

# MBR620F – MBR6100F

## 6.0A SCHOTTKY BARRIER RECTIFIER

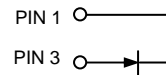
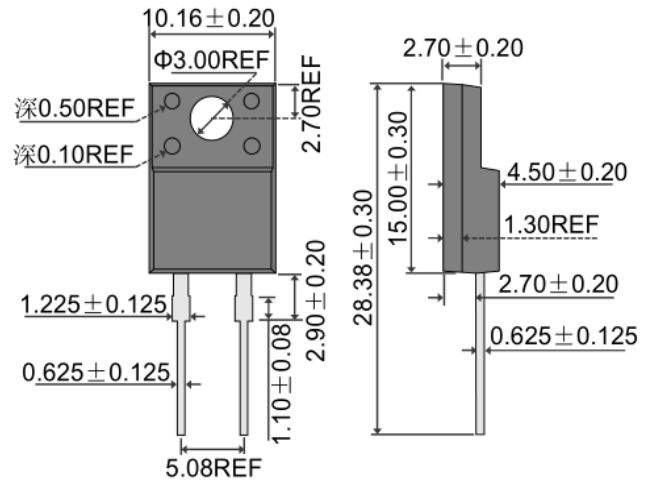
### Features

- Power Schottky Barrier Chip
- Guard Ring for Transient Protection
- Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Current Capability
- Epoxy Meets UL 94V-0 Classification
- Ideally Suited for Use in High Frequency SMPS, Inverters and As Free Wheeling Diodes

### Mechanical Data

- Case: ITO-220A, Full Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 1.9 grams (approx.)
- Mounting Position: Any
- Mounting Torque: 0.6 N.m Max.
- **Lead Free: For RoHS / Lead Free Version**

### ITO-220AC



### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	MBR 620F	MBR 630F	MBR 640F	MBR 645F	MBR 650F	MBR 660F	MBR 680F	MBR 6100F	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	20	30	40	45	50	60	80	100	V
Working Peak Reverse Voltage	V <sub>RWM</sub>									V
DC Blocking Voltage	V <sub>R</sub>									V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	14	21	28	32	35	42	56	70	V
Average Rectified Output Current @T <sub>C</sub> = 100°C	I <sub>O</sub>	6.0								A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	75								A
Forward Voltage @I <sub>F</sub> = 6.0A	V <sub>FM</sub>	0.55			0.75		0.85			V
Peak Reverse Current @T <sub>J</sub> = 25°C	I <sub>RM</sub>	0.2								mA
At Rated DC Blocking Voltage @T <sub>J</sub> = 100°C		15								
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	300			200		150			pF
Thermal Resistance Junction to Ambient	R <sub>JA</sub>	75								°C/W
Thermal Resistance Junction to Case	R <sub>JC</sub>	5.0								
RMS Isolation Voltage, t = 1 min	V <sub>ISO</sub>	1500								V
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150								°C

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

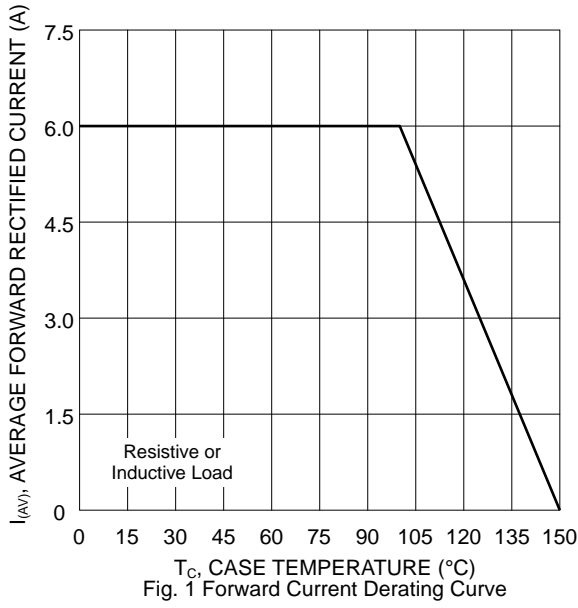


Fig. 1 Forward Current Derating Curve

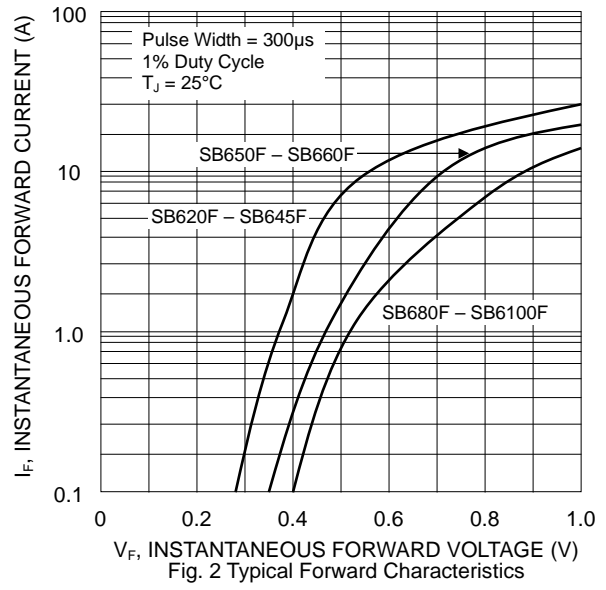


Fig. 2 Typical Forward Characteristics

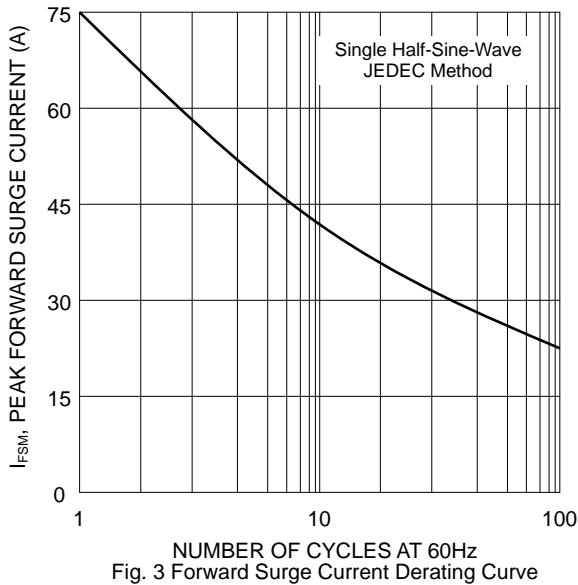


Fig. 3 Forward Surge Current Derating Curve

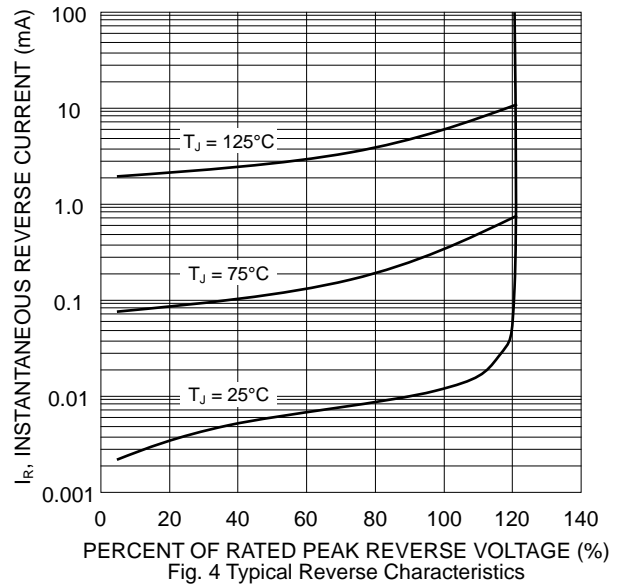


Fig. 4 Typical Reverse Characteristics

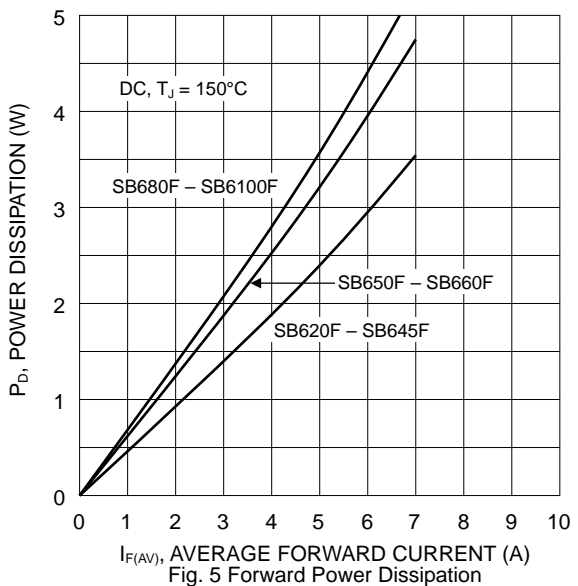


Fig. 5 Forward Power Dissipation

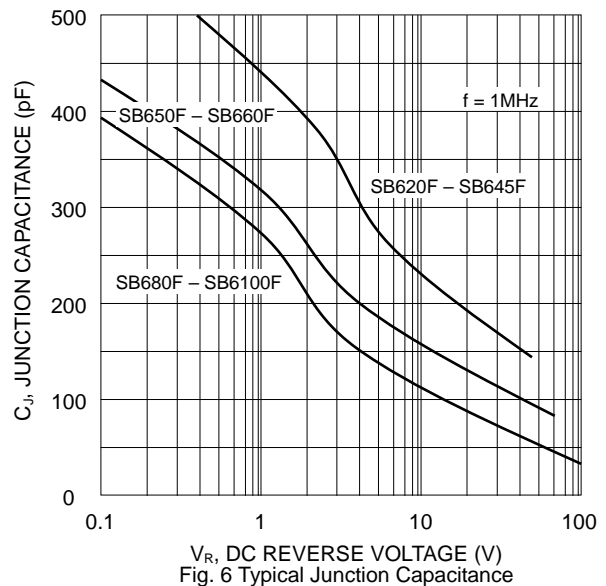
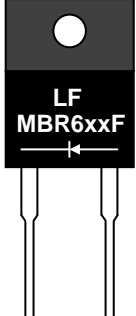


Fig. 6 Typical Junction Capacitance

## MARKING INFORMATION



MBR6xx F = Device Number  
 xx = 20, 30, 40, 45, 50, 60, 80 or 100  
 Polarity = As Marked on Body

## PACKAGING INFORMATION

**BULK**

Tube Size L x W x H (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
525 x 31 x 6	50	558 x 150 x 40	1,000	570 x 235 x 170	5,000	11.85

## RECOMMENDED SCREW MOUNTING ARRANGEMENT

The full molded plastic package affords a major reduction of hardware as compared to a standard TO-220 package. However, precautions should be made in mounting procedure.

A conical washer should be used to apply proper force to the device. Screw should not be tightened with any type of air-forced torque or equipment that may cause crack on device package.

A layer of thermal grease or thermal pad in the interface will be considerably helpful for heat dissipation.

