



# DATA SHEET

SEMICONDUCTOR

MBR1020~MBR10200

## 10A SCHOTTKY BARRIER RECTIFIER



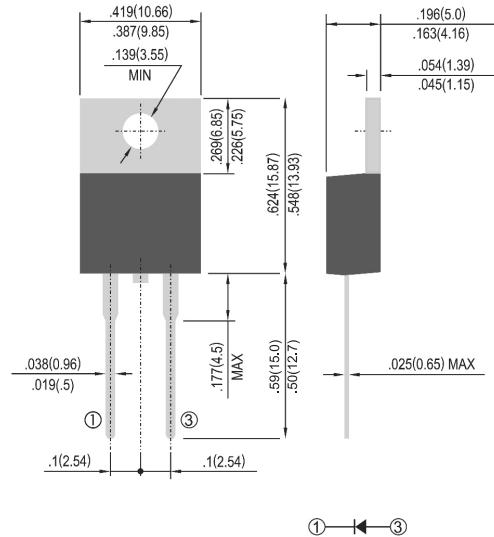
### FEATURES

- Schottky Barrier Chip
- Guard Ring for Transient Protection
- High Current Capability, Low Forward
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-O
- High temperature soldering : 260°C / 10 seconds at terminals
- Pb free product at available : 99% Sn above meet RoHS environment substance directive request

### MECHANICAL DATA

- Case: TO-220AC Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-750, Method 2026
- Polarity: As Marked on Body
- Weight: 2.24 grams (approx.)
- Mounting Position: Any
- Marking: Type Number

TO-220AC Unit:inch(mm)



### 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%.

Type Number	Symbol	MBR 1020	MBR 1030	MBR 1040	MBR 1050	MBR 1060	MBR 1080	MBR 10100	MBR 10150	MBR 10200	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	20	30	40	50	60	80	100	150	200	V
Maximum RMS Voltage	$V_{RMS}$	14	21	28	35	42	56	70	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	50	60	80	100	150	200	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	10									A
Peak Repetitive Forward Current (Square Wave, 20KHz) at $T_c=135^\circ\text{C}$	$I_{FRM}$	20.0									A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	150									A
Peak Repetitive Reverse Surge Current (Note 1)	$I_{RRM}$	1			0.5					A	
Voltage Rate of Change (Rated $V_R$ )	$dV/dt$	10,000									V/ $\mu\text{S}$
Maximum Instantaneous Forward Voltage at (Note 2) $I_f=10\text{A}$ , $T_c=25^\circ\text{C}$	$V_F$	0.55	0.70	0.75		0.85		0.95	0.99	V	
Maximum Instantaneous Reverse Current @ $T_c=25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 2) @ $T_c=125^\circ\text{C}$	$I_R$	0.1 15.0			0.1 6.0			0.025 10		mA mA	
Typical Junction Capacitance (Note 3)	$C_j$	350			280			200		pF	
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.5						2.0		$^\circ\text{C}/\text{W}$	
Operating Junction Temperature Range	$T_J$	-55 to +150									$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150									$^\circ\text{C}$

Notes: 1. 2.0us Pulse Width,  $f=1.0\text{KHz}$   
 2. Pulse Test: 300us Pulse Width, 1% Duty Cycle  
 3. Mounted on Heatsink Size of 2 in x 3 in x 0.25in Al-Plate.

# DEVICE CHARACTERISTICS

## MBR1020~MBR10200

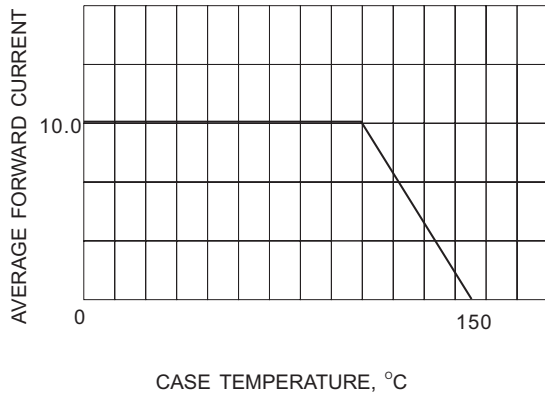


Fig.1- FORWARD CURRENT DERATING CURVE

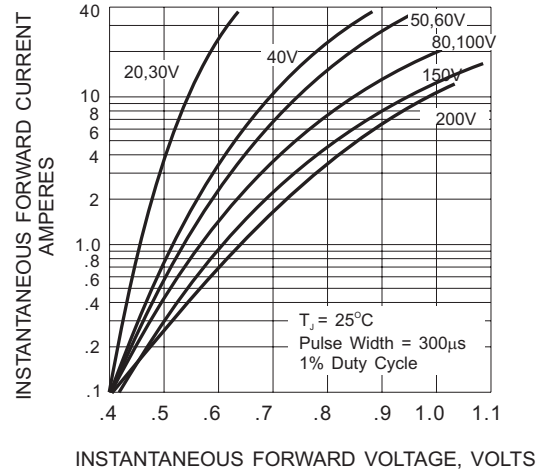


Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

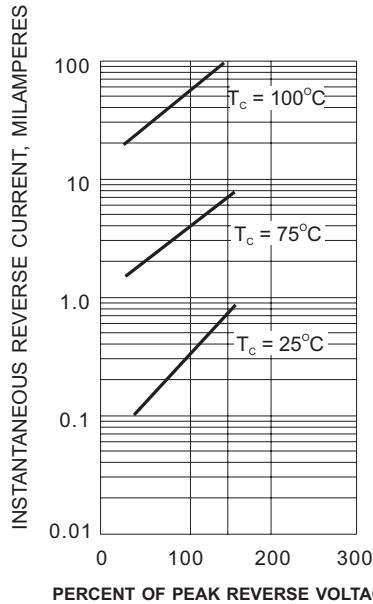


Fig.3- TYPICAL REVERSE CHARACTERISTIC

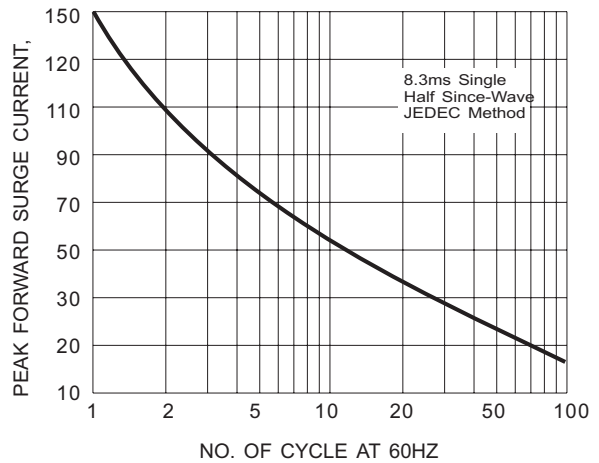


Fig.4- MAXIMUM NON-REPETITIVE SURGE CURRENT

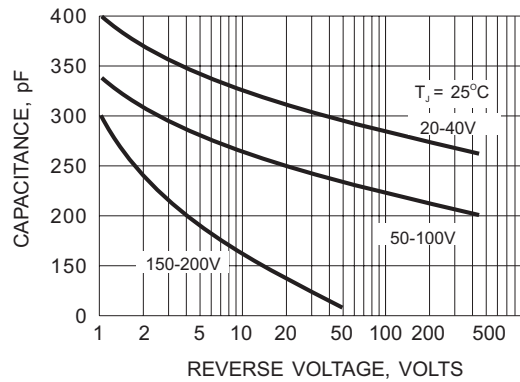





Fig.5- TYPICAL JUNCTION CAPACITANCE



TO/ITO220 包装规范

Packing 包装	Dimension 尺寸	Qty 数量	Picture 图示
Bag/Tube 袋/管装	527mm*33mm*7mm	50 PCS	
Inner box 内盒	555mm*140mm*55mm	2000 PCS	 <p>标签贴盒盖正面中心处</p>
Carton 外箱	575mm*285mm *155mm	8000 PCS	 <p>外箱两侧贴标签位置</p>