

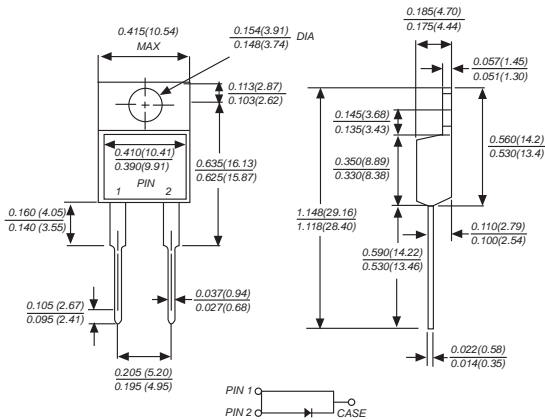


# MBR820 THRU MBR8100

## SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 100 Volts Forward Current - 8.0 Amperes

### TO-220AC



### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Construction utilizes void-free molded plastic technique
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C, 0.25" (6.35mm) from case for 10 seconds

### MECHANICAL DATA

**Case:** TO-220AC molded plastic body  
**Terminals:** Leads solderable per MIL-STD-750, Method 2026  
**Polarity:** As marked  
**Mounting Position:** Any  
**Weight:** 0.064 ounce, 1.81 grams

### 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 current derate by 20%.

| MDD Catalog Number  | SYMBOLS         | MBR 820     | MBR 830 | MBR 840 | MBR 845 | MBR 850 | MBR 860     | MBR 870 | MBR 880 | MBR 890 | MBR 8100 | UNITS |
|---|-----------------|-------------|---------|---------|---------|---------|-------------|---------|---------|---------|----------|-------|
| Maximum repetitive peak reverse voltage   | $V_{RRM}$       | 20          | 30      | 40      | 45      | 50      | 60          | 70      | 80      | 90      | 100      | VOLTS |
| Maximum RMS voltage   | $V_{RMS}$       | 14          | 21      | 28      | 32      | 35      | 42          | 49      | 56      | 63      | 70       | VOLTS |
| Maximum DC blocking voltage   | $V_{DC}$        | 20          | 30      | 40      | 45      | 50      | 60          | 70      | 80      | 90      | 100      | VOLTS |
| Maximum average forward rectified current (see fig.1)   | $I_{AV}$        | 8.0         |         |         |         |         |             |         |         |         |          | Amps  |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$       | 150.0       |         |         |         |         |             |         |         |         |          | Amps  |
| Maximum instantaneous forward voltage at 8.0A   | $V_F$           | 0.65        |         | 0.75    |         | 0.85    |             |         |         |         | Volts    |       |
| Maximum DC reverse current $T_A=25^\circ C$<br>at rated DC blocking voltage $T_A=100^\circ C$       | $I_R$           | 1.0         |         |         |         |         | 50.0        |         |         |         |          | mA    |
| Typical junction capacitance (NOTE 1)   | $C_J$           | 300         |         |         |         |         | 250         |         |         |         |          | pF    |
| Typical thermal resistance (NOTE 2)   | $R_{\theta JC}$ | 3.0         |         |         |         |         |             |         |         |         |          | °C/W  |
| Operating junction temperature range  | $T_J$           | -50 to +125 |         |         |         |         | -50 to +150 |         |         |         |          | °C    |
| Storage temperature range   | $T_{STG}$       | -50 to +150 |         |         |         |         |             |         |         |         |          | °C    |

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2. Thermal resistance from junction to case

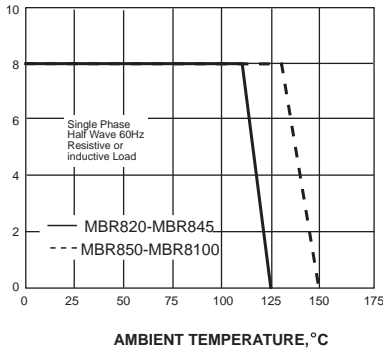


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# RATINGS AND CHARACTERISTIC CURVES MBR820 THRU MBR8100

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

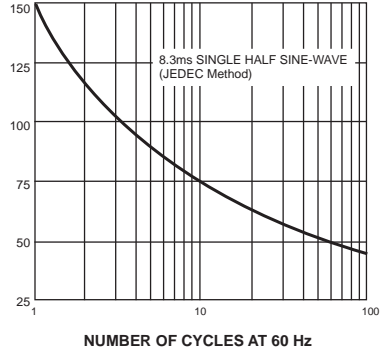
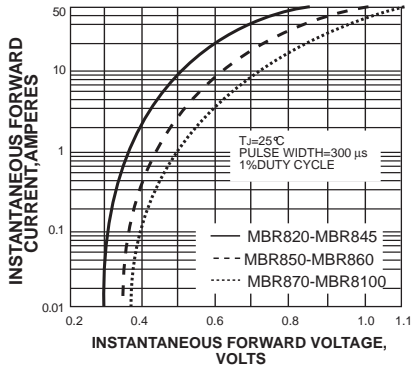


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

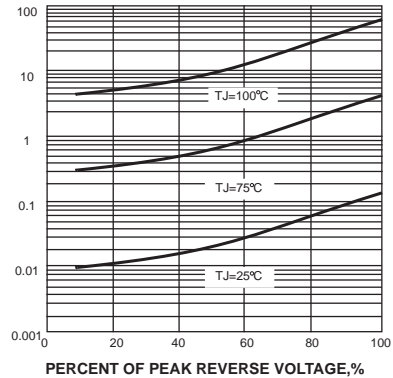
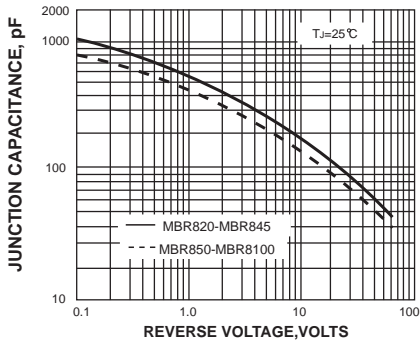
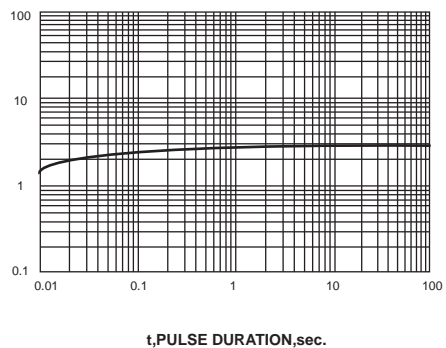


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The cruve graph is for reference only, can't be the basis for judgment(曲线图仅供参考!)

