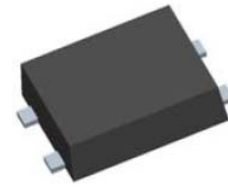


**Features**

- Low profile space
- Ideal for automated placement
- Glass passivated chip junction
- Low forward voltage drop
- Low leakage current
- High temperature soldering:  
260°C/10 seconds at terminals
- Component in accordance to  
RoHS 2002/95/1 and WEEE 2002/96/EC

**Mechanical Date**

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



Package: MBF

**Major Ratings and Characteristics**

$I_{F(AV)}$	0.5A, 0.8A
$V_{RRM}$	50V ~ 1000V
$I_{FSM}$	25 A
$I_R$	5 $\mu$ A
$V_F$	1.0 V
$T_j$ (max.)	150°C

■ Maximum Ratings & Thermal Characteristics ( $T_A=25^\circ\text{C}$ , unless otherwise noted)

Items	Symbol	MB 05F	MB 1F	MB 2F	MB 4F	MB 6F	MB 8F	MB 10F	UNIT
Peak Repetitive Reverse Voltage DC Blocking Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{RMS}$	35	70	140	280	420	560	700	
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	
Maximum average forward rectified current at $T_A=30^\circ\text{C}$ -on glass-epoxy P.C.B <sup>(1)</sup> -on aluminum substrate <sup>(2)</sup>	$I_{F(AV)}$	0.5 0.8						A	
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load(JEDEC Method)	$I_{FSM}$	25						A	
Thermal resistance from junction to ambient	$R_{\theta JA}$ <sup>(1)</sup>	85						°C/W	
	$R_{\theta JA}$ <sup>(2)</sup>	70							
Thermal resistance from junction to lead <sup>(1)</sup>	$R_{\theta JL}$	20						°C/W	
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150						°C	

Note 1 : On glass epoxy P.C.B. mounted on 0.05 × 0.05 " (1.3 × 1.3mm) pads

Note 2 : On aluminum substrate P.C.B. with an area of 0.8 × 0.8 " (20 × 20mm) mounted on 0.05 × 0.05 " (1.3 × 1.3mm) solder pad

■ Electrical Characteristics ( $T_A=25^\circ\text{C}$ , unless otherwise noted)

Items	Test conditions	Symbol	Min	Typ	Max	UNIT
Instantaneous forward voltage per leg	$I_F=0.4\text{ A}$ <sup>(3)</sup>	$V_F$	--	0.93	1	V
Reverse current	$V_R=V_{DC}$	$I_R$	$T_j=25^\circ\text{C}$	--	5	$\mu$ A
			$T_j=125^\circ\text{C}$	--	500	
Junction capacitance	$f=1\text{MHz}, V_R=4\text{V}$	$C_j$	--	15	--	pF

Note 3 : Pulse test: 300 $\mu$ s pulse width, 1% duty cycle.

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

Fig.1: Derating Curve For Output Rectified Current

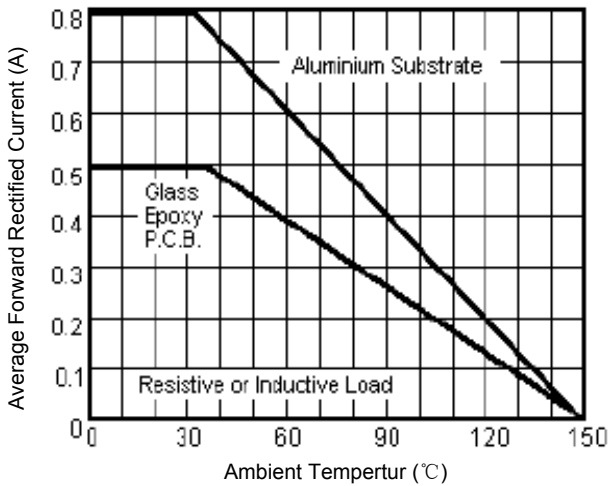


Fig.2: Max.Non-Repetitive Peak Forward Surge Current Per Leg

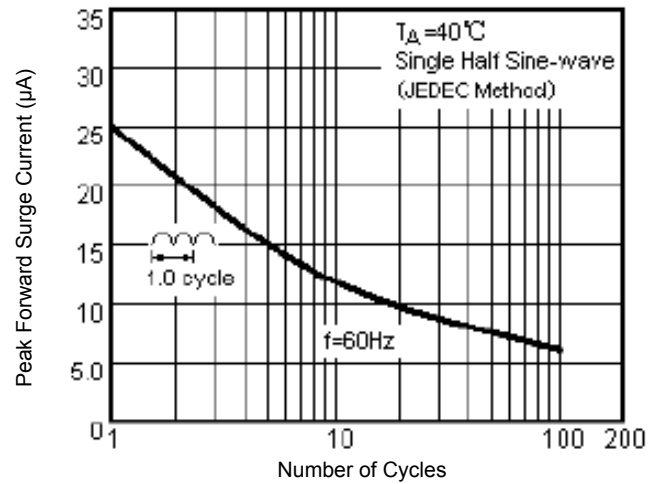


Fig.3: Typical Forward Voltage Characteristics Per Leg

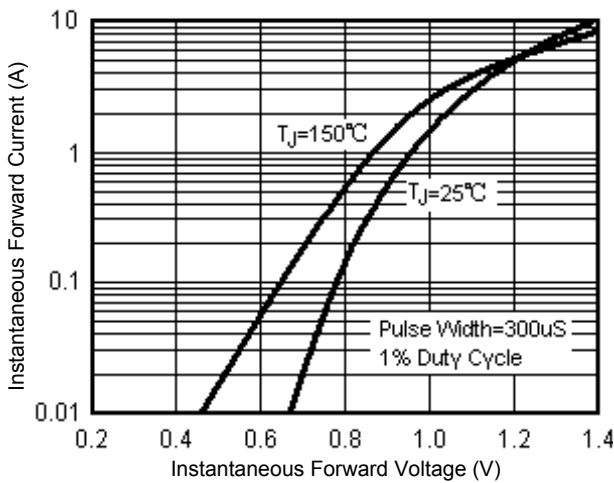
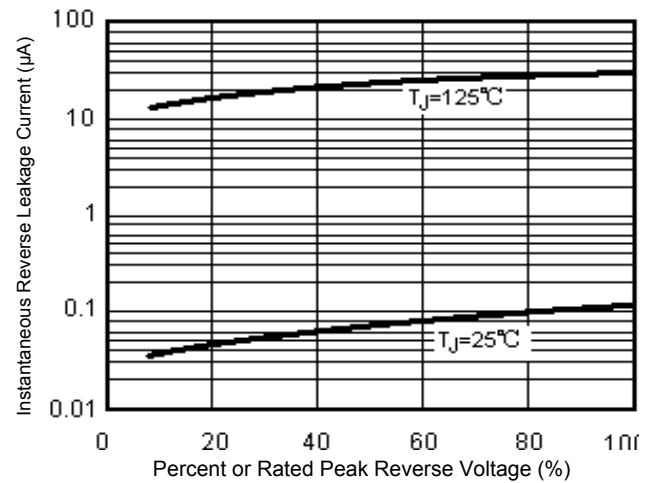
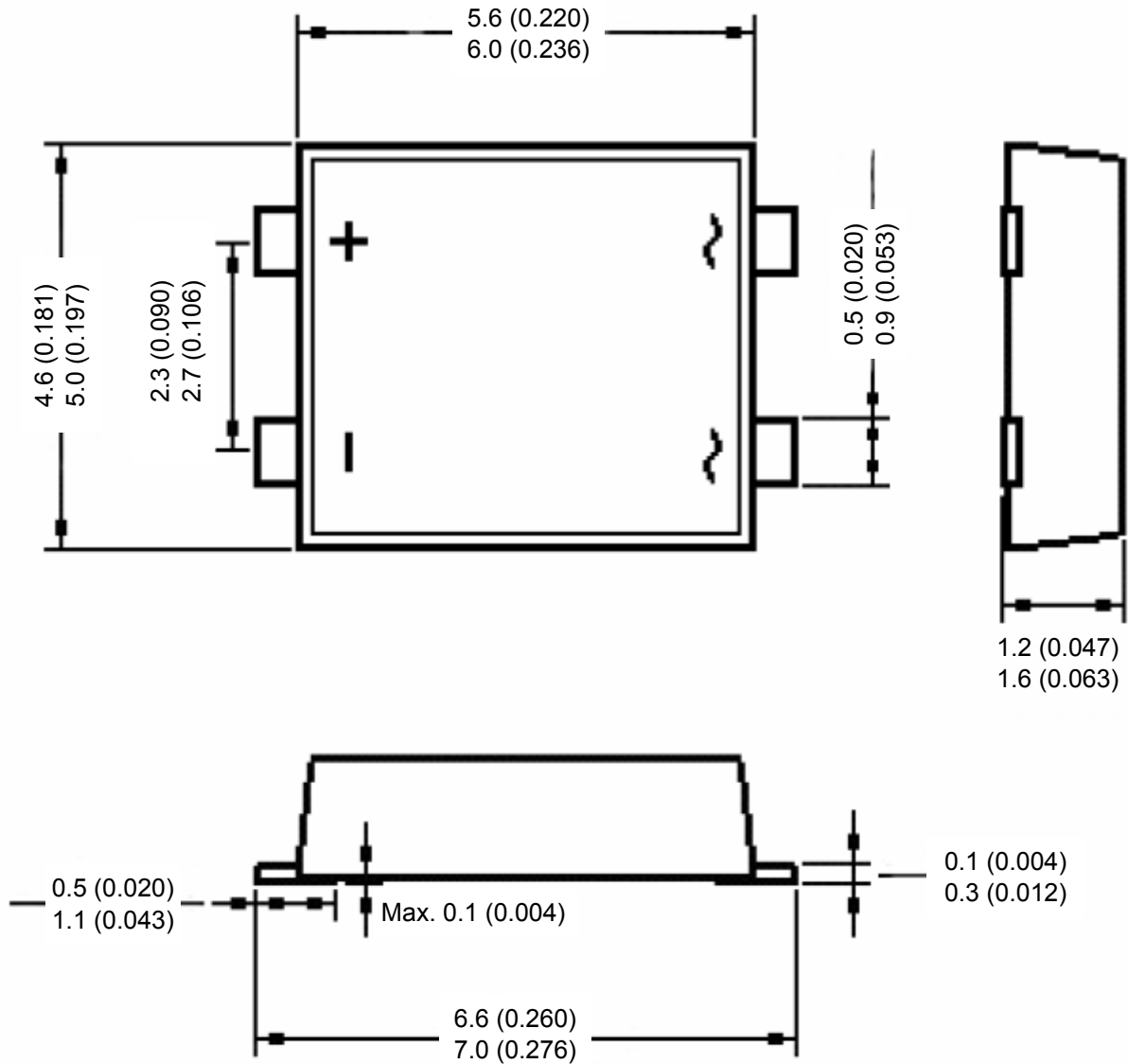


Fig.4: Typical Reverse Leakage Characteristics Per Leg



Package Outline

MBF



Dimensions in millimeters and (inches)

**Notice**

- Product is intended for use in general electronics applications, especially applicable to energy conservation electronic ballast of fluorescent lamp.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.
  - $I_{F(AV)}$ : We recommend that the worst case current be no greater than 80%.
  - $I_{FSM}$ : This rating specifies the non-repetitive peak current. This is only applied for an abnormal operation, which the general during the lifespan of the device.
  - $T_J$ : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a  $T_J$  of below 125°C



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