

# MBR1030 - MBR1060

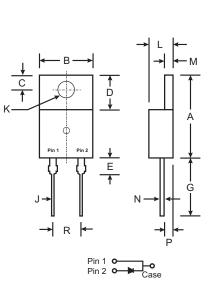
### **10A SCHOTTKY BARRIER RECTIFIER**

#### **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 Application
- 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

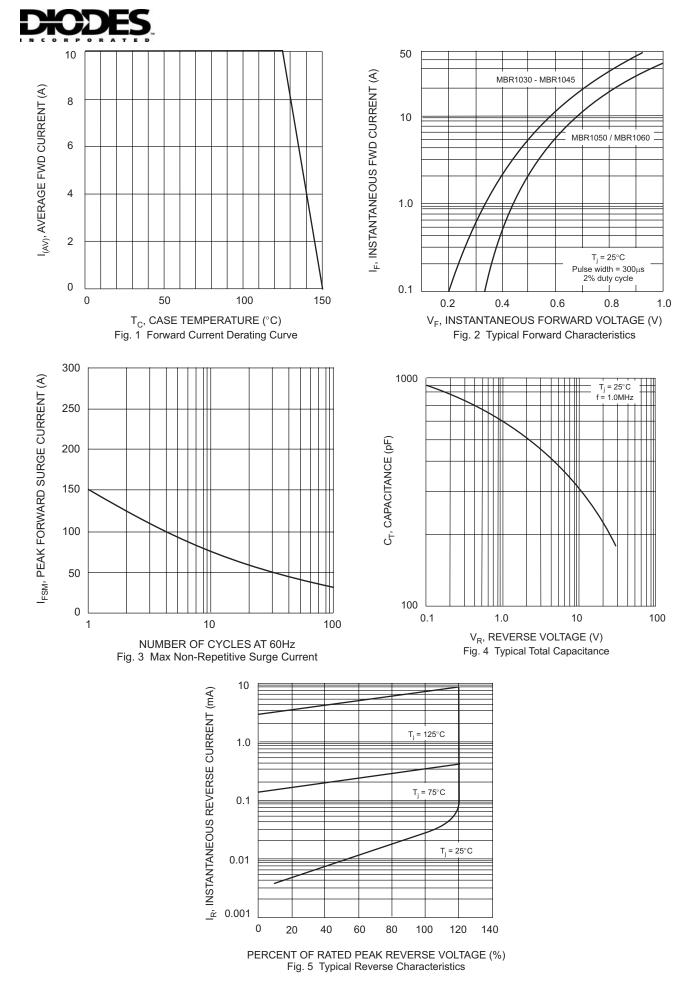
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	MBR 1030	MBR 1035	MBR 1040	MBR 1045	MBR 1050	MBR 1060	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) $@T_C = 125^{\circ}C$	Ι <sub>Ο</sub>	10				А		
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150			А			
$\label{eq:Forward} \begin{array}{l} \mbox{Forward Voltage Drop} & @\ I_F = 10A, \ T_C = 25^\circ C \\ & @\ I_F = 10A, \ T_C = 125^\circ C \end{array}$	V <sub>FM</sub>	0.84 0.95 0.57 0.70				V		
Peak Reverse Current $@T_C = 25^{\circ}C$ at Rated DC Blocking Voltage $@T_C = 125^{\circ}C$		0.1 15		0		mA		
Typical Total Capacitance (Note 2)		400					pF	
Typical Thermal Resistance Junction to Case (Note 1)		2.5				°C/W		
Voltage Rate of Change (Rated V <sub>R</sub> )		1000						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.





## Ordering Information (Note 4)

Device	Packaging	Shipping
MBR10xx*	TO-220AC	50/Tube

\* xx = Device type, e.g. MBR1045

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