

MBR1035CT-MBR10200CT

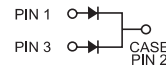
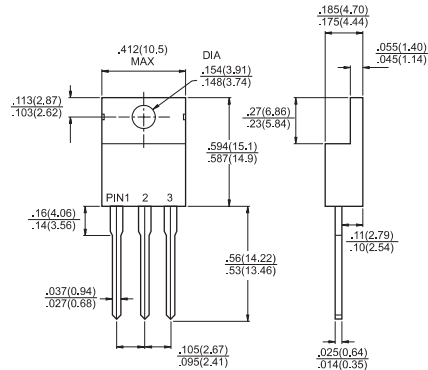
10.0AMP. Schottky Barrier Rectifiers

TO-220AB



Features

- ✧ Plastic material used carries Underwriters Laboratory Classifications 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
- ✧ Guardring for overvoltage protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds, 0.25" (6.35mm) from case



Mechanical Data

- ✧ Cases: JEDEC TO-220AB molded plastic body
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 5 in. - lbs. max
- ✧ Weight: 0.08 ounce, 2.24 grams

Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number | Symbol | MBR 1035 CT | MBR 1045 CT | MBR 1050 CT | MBR 1060 CT | MBR 1090 CT | MBR 10100 CT | MBR 10150 CT | MBR 10200 CT | Units | |
|--|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------|--------------|--------------|--------------|---------------------------|----------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 35 | 45 | 50 | 60 | 90 | 100 | 150 | 200 | V | |
| Maximum RMS Voltage | V_{RMS} | 24 | 31 | 35 | 42 | 63 | 70 | 105 | 140 | V | |
| Maximum DC Blocking Voltage | V_{DC} | 35 | 45 | 50 | 60 | 90 | 100 | 150 | 200 | V | |
| Maximum Average Forward Rectified Current at $T_C=125^\circ\text{C}$ | $I_{(AV)}$ | 10 | | | | | | | | A | |
| Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz) at $T_C=125^\circ\text{C}$ | I_{FRM} | 32 | | | | | | | | A | |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 120 | | | | | | | | A | |
| Peak Repetitive Reverse Surge Current (Note 1) | I_{RRM} | 1.0 | | | | | | | 0.5 | A | |
| Maximum Instantaneous Forward Voltage at: (Note 2) $I_F=5\text{A}, T_C=25^\circ\text{C}$ $I_F=5\text{A}, T_C=125^\circ\text{C}$ $I_F=10\text{A}, T_C=25^\circ\text{C}$ $I_F=10\text{A}, T_C=125^\circ\text{C}$ | V_F | 0.70 0.57 0.80 0.67 | 0.80 0.65 0.90 0.75 | 0.85 0.75 0.95 0.85 | 0.88 0.78 0.98 0.88 | | | | | | V |
| Maximum Instantaneous Reverse Current @ $T_C=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_C=125^\circ\text{C}$ (Note 2) | I_R | 15 | | 10 | 2.0 | | | | | | mA mA |
| Voltage Rate of Change (Rated V_R) | dV/dt | 10,000 | | | | | | | | V/ μs | |
| Maximum Typical Thermal Resistance (Note 3) | $R_{\theta JC}$ | 1.5 | | | | | | | | $^\circ\text{C}/\text{W}$ | |
| Operating Junction Temperature Range | T_J | -65 to +150 | | | | | | | | $^\circ\text{C}$ | |
| Storage Temperature Range | T_{STG} | -65 to +175 | | | | | | | | $^\circ\text{C}$ | |

- Notes:
1. 2.0us Pulse Width, $f=1.0\text{ KHz}$
 2. Pulse Test: 300us Pulse Width, 1% Duty Cycle
 3. Thermal Resistance from Junction to Case Per Leg, Mount on Heatsink Size of 2 in x 3 in x 0.25in Al-Plate.

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RATINGS AND CHARACTERISTIC CURVES (MBR1035CT THRU MBR10200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

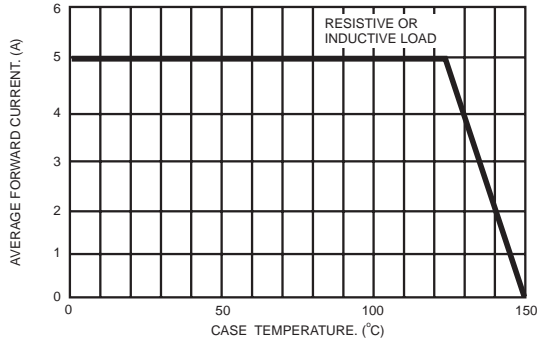


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

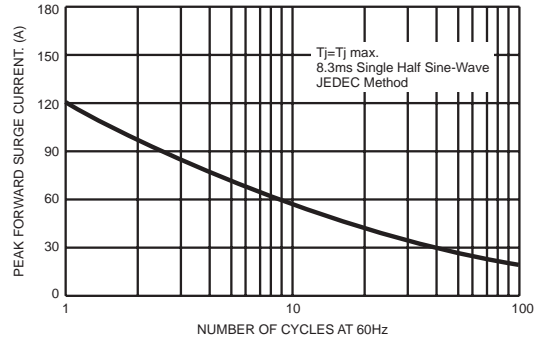


FIG.3- TYPICAL FORWARD CHARACTERISTICS

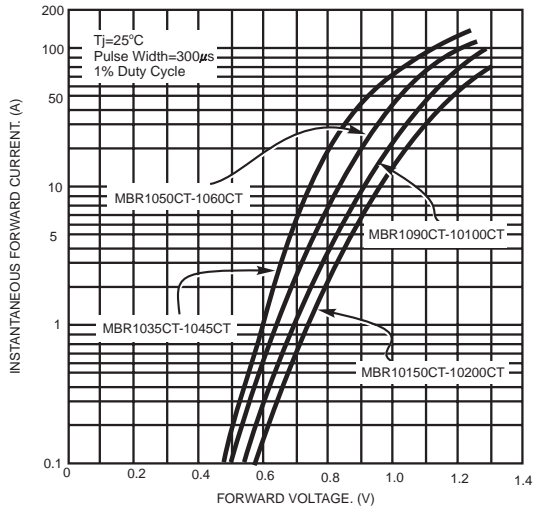


FIG.4- TYPICAL REVERSE CHARACTERISTICS

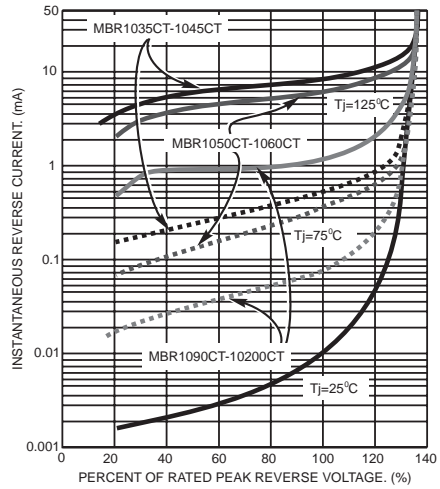


FIG.5- TYPICAL JUNCTION CAPACITANCE

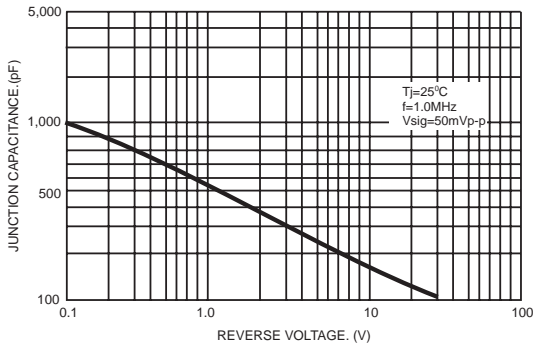
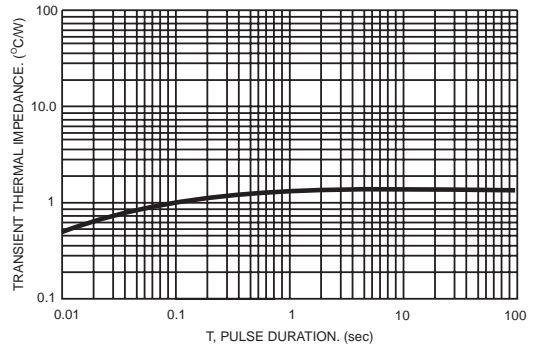


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG



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