



MBR1035CT - MBR10200CT 10.0 AMPS. Schottky Barrier Rectifiers

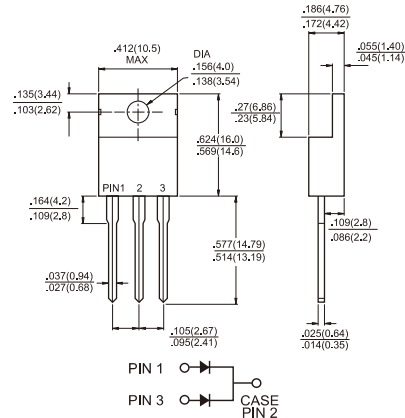
TO-220AB

Features

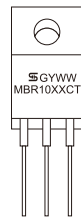
- ✧ UL Recognized File # E-326243
- ✧ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✧ Metal silicon junction, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ High surge capability
- ✧ For use in 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
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.

Mechanical Data

- ✧ Cases: JEDEC TO-220AB molded plastic body
- ✧ Terminals: Pure tin plated, lead free. solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 5 in. - lbs. max
- ✧ Weight: 1.88grams



Dimensions in inches and (millimeters)



Marking Diagram

MBR10XXCT = Specific Device Code
G = Green Compound
Y = Year
WW = Work Week

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 Tc=125°C | I _{F(AV)} | 10 | | | | | | | | A |
| Peak Repetitive Forward Current (Rated V _R , Square Wave, 20KHz) at Tc=125°C | I _{FRM} | 10 | | | | | | | | 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 2) | I _{RRM} | 1.0 | | 0.5 | | | | | | A |
| Maximum Instantaneous Forward Voltage at: I _F =5A, T _A =25°C I _F =5A, T _A =125°C I _F =10A, T _A =25°C I _F =10A, T _A =125°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 _A =25 °C at Rated DC Blocking Voltage (Note 1) @ T _A =125 °C | I _R | 0.1 15 10 2.0 5.0 | | | | | | | | mA mA |
| Voltage Rate of Change (Rated V _R) | dV/dt | 10,000 | | | | | | | | V/μS |
| Maximum Typical Thermal Resistance (Note 3) | RθJC | 1.5 | | | | | | | | °C/W |
| Operating Junction Temperature Range | T _J | -65 to +150 | | | | | | | | °C |
| Storage Temperature Range | T _{STG} | -65 to +175 | | | | | | | | °C |

Notes: 1. Pulse Test: 300 μs Pulse Width, 1% Duty Cycle
2. 2.0 μs Pulse Width, $f=1.0\text{ KHz}$
3. Mount on Heatsink Size of 2 in x 3 in x 0.25in Al-Plate.

RATINGS AND CHARACTERISTIC CURVES (MBR1035CT THRU MBR10200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

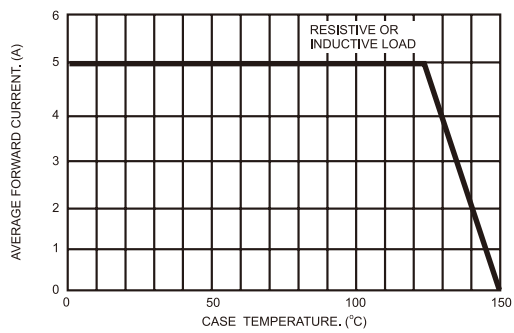


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

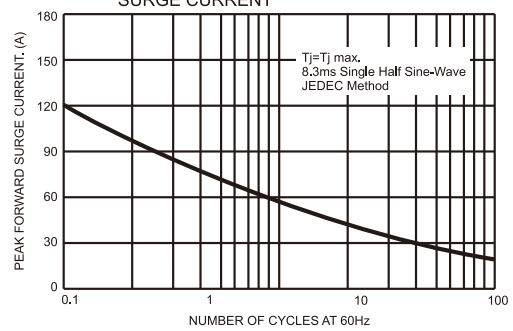


FIG.3- TYPICAL FORWARD CHARACTERISTICS

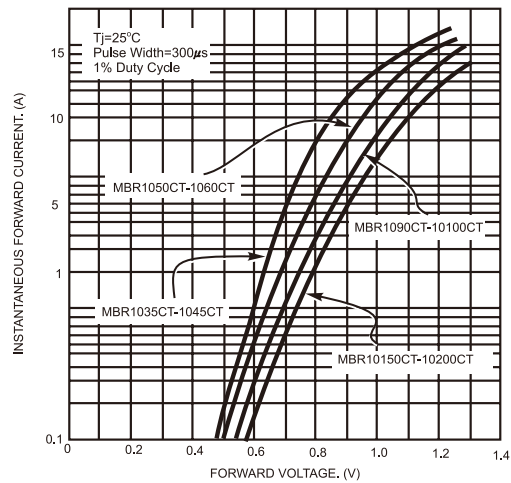


FIG.4- TYPICAL REVERSE CHARACTERISTICS

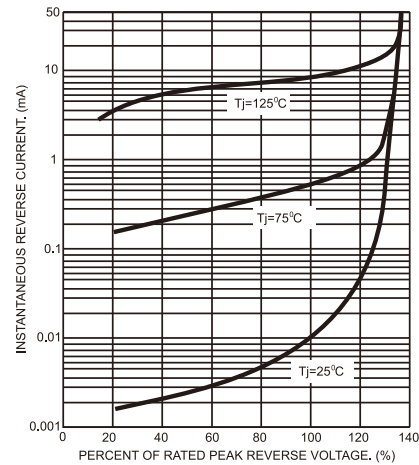


FIG.5- TYPICAL JUNCTION CAPACITANCE

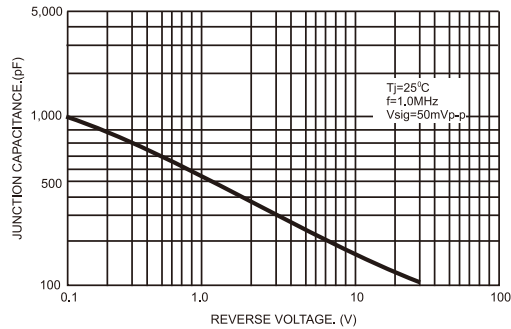


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

