

# SuperPlanar™ Bridge Rectifiers

## MBF10J--MBF10K

### Features

- Planar passivated chips
- Ultra low leakage reverse current
- High temperature performance
- High surge current capability
- RoHS Compliant



### Mechanical Data

- Low profile saves space on printed circuit boards
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: As marked on body

### Maximum Ratings (@T<sub>A</sub> = 25°C unless otherwise specified)

Characteristic		Symbol	MBF10J	MBF10K	Units
Peak repetitive reverse voltage		V <sub>RRM</sub>	600	800	V
RMS reverse voltage		V <sub>RMS</sub>	420	560	V
DC blocking voltage		V <sub>DC</sub>	600	800	V
Maximum average forward output current		I <sub>F(AV)</sub>	1.0		A
Peak forward surge current, 8.3ms single half-sine-wave	@T <sub>J</sub> = 25°C	I <sub>FSM</sub>	30		A
I <sup>2</sup> t Rating for fusing	@T <sub>J</sub> = 25°C	I <sup>2</sup> t	3.7		A <sup>2</sup> s

### Thermal Characteristics

Parameter	Symbol	MBF10J	MBF10K	Units
Typical thermal resistance per leg (Note 1)	R <sub>θJA</sub>	67		°C/W
	R <sub>θJC</sub>	24		
	R <sub>θJL</sub>	13		
Operating junction temperature range	T <sub>J</sub>	- 55 ---- + 150		°C
Storage temperature range	T <sub>STG</sub>	- 55 ---- + 150		°C

Note:

1. Device mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

**SuperPlanar™ Bridge Rectifiers**
**MBF10J--MBF10K**
**Electrical Characteristics** (@T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Test conditions		Typ.	Max.	Units
Maximum instantaneous forward voltage	V <sub>F</sub>	I <sub>F</sub> =0.5A Per Diode		0.92	0.95	V
		I <sub>F</sub> =1.0A Per Diode		--	1	
Maximum Reverse current	I <sub>R</sub>	Rated V <sub>R</sub> , Per Diode	@T <sub>A</sub> =25°C	--	0.5	μ A
			@T <sub>A</sub> =150°C	--	40	

# SuperPlanar™ Bridge Rectifiers

## MBF10J--MBF10K

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

Fig.1-Forward Current Derating Curve

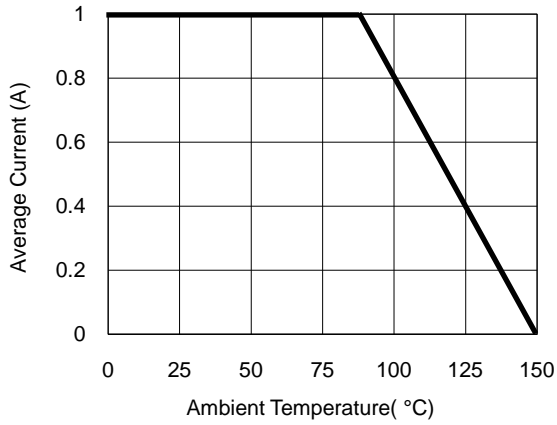


Fig.2- Surge Current Derating Curve

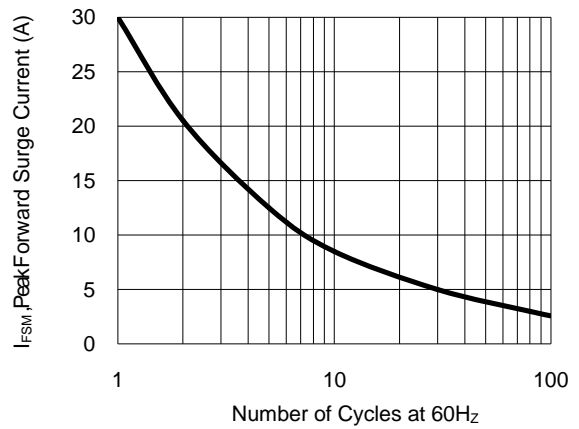


Fig.3- Typical Forward Voltage Characteristic

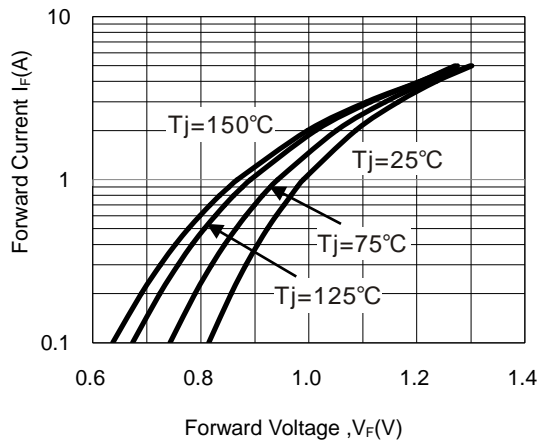
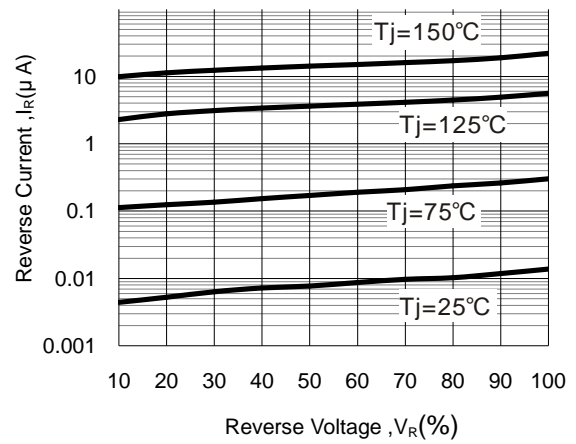


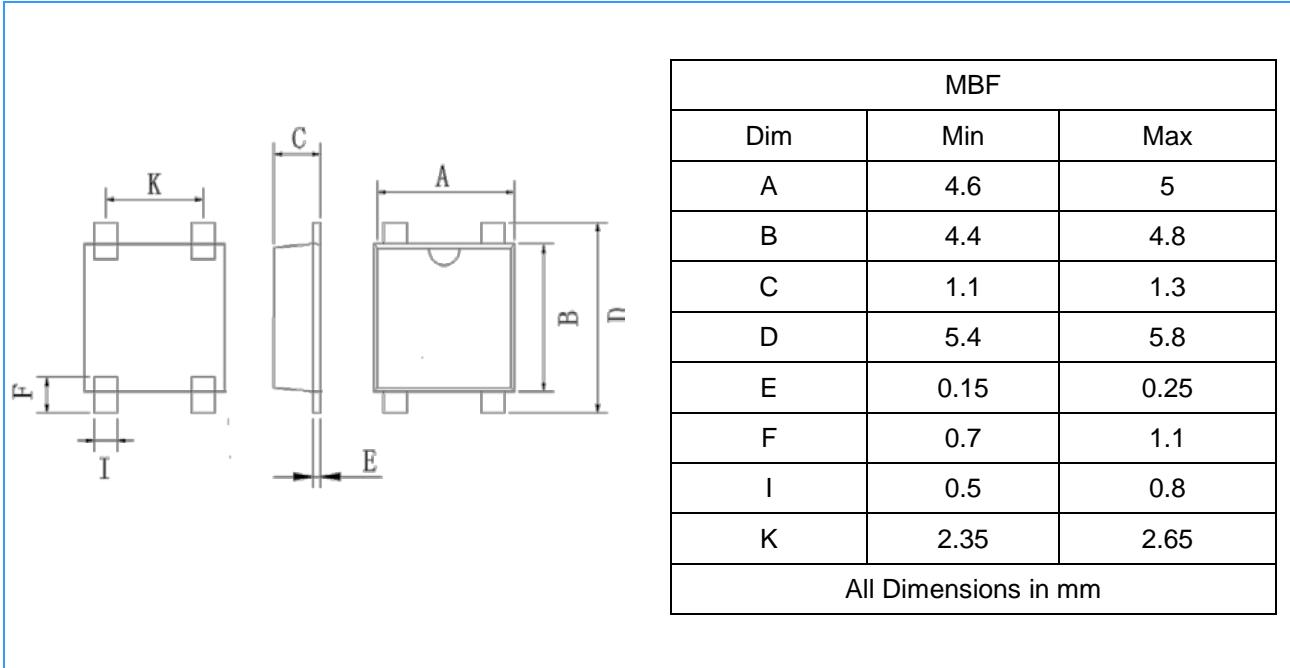
Fig.4- Typical Reverse Characteristic



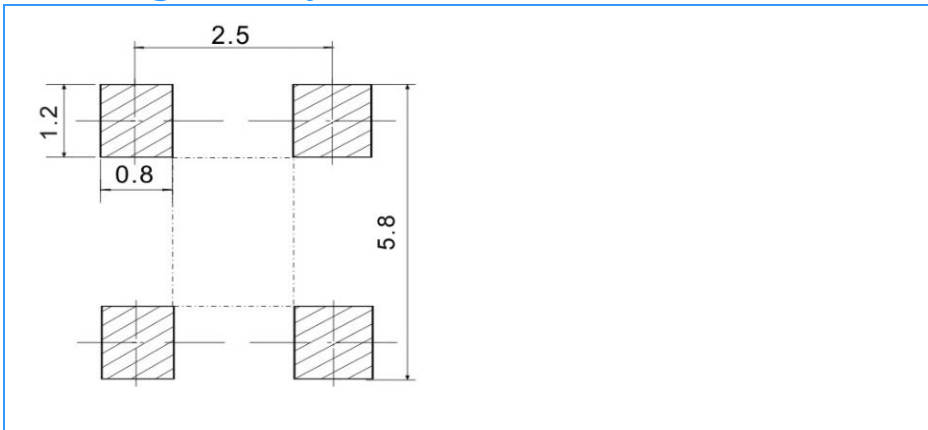
# SuperPlanar™ Bridge Rectifiers

## MBF10J--MBF10K

### Package Outline Dimensions(unit:mm)



### Mounting Pad Layout(unit:mm)



### Ordering Information

Part No.	Marking	Package	Shipping
MBF10J	MBF10J	MBF	4000/Tape&Reel
MBF10K	MBF10K	MBF	4000/Tape&Reel