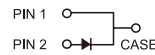
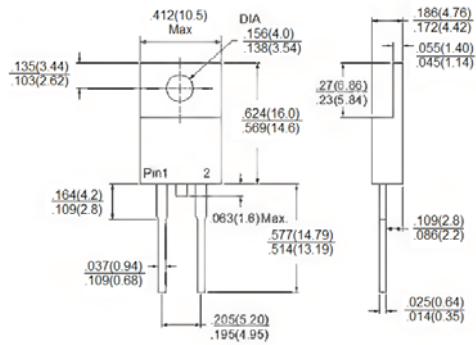




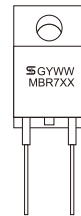
MBR735 - MBR7150

7.5 AMPS. Schottky Barrier Rectifiers

TO-220AC



Dimensions in inches and (millimeters)



Marking Diagram

MBR7XX = Specific Device Code
 G = Green Compound
 Y = Year
 WW = Work Week

Features

- ◇ UL Recognized File # E-326243
- ◇ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ◇ Metal silicon rectifier, 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-220AC 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: 1.85 grams

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 | MBR | MBR | MBR | MBR | MBR | MBR | Units |
|--|------------------------------------|---------------------------|-------------------|-------------------|-------------------|-----|------|----------|--------------|
| | | 735 | 745 | 750 | 760 | 790 | 7100 | 7150 | |
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 35 | 45 | 50 | 60 | 90 | 100 | 150 | V |
| Maximum RMS Voltage | V_{RMS} | 24 | 31 | 35 | 42 | 63 | 70 | 105 | V |
| Maximum DC Blocking Voltage | V_{DC} | 35 | 45 | 50 | 60 | 90 | 100 | 150 | V |
| Maximum Average Forward Rectified Current See Fig. 1 | $I_{F(AV)}$ | 7.5 | | | | | | | A |
| Peak Repetitive Forward Current (Square Wave, 20KHz) at $T_c=105^\circ C$ | I_{FRM} | 15 | | | | | | | 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 2) | I_{RRM} | 1.0 | | | 0.5 | | | | A |
| Maximum Instantaneous Forward Voltage at $I_F=7.5A, T_A=25^\circ C$ $I_F=7.5A, T_A=125^\circ C$ $I_F=15A, T_A=25^\circ C$ $I_F=15A, T_A=125^\circ C$ | V_F | — 0.57 0.84 0.72 | — 0.75 0.65 | — 0.92 0.82 | — 0.95 0.92 | | | | V |
| Maximum Instantaneous Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage (Note 1) @ $T_A=125^\circ C$ | I_R | 0.1 15.0 | 0.1 10 | 0.1 5.0 | | | | mA mA | |
| Voltage Rate of Change (Rated V_R) | dV/dt | 10,000 | | | | | | | V/ μ S |
| Typical Junction Capacitance | C_j | 360 | 280 | 200 | 160 | | | | pF |
| Maximum Thermal Resistance, (Note 3) | $R_{\theta JC}$ $R_{\theta JA}$ | 5.0 15.0 | | | | | | | $^\circ C/W$ |
| Operating Junction Temperature Range | T_J | -65 to +150 | | | | | | | $^\circ C$ |
| Storage Temperature Range | T_{STG} | -65 to +175 | | | | | | | $^\circ C$ |

Notes: 1. Pulse Test: 300us Pulse Width, 1% Duty Cycle
 2. 2.0us Pulse Width, f=1.0 KHz
 3. Mounted on Heatsink Size of 2 in x 3 in x 0.25 in Al-Plated.

RATINGS AND CHARACTERISTIC CURVES (MBR735 THRU MBR7150)

FIG.1- FORWARD CURRENT DERATING CURVE

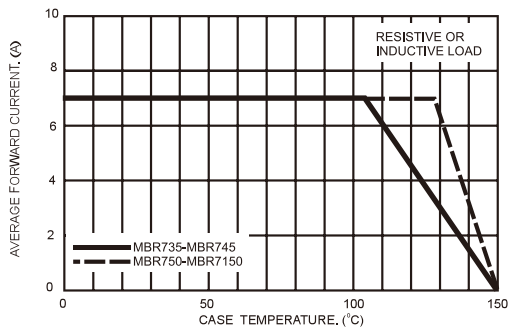


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

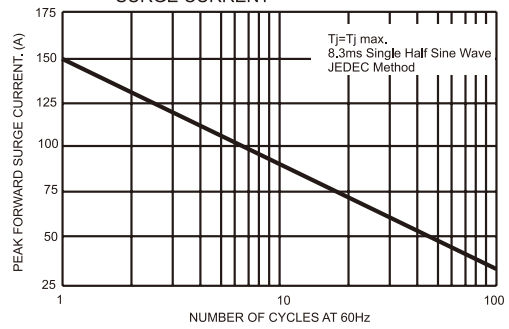


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

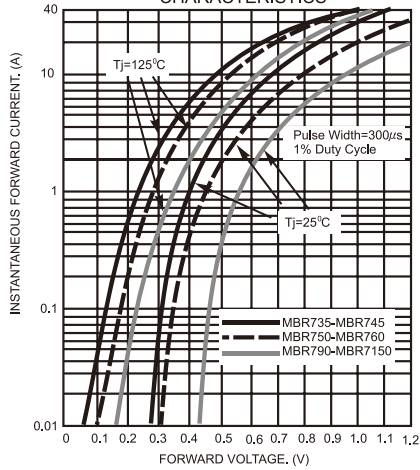


FIG.4- TYPICAL REVERSE CHARACTERISTICS

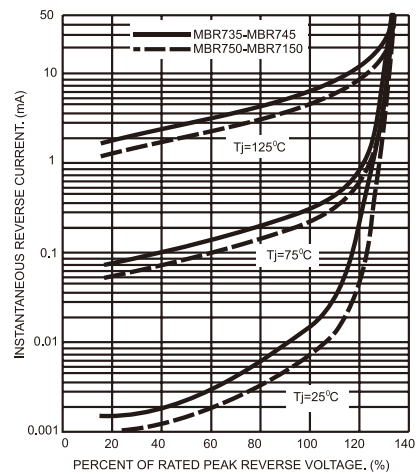


FIG.5- TYPICAL JUNCTION CAPACITANCE

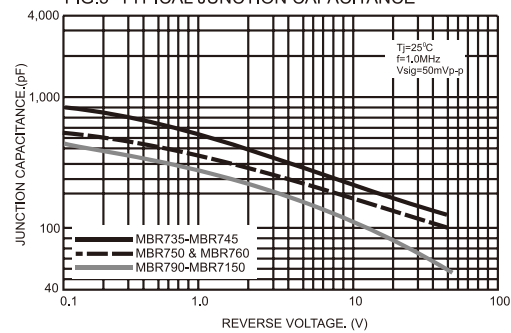


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

