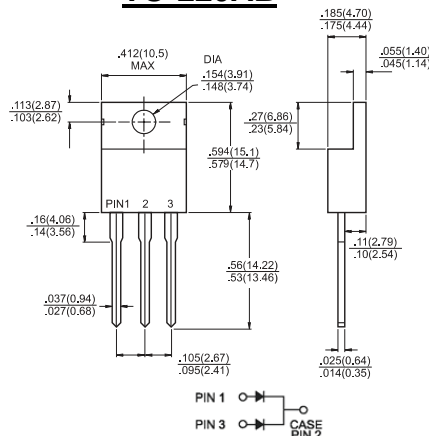


MBR20H100CT – MBR20H200CT

20.0 AMPS. Schottky Barrier Rectifiers



TO-220AB



Dimensions in inches and (millimeters)

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 power supply – output rectification, power management, instrumentation
- ✧ 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
- ✧ 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: 0.08 ounce, 2.24 grams

Marking Diagram



- MBR20HXXCT = 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 20H100CT | MBR 20H150CT | MBR 20H200CT | Units |
|--|-----------------|------------------------------|------------------------------|--------------|--------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 100 | 150 | 200 | V |
| Maximum RMS Voltage | V_{RMS} | 70 | 105 | 140 | V |
| Maximum DC Blocking Voltage | V_{DC} | 100 | 150 | 200 | V |
| Maximum Average Forward Rectified Current at $T_C=125^\circ\text{C}$ | $I_{(AV)}$ | 20 | | | A |
| Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz) at $T_C=125^\circ\text{C}$ | I_{FRM} | 20 | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 150 | | | A |
| Peak Repetitive Reverse Surge Current (Note 1) | I_{RRM} | 1.0 | | 0.5 | A |
| Maximum Instantaneous Forward Voltage at: (Note 2) $I_F=10\text{A}, T_C=25^\circ\text{C}$ $I_F=10\text{A}, T_C=125^\circ\text{C}$ $I_F=20\text{A}, T_C=25^\circ\text{C}$ $I_F=20\text{A}, T_C=125^\circ\text{C}$ | V_F | 0.85 0.75 0.95 0.85 | 0.88 0.75 0.97 0.85 | | 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 | 5 2.0 | | | uA mA |
| Voltage Rate of Change (Rated V_R) | dV/dt | 10,000 | | | V/uS |
| Maximum Typical Thermal Resistance (Note 3) | $R_{\theta JC}$ | 1.5 | | | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range | T_J | -65 to +175 | | | $^\circ\text{C}$ |
| 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.

RATINGS AND CHARACTERISTIC CURVES (MBR20H100CT - MBR20H200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

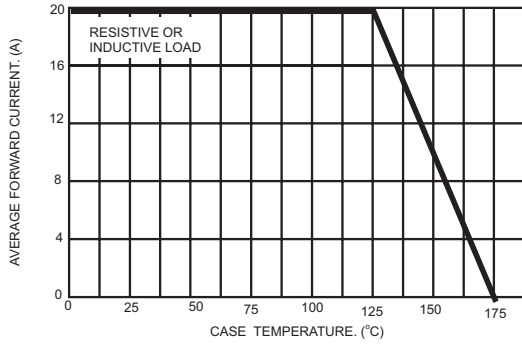


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

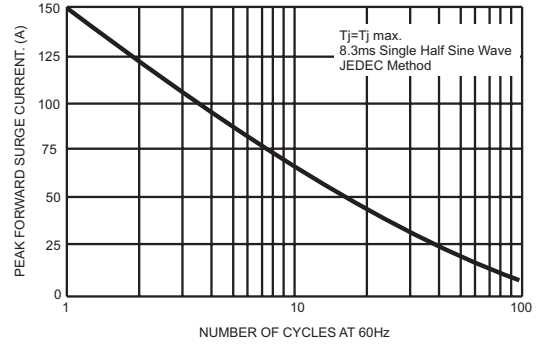


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

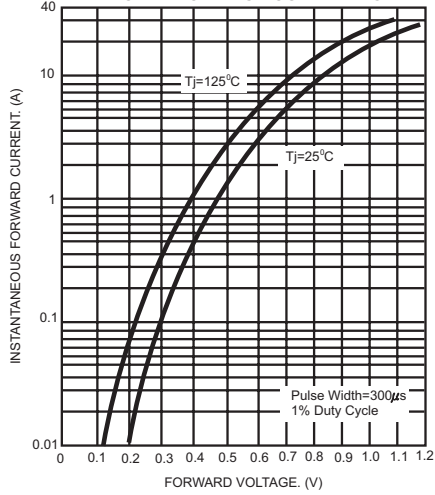


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

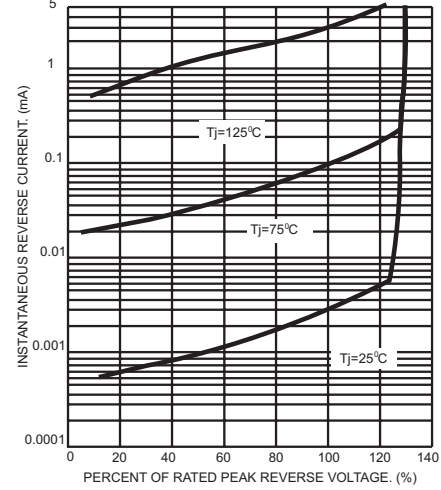


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

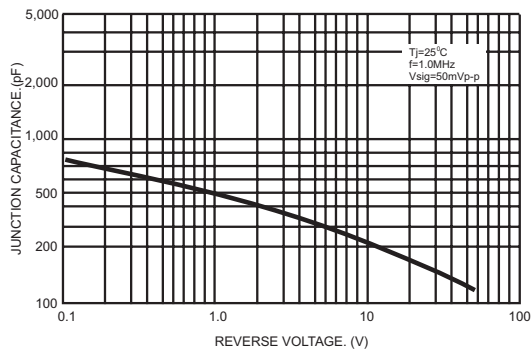


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

