



MBR1035 - MBR10200

10.0 AMPS. Schottky Barrier Rectifiers

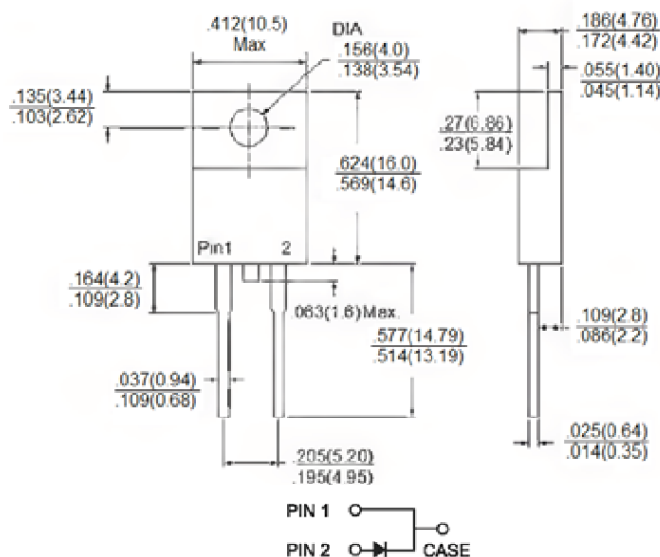
TO-220AC

Features

- ✧ UL Recognized File # E-326243
- ✧ Plastic material used carriers Underwriters Laboratory Classification 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
- ✧ Guard-ring 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

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



Dimensions in inches and (millimeters)



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 _{RRM}	35	45	50	60	90	100	150	200	V
Maximum RMS Voltage	V _{RMS}	24	31	35	42	63	70	105	140	V
Maximum DC Blocking Voltage	V _{DC}	35	45	50	60	90	100	150	200	V
Maximum Average Forward Rectified Current at T _C =125°C	I _{F(AV)}	10								A
Peak Repetitive Forward Current (Rated VR, Square Wave, 20KHz) at T _C =125 °C	I _{FRM}	20								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		0.5						A
Maximum Instantaneous Forward Voltage at: (Note 2) IF=10A, T _A =25°C IF=10A, T _A =125°C	V _F	0.70 0.57		0.80 0.70		0.85 0.71		1.05 -		V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage @ T _A =25 °C @ T _A =125 °C	I _R	0.1								mA mA
		15		10		6				
Voltage Rate of Change (Rated V _R)	dV/dt	10,000								V/us
Typical Junction Capacitance	C _j	500								pF
Maximum Typical Thermal Resistance	R _{θJC}	3								°C/W
Operating Junction Temperature Range	T _J	- 65 to + 150								°C
Storage Temperature Range	T _{STG}	- 65 to + 175								°C

Note 1: 2.0uS Pulse Width, $f=1.0\text{KHz}$

Note 2: Pulse Test : 300uS Pulse Width, 1% Duty Cycle

RATINGS AND CHARACTERISTIC CURVES (MBR1035 THRU MBR10200)

FIG. 1- FORWARD CURRENT DERATING CURVE

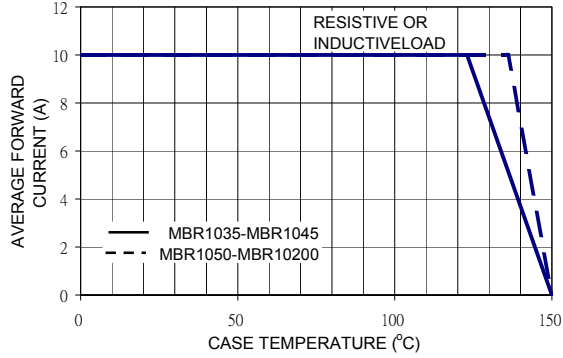


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

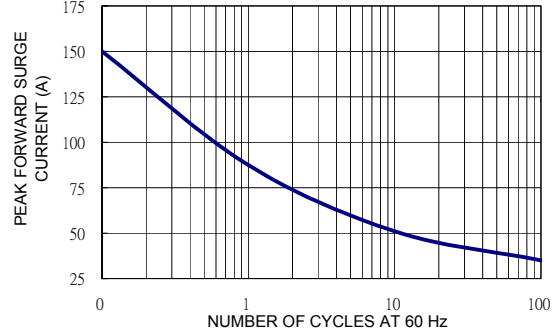


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

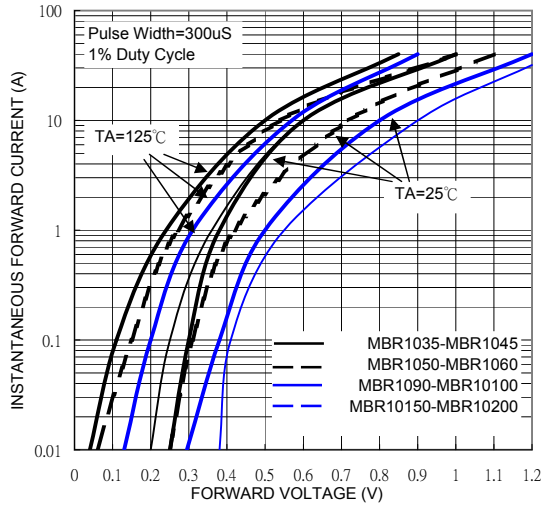


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

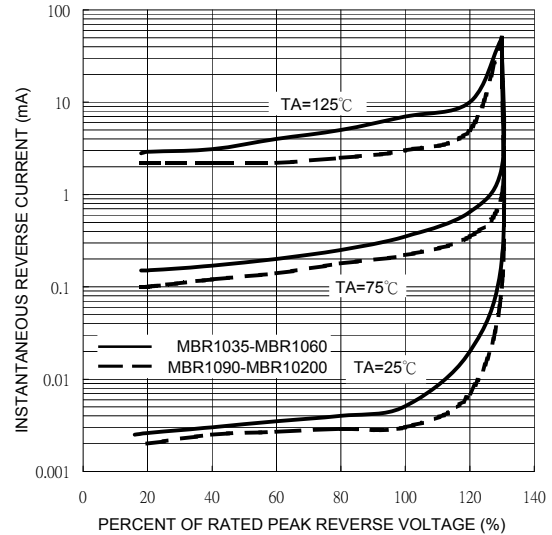


FIG. 5- TYPICAL JUNCTION CAPACITANCE

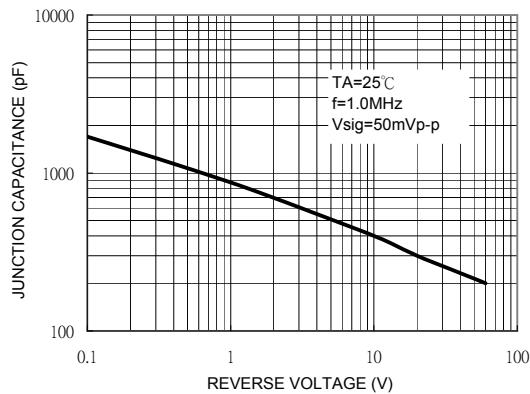


FIG. 6- TYPICAL TRANSIENT THERMAL CHARACTERISTIC

