

# MBR1035 THRU MBR10200

## SCHOTTKY BARRIER RECTIFIER

**REVERSE VOLTAGE:** 35 to 200 VOLTS

**FORWARD CURRENT:** 10.0 AMPERE

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed:  
250°C/10 seconds, 0.25" (6.35mm) from case

### MECHANICAL DATA

Case: Molded plastic, TO-220A

Epoxy: UL 94V-O rate flame retardant

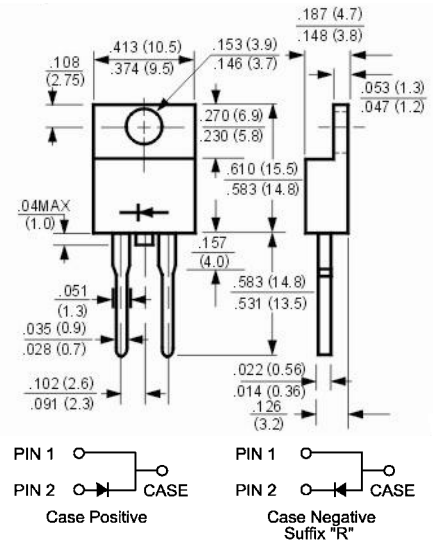
Terminals: Leads solderable per MIL-STD-202 method 208 guaranteed

Polarity: As marked

Mounting position: Any

Weight: 0.08ounce, 2.24gram

### TO-220A



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	Symbols	MBR1035	MBR1045	MBR1050	MBR1060	MBR1080	MBR10100	MBR10150	MBR10200	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	35	45	50	60	80	100	150	200	Volts
Maximum RMS Voltage	$V_{RMS}$	24	31	35	42	56	70	105	140	Volts
Maximum DC Blocking Voltage	$V_{DC}$	35	45	50	60	80	100	150	200	Volts
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	10.0								Amp
Peak repetitive forward current (sq. wave, 20 KHz) at $T_C = 135^\circ\text{C}$	$I_{FRM}$	20.0								Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	150								Amp
Maximum Forward Voltage (Note 1)	$V_F$	at $I_F = 10\text{A}, T_C = 25^\circ\text{C}$ 0.70		at $I_F = 10\text{A}, T_C = 125^\circ\text{C}$ 0.57		at $I_F = 20\text{A}, T_C = 25^\circ\text{C}$ 0.84		at $I_F = 20\text{A}, T_C = 125^\circ\text{C}$ 0.72		Volts
Maximum Reverse Current at Rated DC Blocking Voltage	$I_R$	at $T_C = 25^\circ\text{C}$ 0.1				at $T_C = 125^\circ\text{C}$ 0.2				mAmp
Typical Thermal Resistance	$R_{\theta JC}$	3.0								°C/W
Operating Temperature Range	$T_J$	-55 to +150								°C
Storage Temperature Range	$T_{stg}$	-55 to +150								°C

### NOTES:

1- Pulse test: 300µs pulse width, 1% duty cycle

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### RATINGS AND CHARACTERISTIC CURVES

FIG.1- FORWARD CURRENT DERATING CURVE

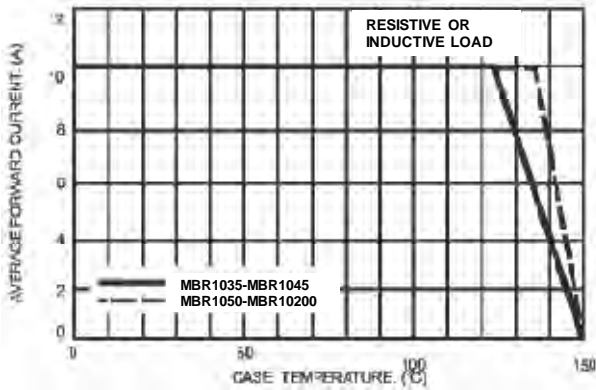


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

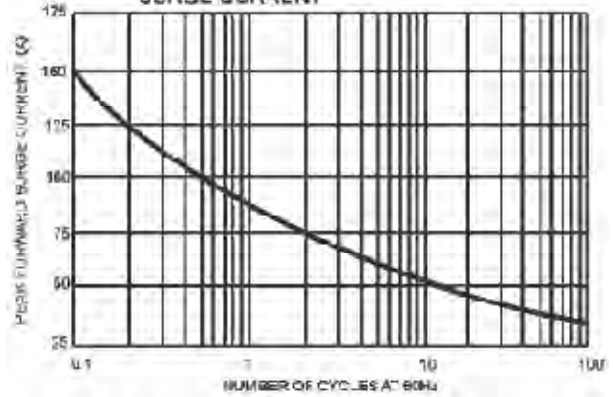


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

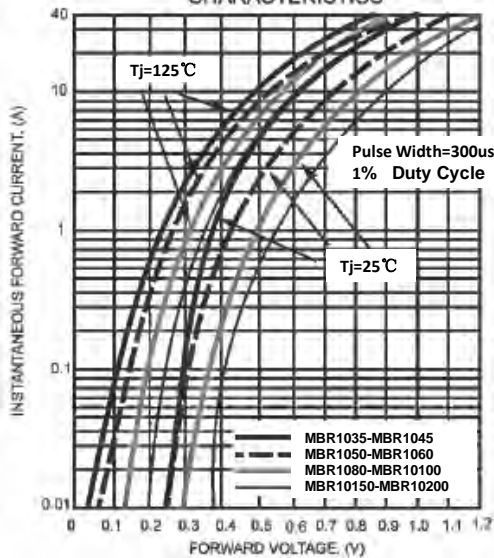


FIG.4- TYPICAL REVERSE CHARACTERISTICS

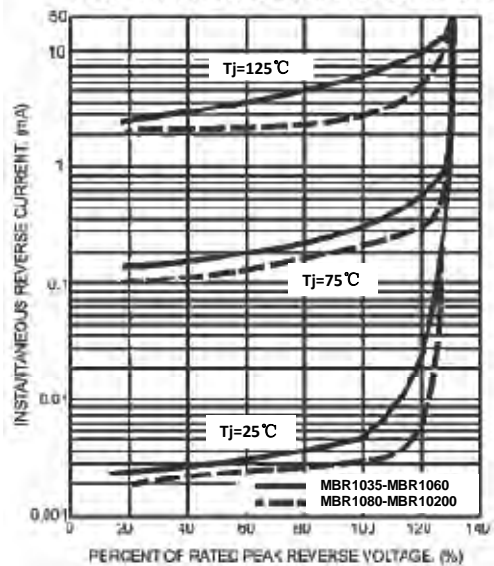


FIG.5- TYPICAL JUNCTION CAPACITANCE

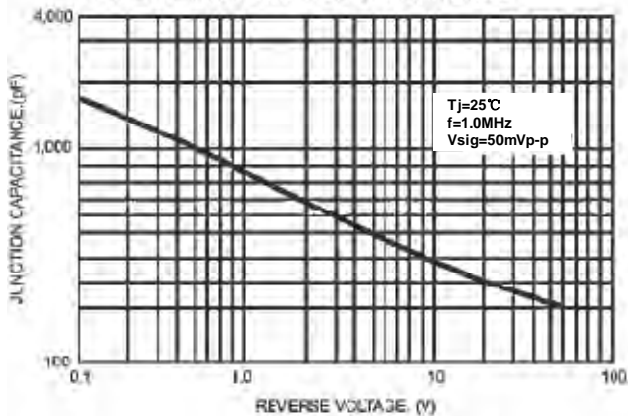


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTIC

