instantaneous Forward Voltage drop Per Bridge element 1.0A	$V_F$	1.1							V
Maximum DC Reverse Current at $T_A=25^\circ\text{C}$ at Rated DC Blocking voltage $T_A=125^\circ\text{C}$	$I_R$	5.0							$\mu\text{A}$
		0.5							mA
Typical Junction Capacitance (Note 1)	$C_J$	25							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JC}$	40							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

Note: 1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.

2. Unit mounted on P.C.B. with 0.95"×1.15" copper pads.

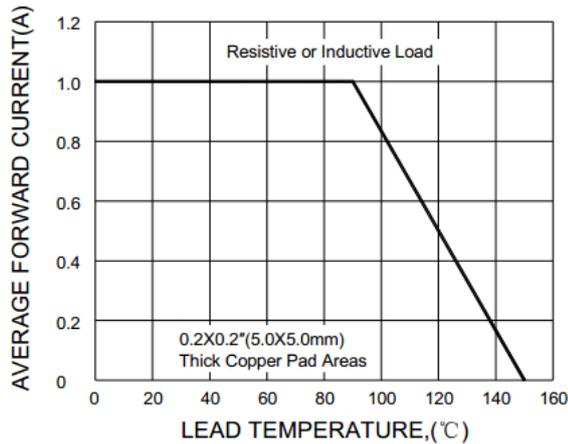
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## SURFACE MOUNT FAST SWITCHING RECTIFIER

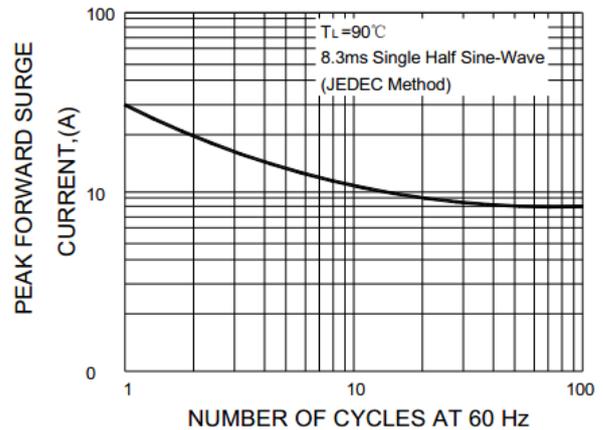
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### RATING AND CHARACTERISTIC CURVES MB1F THRU MB10F

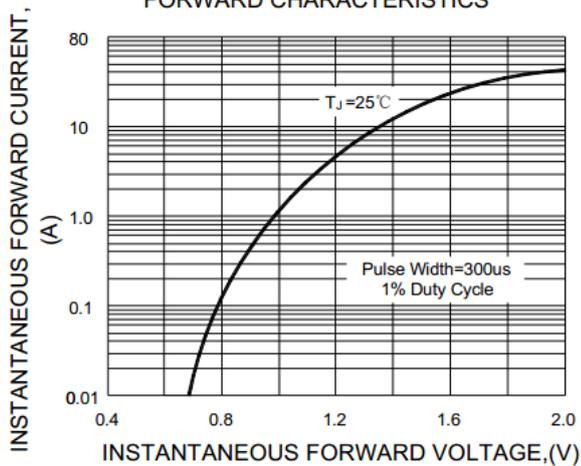
F1G.1-FORWARD CURRENT DERATING CURVE



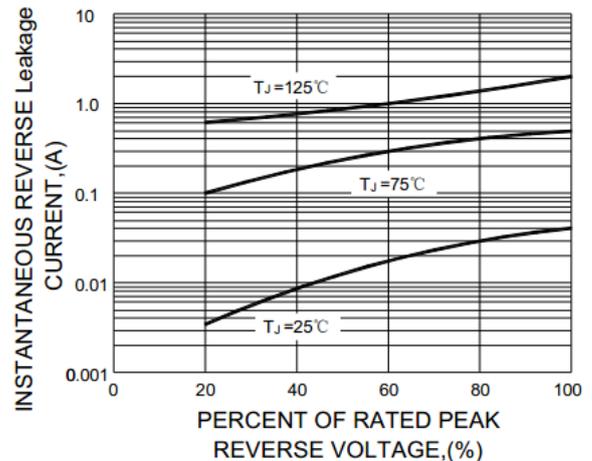
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



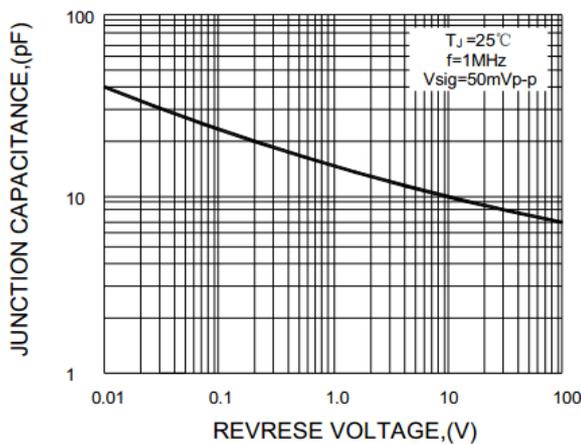
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.5-TYPICAL JUNCTION CAPACITANCE



Note: Specifications are subject to change without notice. For more detail and update, please visit our website.