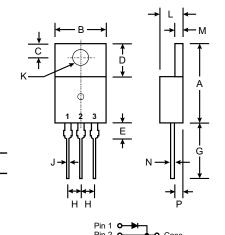


# MBR1070CT - MBR10100CT

### 10A HIGH VOLTAGE 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
- Plastic Material: UL Flammability Classification Rating 94V-0



Dim Min Max Α 14.22 15.88 В 9.65 10.67 С 2.54 3.43 5.84 6.86 D 6.35 Ε G 12.70 14.73 Н 2.29 2.79 J 0.51 1.14 Κ 3.53Ø 4.09Ø L 3.56 4.83 М 1.14 1.40 Ν 0.30 0.64 Р 2.92 2.03 All Dimensions in mm

TO-220AB

#### **Mechanical Data**

Case: Molded Plastic

Terminals: Plated Leads Solderable per

MIL-STD-202, Method 208

Polarity: As Marked on Body

• Weight: 2.24 grams (approx)

Mounting Position: Any

Marking: Type Number

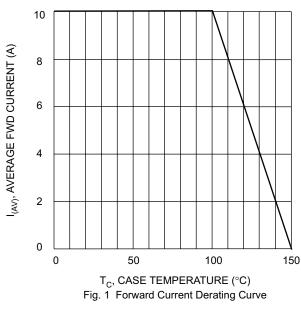
## Maximum Ratings and Electrical Characteristics @ TA = 25°C unless otherwise specified

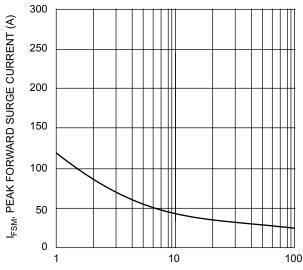
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	MBR 1070CT	MBR 1080CT	MBR 1090CT	MBR 10100CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	70	80	90	100	\ \
RMS Reverse Voltage	V <sub>R(RMS)</sub>	49	56	63	70	٧
Average Rectified Output Current (Note 1) @ T <sub>C</sub> = 100°	c lo	10				А
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	d I <sub>FSM</sub>	120				Α
Forward Voltage Drop @ I <sub>F</sub> = 5.0A, T <sub>C</sub> = 125 @ I <sub>F</sub> = 5.0A, T <sub>C</sub> = 25 @ I <sub>F</sub> = 10A, T <sub>C</sub> = 125 @ I <sub>F</sub> = 10A, T <sub>C</sub> = 25	°C °C V <sub>FM</sub>	0.75 0.85 0.85 0.95				V
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		0.1 50				mA
Typical Junction Capacitance (Note 2)	Cj	300				pF
Typical Thermal Resistance Junction to Case (Note 1)	R <sub>θJC</sub>	3.0				K/W
Voltage Rate of Change	dV/dt	10,000				V/µs
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +150				°C

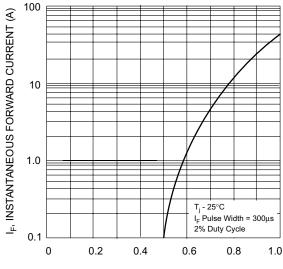
Notes: 1. Thermal resistance junction to case mounted on heatsink.

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





NUMBER OF CYCLES AT 60Hz Fig. 3 Max Non-Repetitive Surge Current



V<sub>F</sub>, INSTANTANEOUS FORWARD VOLTAGE (V) Fig. 2 Typical Forward Characteristics

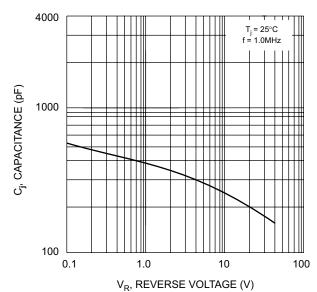


Fig. 4 Typical Junction Capacitance