

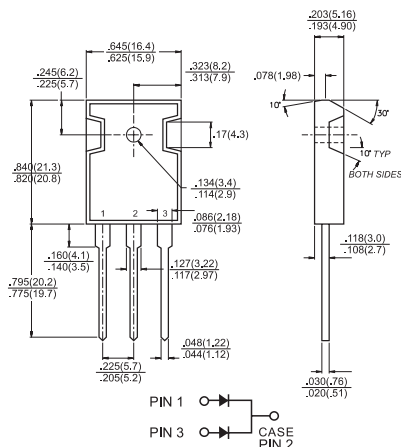


Features

- ✦ 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
- ✦ Guarding for overvoltage protection
- ✦ High temperature soldering guaranteed:
260°C/10 seconds, 0.17"(4.3mm) from case
- ✦ Green compound with suffix "G" on packing code & prefix "G" on datecode.

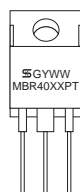
Mechanical Data

- ✦ Cases: JEDEC TO-3P/TO-247AD molded plastic body
- ✦ Terminals: Pure tin plated, lead free. solderable per MIL-STD-750, Method 2026
- ✦ Polarity: As marked
- ✦ Mounting position: Any
- ✦ Mounting torque: 10 in. - lbs. max
- ✦ Weight: 0.2 ounce, 5.6 grams



Dimensions in inches and (millimeters)

Marking Diagram



- MBR40XXPT = 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 4035 PT | MBR 4045 PT | MBR 4050 PT | MBR 4060 PT | MBR 4090 PT | MBR 40100 PT | MBR 40150 PT | MBR 40200 PT | Units | |
|--|-----------------|------------------------------|-------------|-------------------|-------------|-------------------|--------------|---------------------------|--------------|-------|---------------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 24 | 31 | 35 | 42 | 63 | 70 | 105 | 140 | V | |
| Maximum RMS Voltage | V_{RMS} | 35 | 45 | 50 | 60 | 90 | 100 | 150 | 200 | V | |
| Maximum DC Blocking Voltage | V_{DC} | | | | | | | | | | |
| Maximum Average Forward Rectified Current @ $T_c = 125^\circ\text{C}$ (Total Device) | $I_{(AV)}$ | 40.0 | | | | | | | | | A |
| Peak Repetitive Forward Current (Rated V_R Square Wave, 20KHz) at $T_c = 120^\circ\text{C}$ | I_{FRM} | 40.0 | | | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 330.0 | | | | | | | | | A |
| Peak Repetitive Reverse Surge Current(Note1) | I_{RRM} | 2.0 | | | 1.0 | | | | | | A |
| Maximum Instantaneous Forward Voltage at (Note2) IF = 20A, $T_c = 25^\circ\text{C}$ IF = 20A, $T_c = 125^\circ\text{C}$ IF = 40A, $T_c = 25^\circ\text{C}$ IF = 40A, $T_c = 125^\circ\text{C}$ | V_F | 0.75 0.65 0.80 0.75 | | 0.77 0.67 - | | 0.84 0.74 - | | 0.90 0.80 1.01 - | | V | |
| Maximum DC Reverse Current @ $T_c = 25^\circ\text{C}$ at Rated DC Blocking Voltage Per Leg @ $T_c = 125^\circ\text{C}$ | I_R | 1.0 | | | 0.5 | | | 0.1 | | mA | |
| Voltage Rate of Change (Rated V_R) | dv/dt | 10,000 | | | | | | | | | V/uS |
| Maximum Thermal Resistance Per Leg (Note 3) | $R_{\theta JC}$ | 1.2 | | | | | | | | | $^\circ\text{C}/\text{W}$ |
| Operating 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 KHz
2. Pulse Test: 300us Pulse Width, 1% Duty Cycle
3. Thermal Resistance from Junction to Case Per Leg

RATINGS AND CHARACTERISTIC CURVES (MBR4035PT THRU MBR40200PT)

FIG.1- FORWARD CURRENT DERATING CURVE

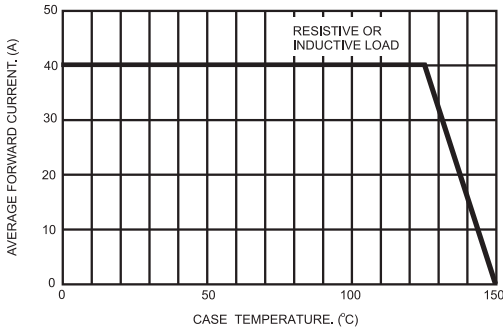


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

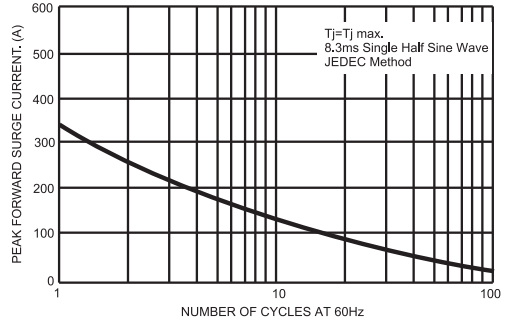


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

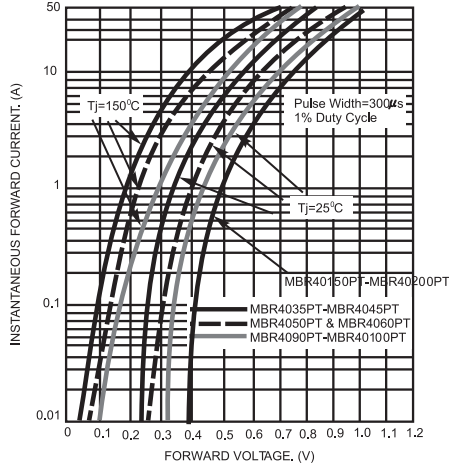


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

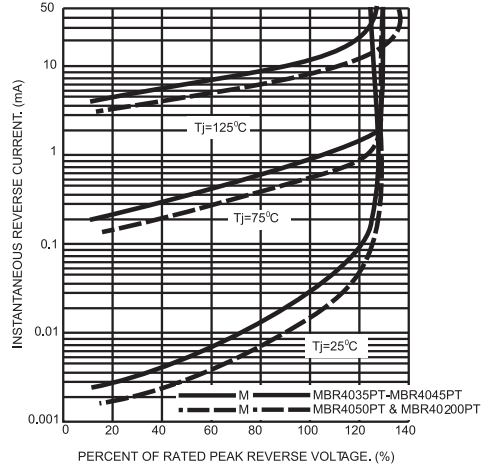


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

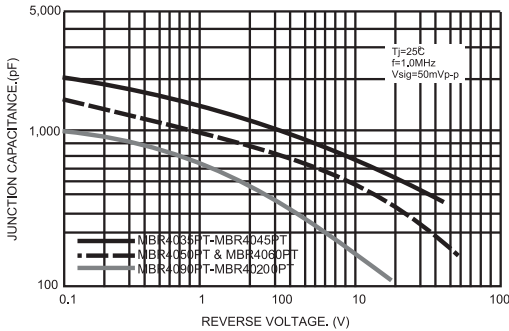


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

