

## 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



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## Mechanical Date

- **Case:** UMBF 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

$I_{F(AV)}$	0.4 A
$V_{RRM}$	50V to 1000V
$I_{FSM}$	20 A
$I_R$	5.0 $\mu$ A
$V_F$	1.1 V
$T_J$ max.	150 °C

## Maximum Ratings & Thermal Characteristics ( $T_A = 25\text{ }^\circ\text{C}$ 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 $T_A=30\text{ }^\circ\text{C}$ -on glass-epoxy P.C.B	$I_{F(AV)}$	0.4							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	$R_{\theta JA}$	100							$^\circ\text{C/W}$
Thermal resistance from junction to lead per leg <sup>(1)</sup>	$R_{\theta JL}$	30							$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

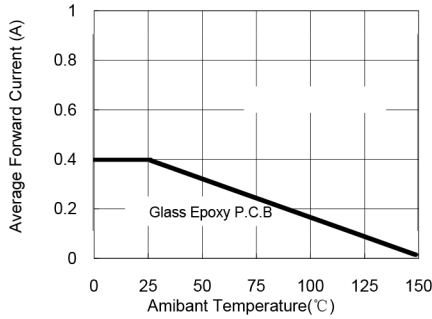
## Electrical Characteristics ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

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

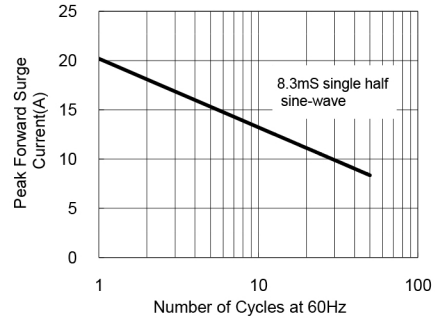
Note 3: Pulse test:300 $\mu$ s pulse width,1% duty cycle.

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

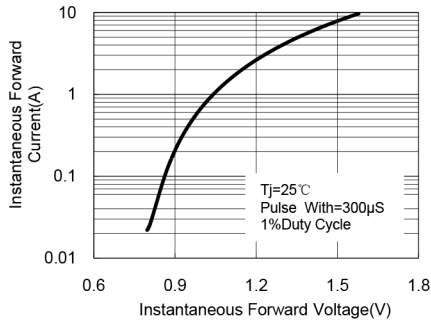
**Fig.1 Forward Current Derating Curve**



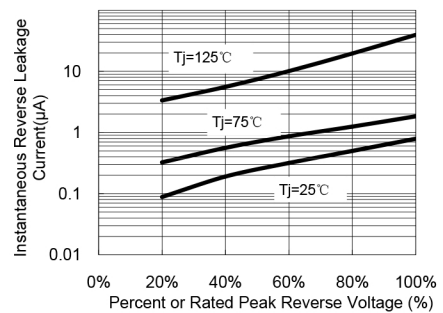
**Fig.2 Maximum Non-Repetitive Peak Forward Current**



**Fig.3 Typical Instantaneous Forward Characteristics**

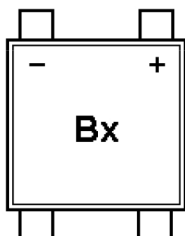


**Fig.4 Typical Reverse Leakage Characteristics**

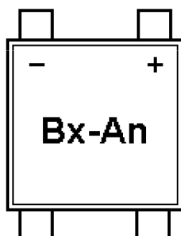


## Marking

Design 1



Design 2



## Annotation of Marking Code:

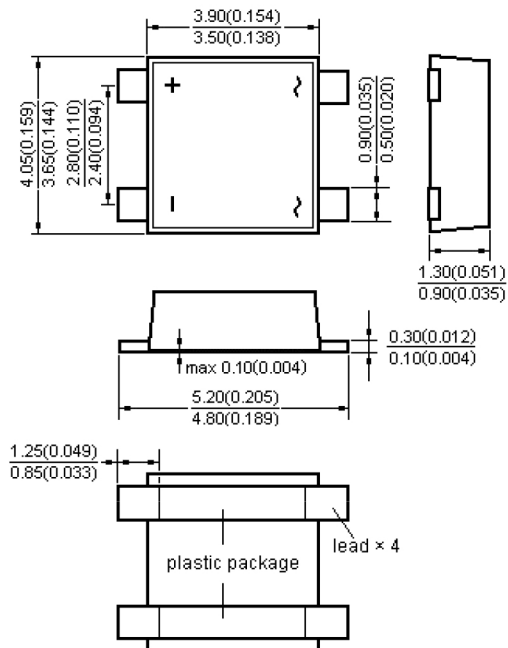
Device Type	Device Marking
UMB05F	B1
UMB1F	B2
UMB2F	B3
UMB4F	B4
UMB6F	B5
UMB8F	B6
UMB10F	B7

## Marking meaning

- 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

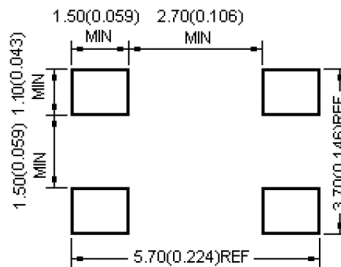
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Dimensions in millimeters and (inches)

## Soldering Pad

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Dimensions in millimeters and (inches)