UMB05F~UMB10F

Ultra Miniature Glass Passivated Single-Phase Surface Mount Flat Bridge Rectifier

Features

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



SOF2-4

Mechanical Date

- **Case:** SOF2-4 Molded plastic over glass passivated chip
- **Terminals:** Solder plated, solderable per J-STD-002B and JESD22-B102D
- **Polarity:** Polarity symbols marked on body

Major Ratings and Characteristics

$I_{F(AV)}$	**0.5 A, 0.8 A**
V_{RRM}	**50V to 1000V**
I_{FSM}	**20 A**
I_R	**5.0 μA**
V_F	**1.1 V**
T_j **max.**	**150 °C**

Maximum Ratings & Thermal Characteristics (T_A = 25 °C unless otherwise noted)

Items	Symbol	UMB 05F	UMB 1F	UMB 2F	UMB 4F	UMB 6F	UMB 8F	UMB 10F	UNIT
Maximum repetitive 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℃ -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}	20							A
Thermal resistance from junction to ambient per leg	$R_{\theta JA}$[1] $R_{\theta JA}$[2]	100 80							℃/W
Thermal resistance from junction to lead per leg[1]	$R_{\theta JL}$	30							℃/W
Operating junction and storage temperature range	T_J , T_{STG}	–55 to +150							℃

Note 1: On glass epoxy P.C.B. mounted on 0.06×0.04″ (1.5×1.1mm) pads

Note 2: On aluminum substrate P.C.B. with an area of 0.8×0.8″ (20×20mm) mounted on 0.06×0.04″ (1.5×1.1mm) solder pad

Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Items	Test conditions		Symbol	Min	Type	Max	UNIT
Instantaneous forward voltage per leg	I_F=0.4A[3]		V_F	-	0.96	1.10	V
Reverse current per leg	V_R=V_{DC}	T_j=25℃ T_j=125℃	I_R	-	-	5 100	μA

Note 3: Pulse test:300μs pulse width,1% duty cycle.

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Characteristic Curves (T_A=25 ℃ unless otherwise noted)

Fig.1 Forward Current Derating Curve

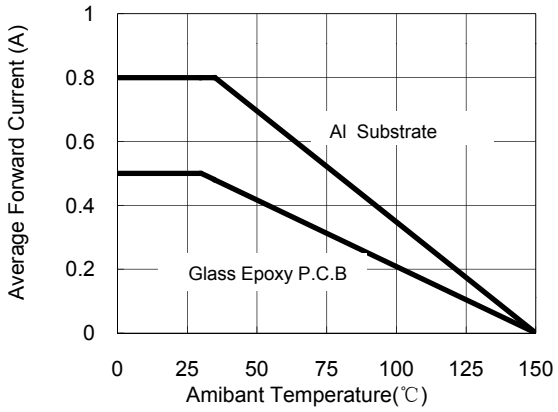


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

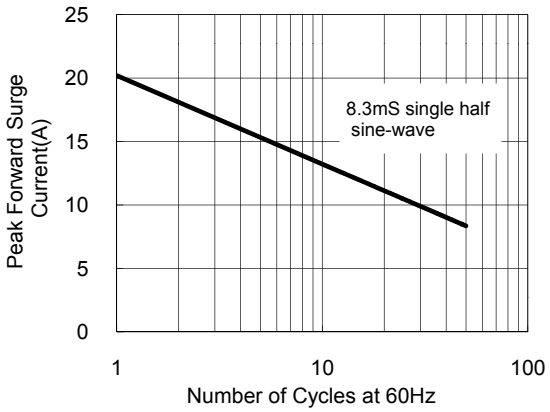


Fig.3 Typical Instantaneous Forward Characteristics

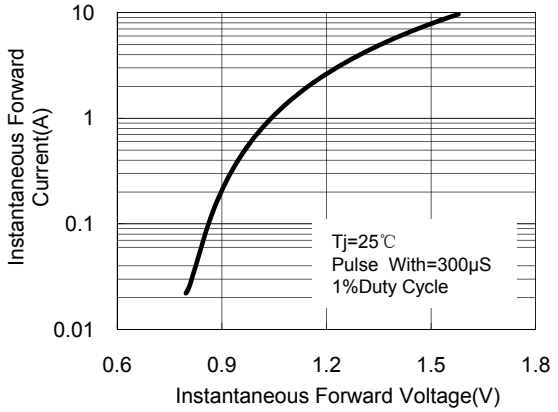
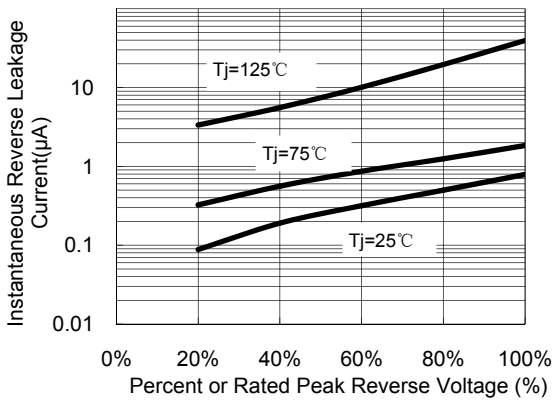


Fig.4 Typical Reverse Leakage Characteristics

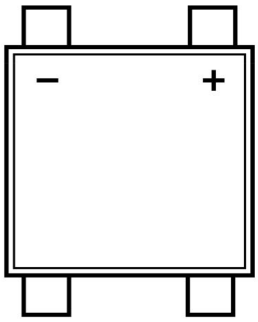


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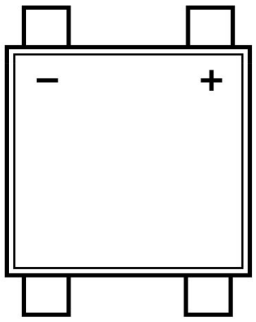
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Marking

Design 1



Design 2



Annotation of Marking Code:

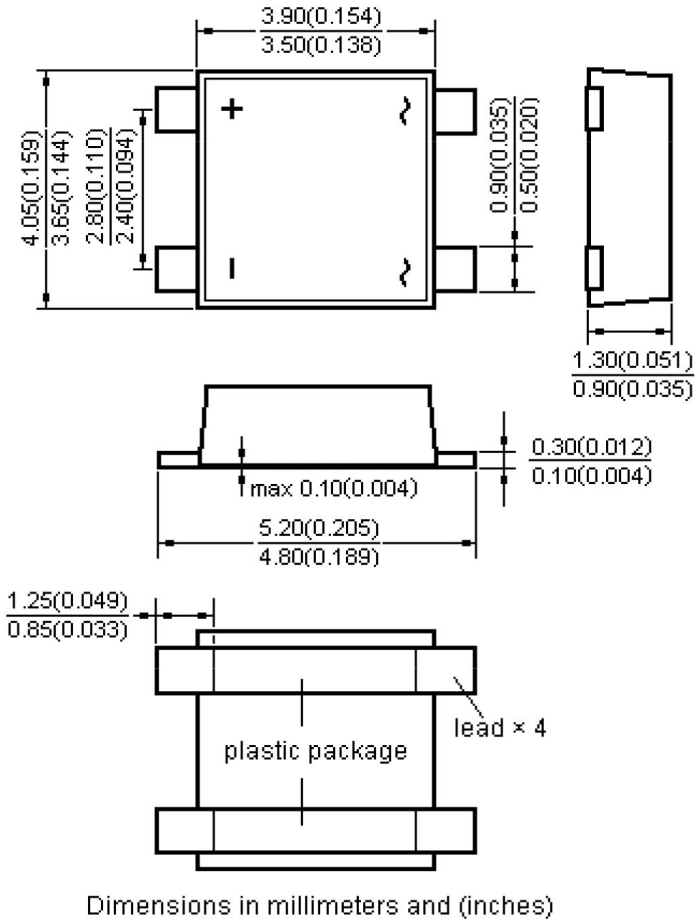
Device Type	Device Marking
UMB05F	B1
UMB1F	B2
UMB2F	B3
UMB4F	B4
UMB6F	B5
UMB8F	B6
UMB10F	B7

Marking meaning

- TRR = Trademark
- Bx = Marking Code， x = 1,2,3，⋯，7. See the table at the right .
- An = Suppliers' Code. It's default as a general rule,like Design 1.

Package Outline

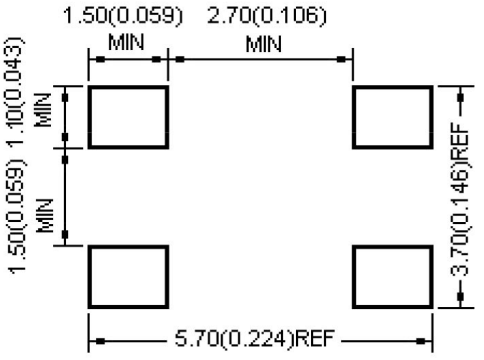
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Dimensions in millimeters and (inches)

Soldering Pad

SOF2-4



Dimensions in millimeters and (inches)