

SCHOTTKY BARRIER RECTIFIER

VOLTAGE RANGE: 30 - 100 V
CURRENT: 16 A

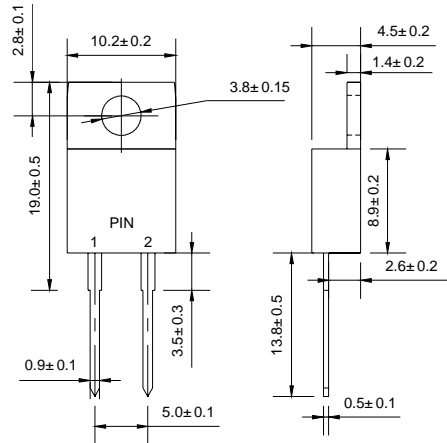
FEATURES

- ◇ High surge capacity.
- ◇ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- ◇ Metal silicon junction, majority carrier conduction.
- ◇ High current capacity, low forward voltage drop.
- ◇ Guard ring for over voltage protection.

MECHANICAL DATA

- ◇ Case: JEDEC TO-220AC, molded plastic body
- ◇ Terminals: Leads, solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Position: Any
- ◇ Weight: 0.069 ounces, 1.96 gram

TO-220AC



Dimensions in 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%.

| | | MBR 1630 | MBR 1635 | MBR 1640 | MBR 1645 | MBR 1650 | MBR 1660 | MBR 1690 | MBR 16100 | UNITS |
|---|-----------------|-----------------|----------|----------|----------|----------|----------|----------|-----------|--------------|
| Maximum recurrent peak reverse voltage | V_{RRM} | 30 | 35 | 40 | 45 | 50 | 60 | 90 | 100 | V |
| Maximum RMS Voltage | V_{RMS} | 21 | 25 | 28 | 32 | 35 | 42 | 63 | 70 | V |
| Maximum DC blocking voltage | V_{DC} | 30 | 35 | 40 | 45 | 50 | 60 | 90 | 100 | V |
| Maximum average forward total device rectified current @ $T_c = 125^\circ C$ | $I_{F(AV)}$ | 16 | | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 150 | | | | | | | | A |
| Maximum forward voltage ($I_F=16A, T_c=25^\circ C$) (Note 1) ($I_F=16A, T_c=125^\circ C$) | V_F | 0.63 | | | 0.75 | | 0.85 | | | V |
| | | 0.57 | | | 0.65 | | - | | | |
| Maximum reverse current @ $T_c=25^\circ C$ at rated DC blocking voltage @ $T_c=125^\circ C$ | I_R | 0.2 | | | 1.0 | | | | | m A |
| | | 40 | | | 50 | | | | | |
| Maximum thermal resistance (Note2) | $R_{\theta JC}$ | 1.5 | | | | | | | | $^\circ C/W$ |
| Operating junction temperature range | T_J | - 55 ---- + 150 | | | | | | | | $^\circ C$ |
| Storage temperature range | T_{STG} | - 55 ---- + 175 | | | | | | | | $^\circ C$ |

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

2. Thermal resistance from junction to case.

FIG.1 – FORWARD CURRENT DERATING CURVE

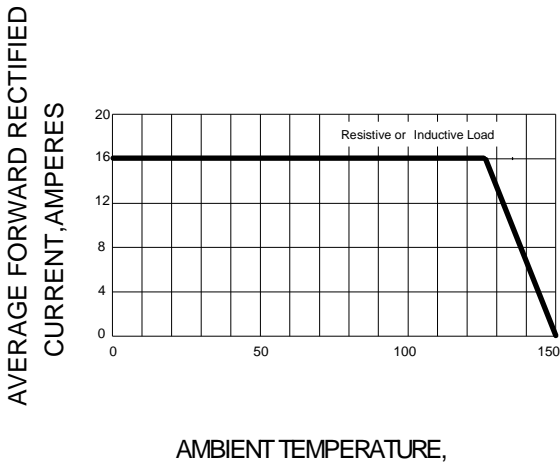


FIG.2 – MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

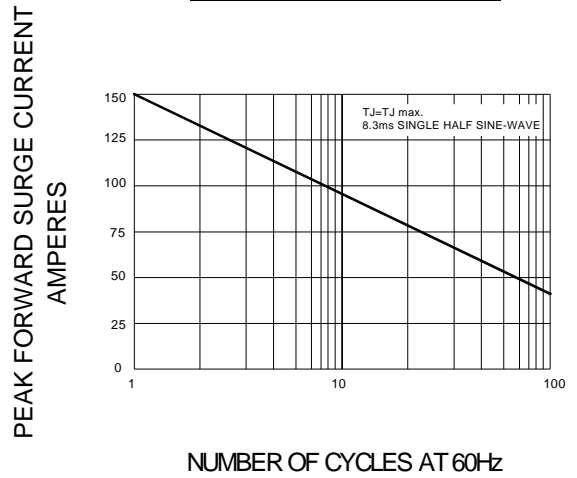


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

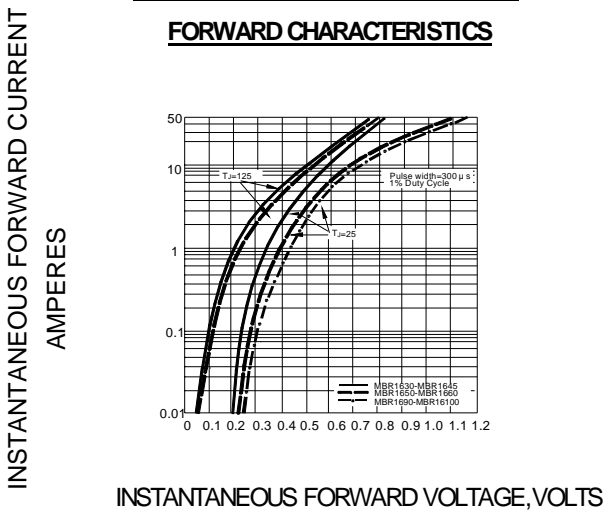


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

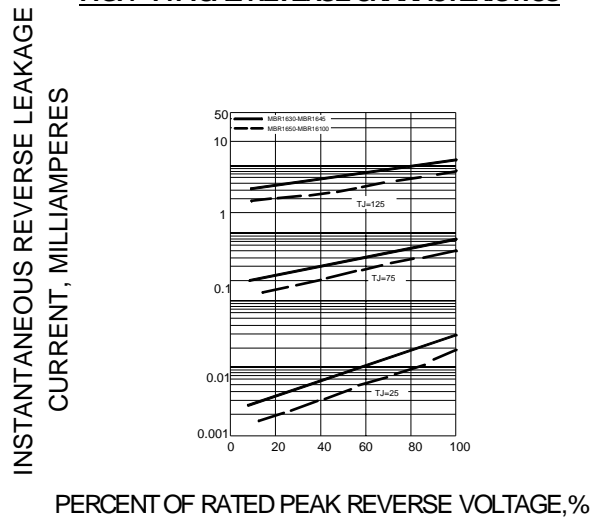


FIG.5 – TYPICAL JUNCTION CAPACITANCE

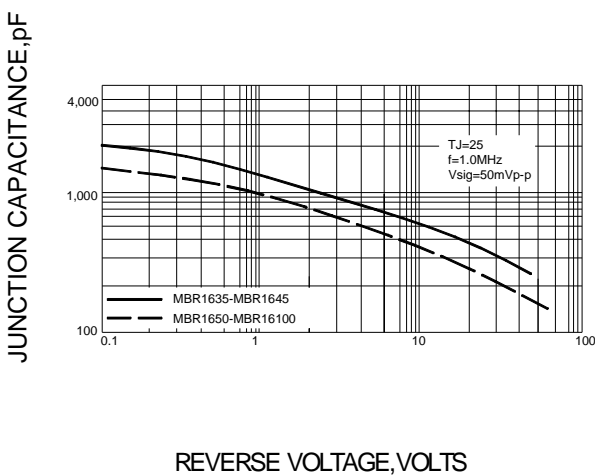


FIG.6 – TYPICAL TRANSIENT THERMAL IMPEDANCE

