



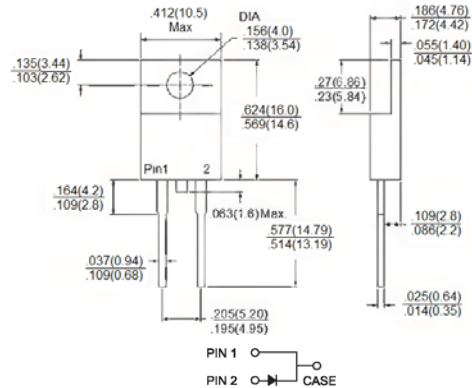
# MBR1035 - MBR10200

## 10.0 AMPS. Schottky Barrier Rectifiers

### TO-220AC

### Features

- ✧ UL Recognized File # E-326243
- ✧ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✧ Metal silicon junction, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ High surge capability
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guardring for overvoltage protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds, 0.25" (6.35mm) from case
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.



Dimensions in inches and (millimeters)

### Mechanical Data

- ✧ Cases: JEDEC TO-220AC molded plastic body
- ✧ Terminals: Pure tin plated, lead free. solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 5 in. - lbs. max
- ✧ Weight: 1.88 grams

Marking Diagram



- MBR10XX = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

### Maximum Ratings and Electrical Characteristics

Rating 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%

Type Number	Symbol	MBR 1035	MBR 1045	MBR 1050	MBR 1060	MBR 1090	MBR 10100	MBR 10150	MBR 10200	Units
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	35	45	50	60	90	100	150	200	V
Maximum RMS Voltage	V <sub>RMS</sub>	24	31	35	42	63	70	105	140	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	35	45	50	60	90	100	150	200	V
Maximum Average Forward Rectified Current at T <sub>c</sub> =125°C	I <sub>F(AV)</sub>	10								A
Peak Repetitive Forward Current (Rated V <sub>R</sub> , Square Wave, 20KHz) at T <sub>c</sub> =125°C	I <sub>FRM</sub>	20								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I <sub>FSM</sub>	150								A
Peak Repetitive Reverse Surge Current (Note 2)	I <sub>RSM</sub>	1.0		0.5						A
Maximum Instantaneous Forward Voltage at: I <sub>F</sub> =10A, T <sub>A</sub> =25°C I <sub>F</sub> =10A, T <sub>A</sub> =125°C I <sub>F</sub> =20A, T <sub>A</sub> =25°C I <sub>F</sub> =20A, T <sub>A</sub> =125°C	V <sub>F</sub>	0.70		0.80		0.85		1.05		V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage (Note 1)	I <sub>R</sub>	0.1								mA
		15		10		6.0				mA
Voltage Rate of Change (Rated V <sub>R</sub> )	dV/dt	10,000								V/uS
Typical Junction Capacitance	C <sub>j</sub>	500								pF
Maximum Typical Thermal Resistance (Note 3)	R <sub>θJC</sub>	3.0								°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-65 to +150								°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +175								°C

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

## RATINGS AND CHARACTERISTIC CURVES (MBR1035 THRU MBR10200)

FIG.1- FORWARD CURRENT DERATING CURVE

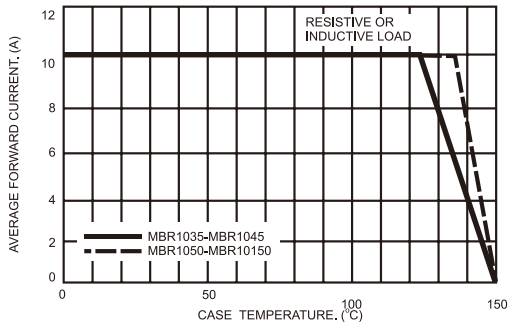


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

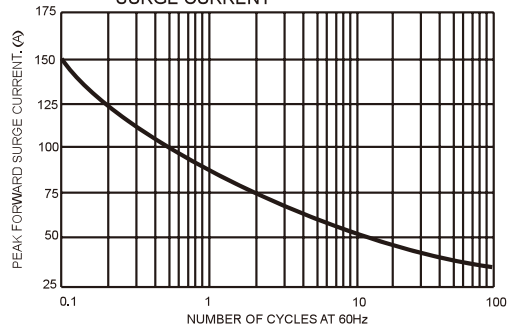


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

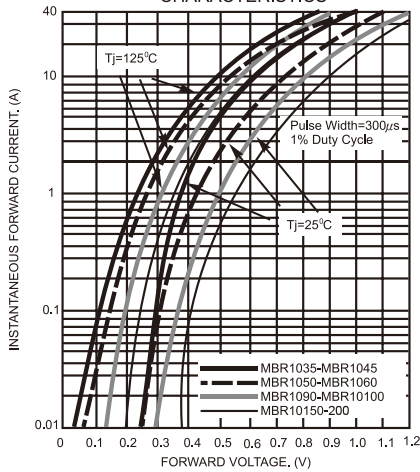


FIG.4- TYPICAL REVERSE CHARACTERISTICS

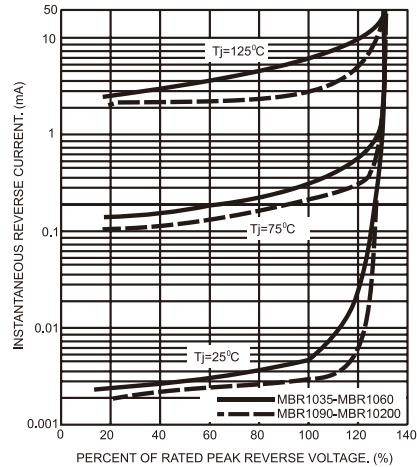


FIG.5- TYPICAL JUNCTION CAPACITANCE

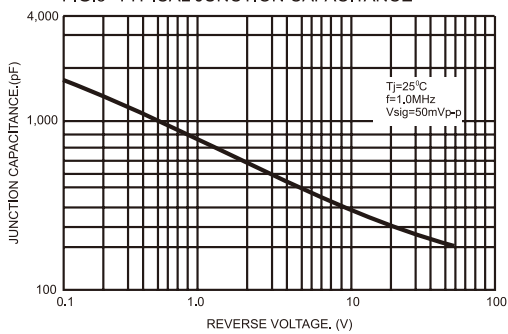


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTIC

