

# MBR1630 - MBR1660

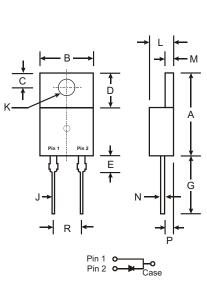
## **16A SCHOTTKY BARRIER RECTIFIER**

#### **Features**

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Lead Free Finish, RoHS Compliant (Note 3)

### **Mechanical Data**

- Case: TO-220AC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish Bright Tin. Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking: Type Number
- Weight: 2.24 grams (approx.)



TO-220AC					
Dim	Min	Max			
Α	14.48	15.75			
В	10.00	10.40			
С	2.54	3.43			
D	5.90	6.40			
E	2.80	3.93			
G	12.70	14.27			
J	0.69	0.93			
к	3.54	3.78			
L	4.07	4.82			
М	1.15	1.39			
N	0.30	0.50			
Р	2.04	2.79			
R	4.83	5.33			
All Dimensions in mm					

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

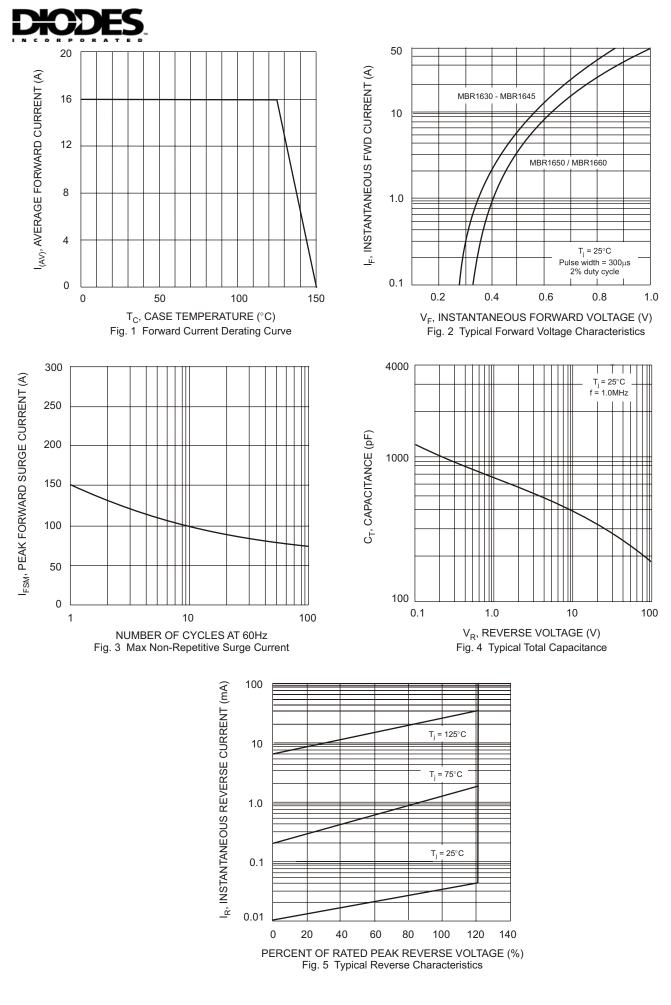
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	MBR 1630	MBR 1635	MBR 1640	MBR 1645	MBR 1650	MBR 1660	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	30	35	40	45	50	60	v
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	24.5	28	31.5	35	42	V
Average Rectified Output Current (Note 1) $@ T_C = 125^{\circ}C$	lo	16				A		
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150			А			
Forward Voltage Drop	V <sub>FM</sub>	0.63 0.75 0.57 0.65				V		
Peak Reverse Current $@T_C = 25^{\circ}C$ at Rated DC Blocking Voltage $@T_C = 125^{\circ}C$	I <sub>RM</sub>	0.2 40		1.0 50		mA		
Typical Total Capacitance (Note 2)	CT	C <sub>T</sub> 450			pF			
Typical Thermal Resistance Junction to Case (Note 1)		1.5 3			3	°C/W		
Voltage Rate of Change (Rated V <sub>R</sub> )		1000 10,000			V/µs			
Operating and Storage Temperature Range		-65 to +150				°C		

Notes: 1.Thermal resistance junction to case mounted on heatsink.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.



DS23011 Rev. 8 - 2



## Ordering Information (Note 4)

Device	Packaging	Shipping
MBR16xx*	TO-220AC	50/Tube

\* xx = Device type, e.g. MBR1645

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.