



Schottky Barrier Rectifier

Reverse Voltage: 20 to 200 Volts
Forward Current: 1.0 Ampere

Features

- Plastic package has Underwriters Laboratory Flammability 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
- High temperature soldering guaranteed:
260°C/10 seconds at terminals
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

Mechanical data

- Case: R-1 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.007 ounce, 0.20 gram

Maximum Ratings And Electrical Characteristics

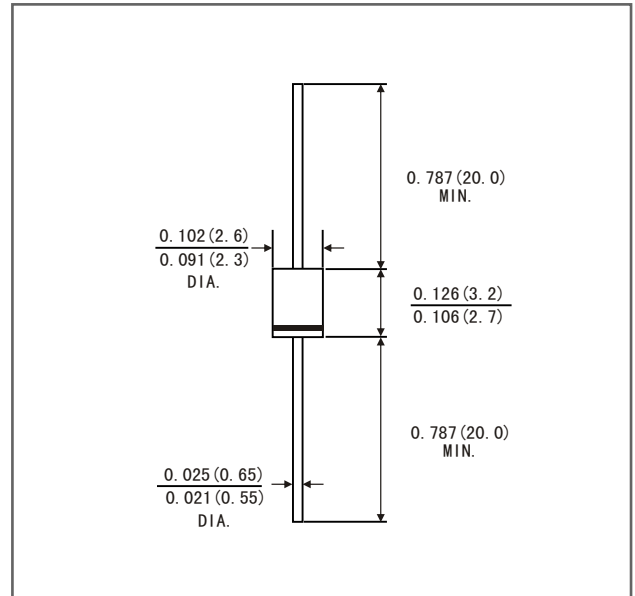
- Ratings at 25°C ambient temperature unless otherwise specified.
- Single phase, half wave, resistive or inductive load.
- For capacitive load derate by 20%.

| Type Number | Symbols | MBR 120 TG | MBR 130 TG | MBR 140 TG | MBR 150 TG | MBR 160 TG | MBR 180 TG | MBR 1100 TG | MBR 1150 TG | MBR 1200 TG | Units |
|--|-------------------------|-------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | Volts |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 57 | 71 | 105 | 140 | Volts |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | Volts |
| Maximum average forward rectified current 0.375"(9.5mm) lead length(see Fig. 1) | $I_{(AV)}$ | 1.0 | | | | | | | | | Amp |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 40.0 | | | | | | | | | Amps |
| Maximum instantaneous forward voltage at 1.0 A(Note 1) | V_F | 0.55 | | 0.70 | | 0.85 | | 0.90 | | 0.95 | Volts |
| Maximum instantaneous reverse current at rated DC blocking voltage(Note 1) | I_R | 0.2 | | | | | | | | | mA |
| | $T_A=100^\circ\text{C}$ | 10 | | | | | | | | | |
| Typical junction capacitance(Note 3) | C_J | 110 | | | | | | | | | pF |
| Typical thermal resistance(Note 2) | $R_{\theta JA}$ | 50.0 | | | | | | | | | °C/W |
| Operating junction temperature range | T_J | -65 to +150 | | | | | | | | | °C |
| Storage temperature range | T_{STG} | -65 to +150 | | | | | | | | | °C |

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle
 2.Thermal resistance (from junction to ambient)Vertical P.C.B. mounted , 0.5"(12.7mm)lead length
 3.Measured at 1.0MHz and reverse voltage of 4.0 volts

Package outline

R-1



Dimensions in inches and (millimeters)

Rating and characteristic curves

FIG.1-FOWARD CURRENT DERATING CURVE

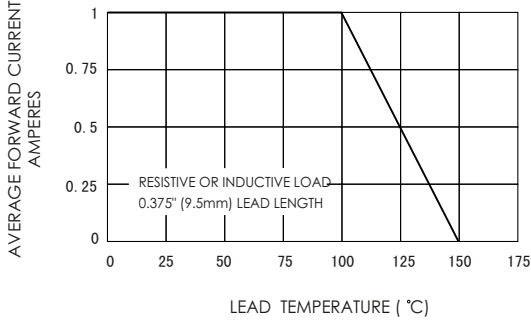


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

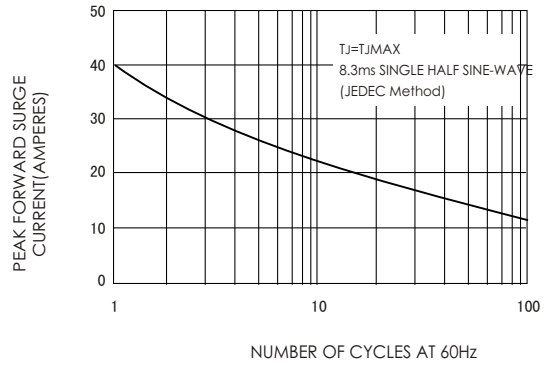


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

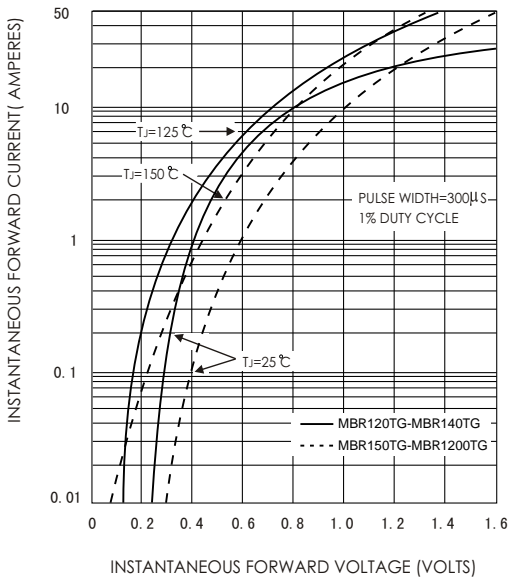


FIG.4-TYPICAL REVERSE CHARACTERISTICS

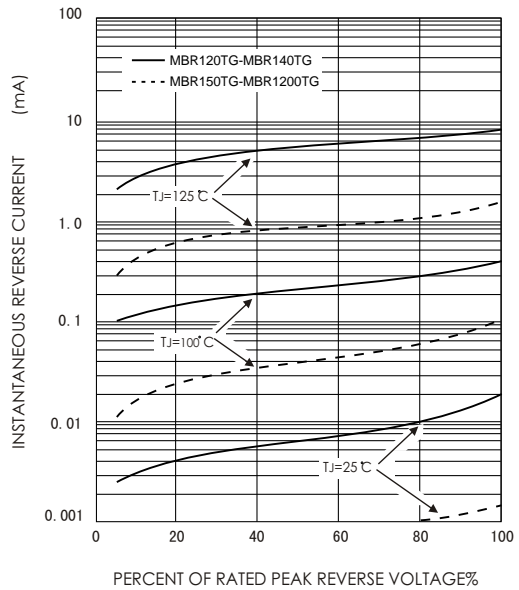


FIG.5-TYPICAL JUNCTION CAPACITANCE

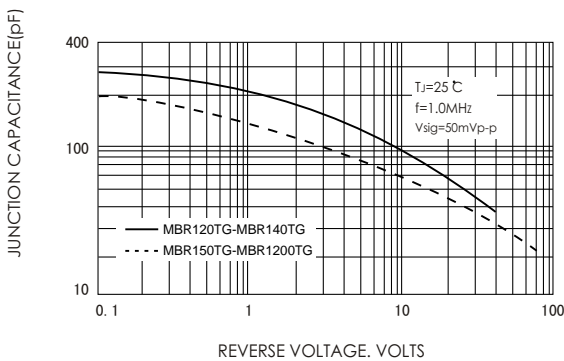


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

