

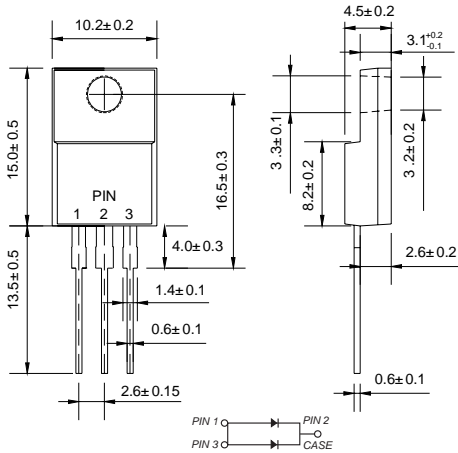


MBRF1520CT THRU MBRF15100CT

SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 100 Volts Forward Current - 15.0 Amperes

ITO-220AB



Dimensions in inches and (millimeters)

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 capability, low forward voltage drop.
- ◆ Guard ring for over voltage protection.

MECHANICAL DATA

Case: ITO-220AB molded plastic body
Terminals: Leads solderable per MIL-STD-750, Method 2026
Polarity: As marked
Mounting Position: Any
Weight: 0.060 ounce, 1.67 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 | MBRF 1520CT | MBRF 1530CT | MBRF 1540CT | MBRF 1545CT | MBRF 1550CT | MBRF 1560CT | MBRF 1570CT | MBRF 1580CT | MBRF 1590CT | MBRF 15100CT | 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) | $I_{(AV)}$ | 15.0 | | | | | | | | | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 150.0 | | | | | | | | | | Amps |
| Maximum instantaneous forward voltage at 7.5A | V_F | 0.55 | | | 0.75 | | | 0.85 | | | Volts | |
| Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$ | I_R | 1.0 | | | 15.0 | | | 50.0 | | | mA | |
| Typical junction capacitance (NOTE 1) | C_J | 300 | | | 250 | | | pF | | | | |
| Typical thermal resistance (NOTE 2) | $R_{\theta JC}$ | 2.0 | | | | | | | | | | $^\circ\text{C/W}$ |
| Operating junction temperature range | T_J | -55 to +125 | | | -55 to +150 | | | $^\circ\text{C}$ | | | | |
| Storage temperature range | T_{STG} | -55 to +150 | | | | | | | | | | $^\circ\text{C}$ |

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

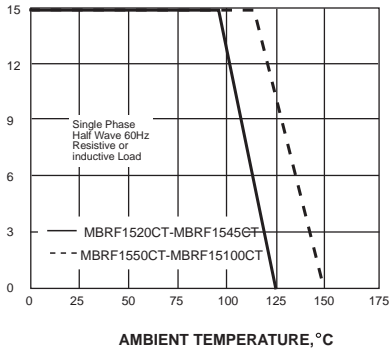
2. Thermal resistance from junction to case



RATINGS AND CHARACTERISTIC CURVES MBRF1520CT THRU MBRF15100CT

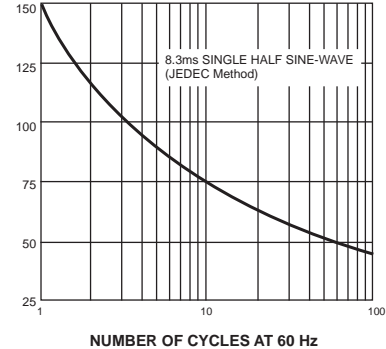
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



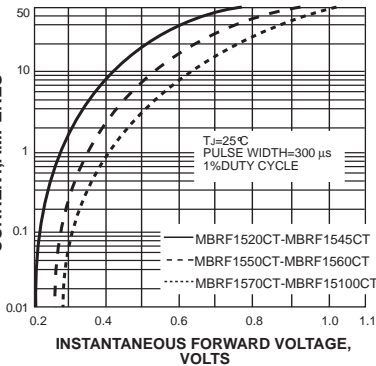
PEAK FORWARD SURGE CURRENT, AMPERES

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



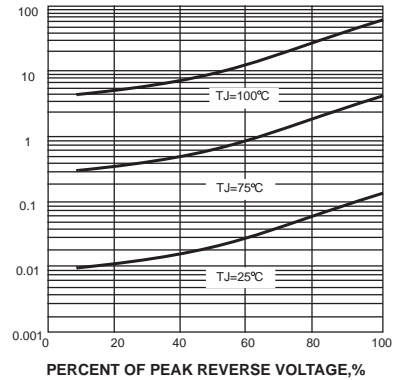
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



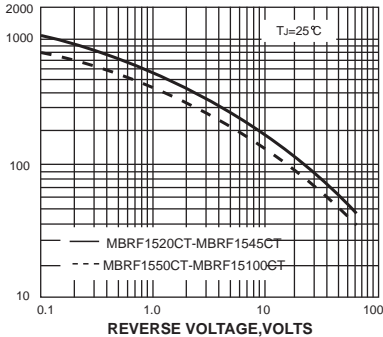
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



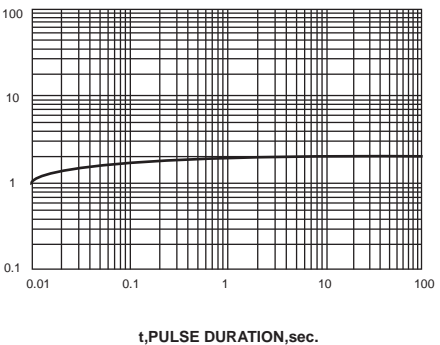
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, $^{\circ}\text{C}/\text{W}$

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)!

