



MBR2020CT THRU MBR20100CT

Reverse Voltage - 20 to 100 Volts Forward Current - 20.0 Ampere

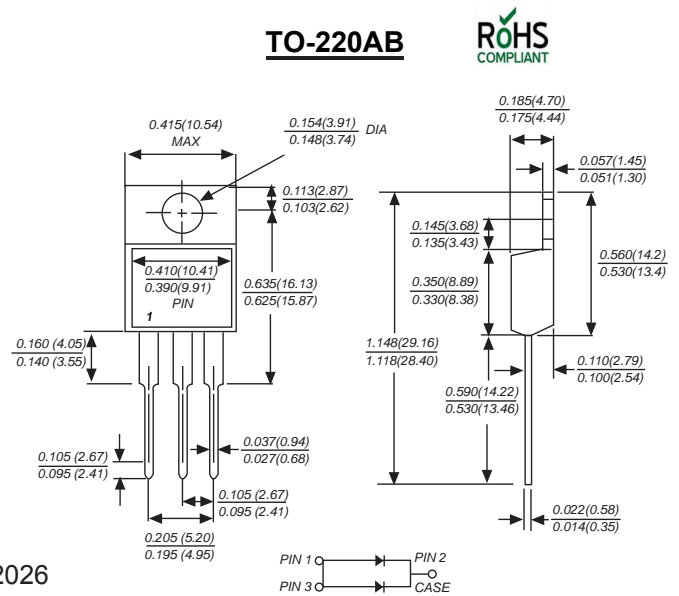
SCHOTTKY BARRIER RECTIFIER

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 : JEDEC TO-220AB Molded plastic body
Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
Polarity : Polarity symbol marking on body
Mounting Position : Any
Weight : 0.080 ounce, 2.24 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%.

| Parameter | SYMBOLS | MBR 2020CT | MBR 2030CT | MBR 2040CT | MBR 2045CT | MBR 2050CT | MBR 2060CT | MBR 2070CT | MBR 2080CT | MBR 2090CT | MBR 20100CT | UNITS |
|---|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------|
| | | MDD MBR 2020CT | MDD MBR 2030CT | MDD MBR 2040CT | MDD MBR 2045CT | MDD MBR 2050CT | MDD MBR 2060CT | MDD MBR 2070CT | MDD MBR 2080CT | MDD MBR 2090CT | MDD MBR 20100CT | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 45 | 50 | 60 | 70 | 80 | 90 | 100 | V |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | 32 | 35 | 42 | 49 | 56 | 63 | 70 | V |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 45 | 50 | 60 | 70 | 80 | 90 | 100 | V |
| Maximum average forward rectified current (see fig.1) | I_{AV} | 20.0 | | | | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave | I_{FSM} | 150 | | | | | | | | | | A |
| Maximum instantaneous forward voltage at 10.0A | V_F | 0.55 | | | 0.75 | | | 0.85 | | | V | |
| Maximum DC reverse current at rated DC blocking voltage | I_R | 1.0 | | | | | | | | | | mA |
| | | 15.0 | | | | | 50.0 | | | | | |
| Typical junction capacitance (NOTE 1) | C_J | 550 | | | | | 450 | | | | | pF |
| Typical thermal resistance (NOTE 2) | $R_{\theta JC}$ | 2.0 | | | | | | | | | | °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.



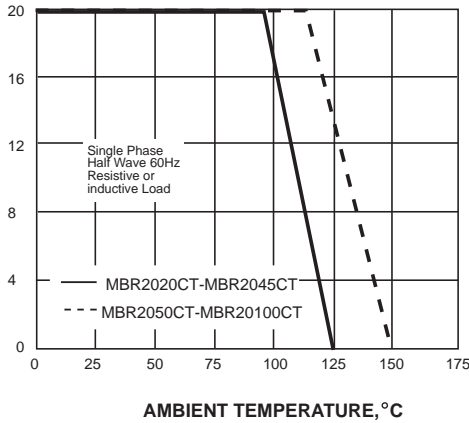
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Ratings And Characteristic Curves

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

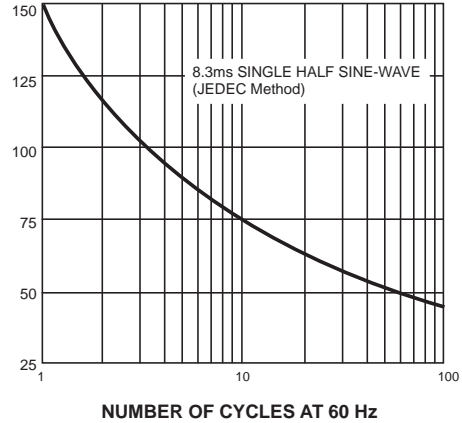
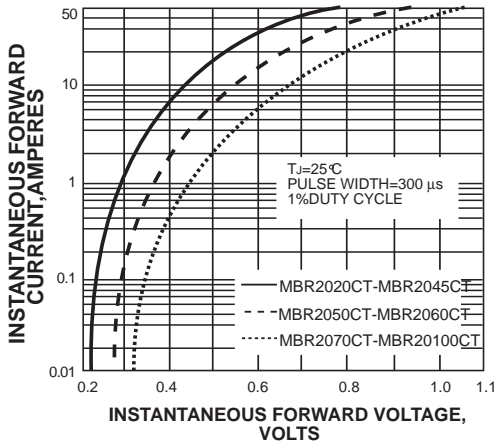
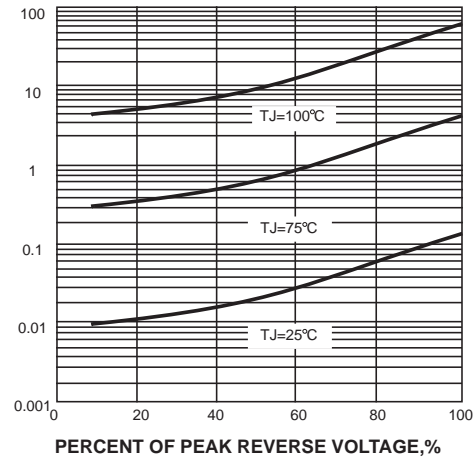


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



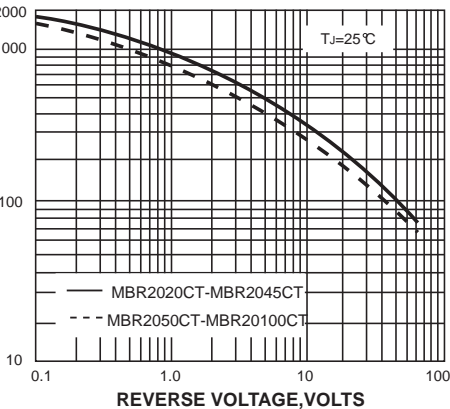
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



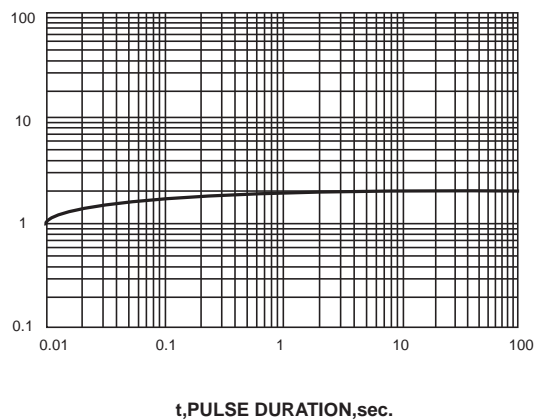
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.

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