

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°C/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 μ A
V_F	1.1 V
$T_J \text{ max.}$	150 °C

Maximum Ratings & Thermal Characteristics ($T_A = 25^\circ\text{C}$ 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 $T_A=30^\circ\text{C}$ -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							°C/W
Thermal resistance from junction to lead per leg ⁽¹⁾	$R_{\theta JL}$	30							°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 0.06×0.04" (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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)

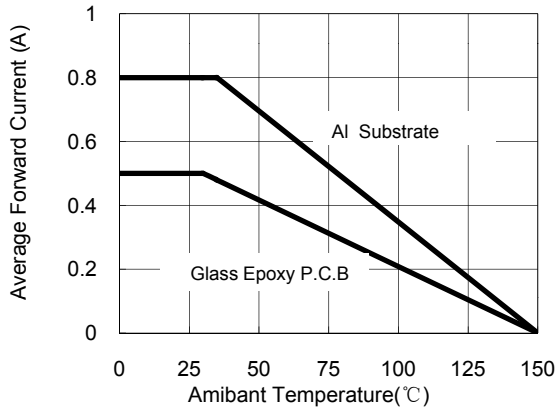
Items	Test conditions	Symbol	Min	Type	Max	UNIT
Instantaneous forward voltage per leg	$I_F=0.4A^{(3)}$	V_F	-	0.96	1.10	V
Reverse current per leg	$V_R=V_{DC}$ $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	I_R	-	-	5 100	μ A

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

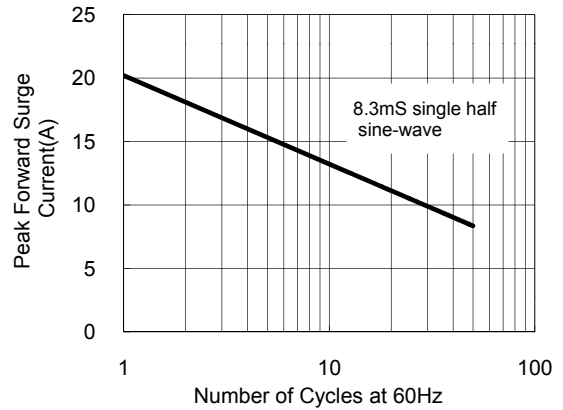
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Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

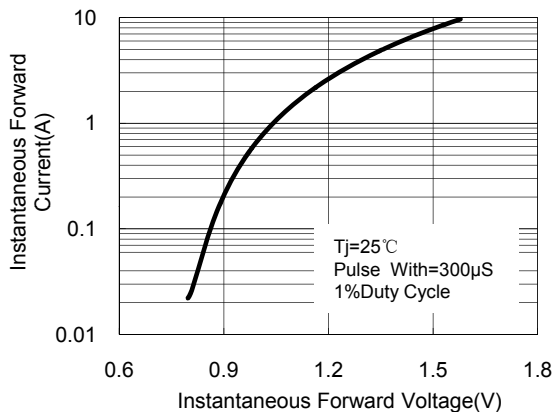
**Fig.1 Forward Current
Derating Curve**



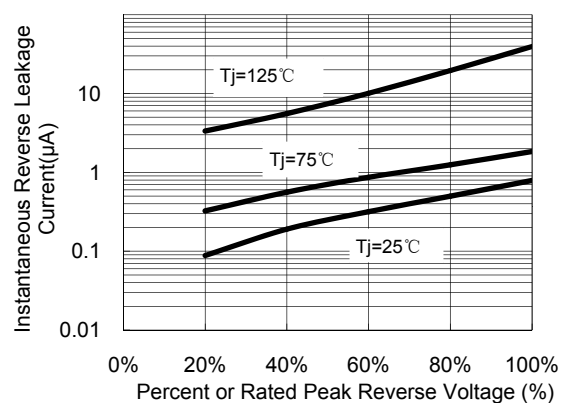
**Fig.2 Maximum Non-Repetitive Peak
Forward Surge Current**



**Fig.3 Typical Instantaneous Forward
Characteristics**

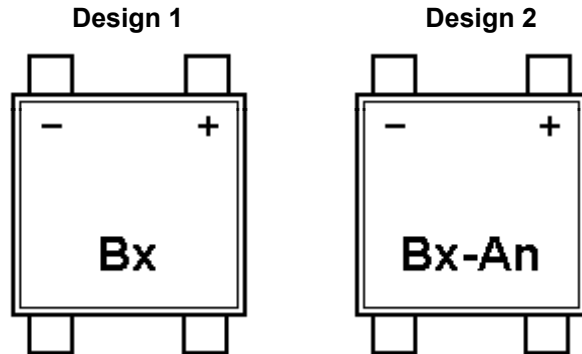


**Fig.4 Typical Reverse Leakage
Characteristics**



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Marking



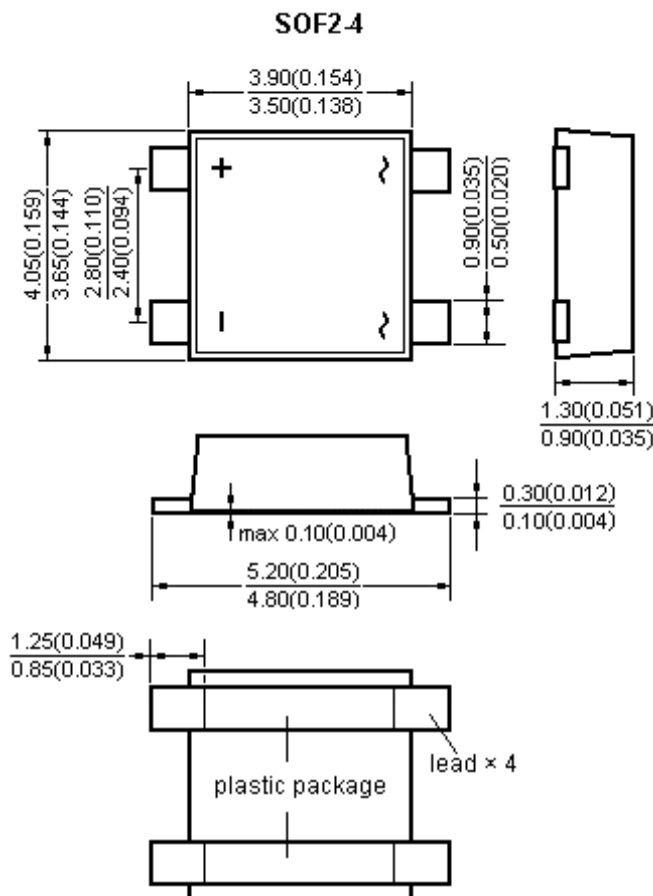
Annotation of Marking Code:

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

Marking meaning

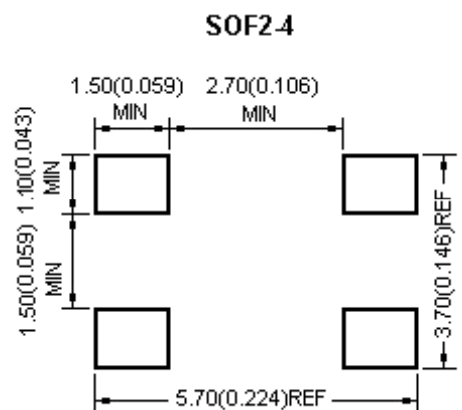
- TRR = Trademark
- Bx = Marking Code, x = 1,2,3, ..., 7. See the table at the right.
- An = Suppliers' Code. It's default as a general rule, like Design 1.

Package Outline



Dimensions in millimeters and (inches)

Soldering Pad



Dimensions in millimeters and (inches)