# MBR1635R THRU MBR1660R

# Schottky Barrier Rectifier Reverse Voltage - 35 to 60 V Forward Current - 16 A

### **Features**

- Metal silicon junction, majority carrier conduction
- · Guard ring for overvoltage protection
- · High current capability
- · Low power loss, high efficiency
- · Low forward voltage drop
- For use in low voltage, high frequency inverters, free whelling, and polarity protection applications

#### **Mechanical Data**

• Case: Molded plastic, TO-220A

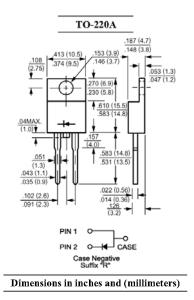
• Epoxy: UL 94V-0 rate flame retardant

• Terminals: Leads solderable per MIL-STD-202

Method 208 guaranteed

Polarity: As marked
Maurating position: Applications and applications are also as a second position.

· Mounting position: Any



### **Maximum Ratings and Electrical Characteristics**

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	MBR1635R	MBR1645R	MBR1650R	MBR1660R	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	35	45	50	60	V
Maximum RMS Voltage	V <sub>RMS</sub>	24	31	35	42	V
Maximum DC Blocking Voltage	$V_{DC}$	35	45	50	60	V
Maximum Average Forward Rectified Current $T_C = 125 ^{\circ}\text{C}$	I <sub>F(AV)</sub>	16			Α	
Peak Repetitive Forward Current at $T_C$ = 125 °C (Rated $V_R$ , Sq. Wave, 20 KHz)	I <sub>FRM</sub>	32				Α
Peak Forward Surge Current, 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	150			Α	
Peak Repetitive Reverse Current at tp = 2 μs, 1 KHz	I <sub>RRM</sub>	1 0.5		.5	Α	
Maximum Forward Voltage $^{1)}$ at $I_F = 16$ A, $T_C = 25$ $^{\circ}$ C at $I_F = 16$ A, $T_C = 125$ $^{\circ}$ C	V <sub>F</sub>			75 65	٧	
Maximum Reverse Current at Rated DC at $T_C = 25$ °C Blocking Voltage at $T_C = 125$ °C	I <sub>R</sub>	0.2 40 5		1 60	mA	
Voltage Rate of Change (Rated V <sub>R</sub> )	dv/dt	10,000				V/µs
Typical Thermal Resistance	$R_{\theta JC}$	1.5			°C/W	
Operating Temperature Range	T <sub>J</sub>	- 55 to + 150			°C	
Storage Temperature Range	T <sub>Stg</sub>	- 55 to + 175				°C

<sup>1)</sup> Pulse test: 300 µs pulse width, 1% duty cycle



Dated: 29/08/2007

Fig. 1 - Forward Current Derating Curve

