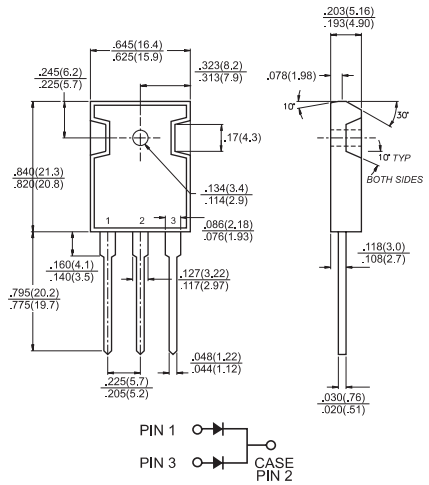
# MBR6035PT THRU MBR60100PT

## 60.0 AMPS. Schottky Barrier Rectifiers

Voltage Range
35 to 100 Volts
Current
60.0 Amperes

**TO-3P/TO-247AD**




**Dimensions in inches and (millimeters)**

## 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
- ✧ Guardring for overvoltage protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds,0.17"(4.3mm)from case

## Mechanical Data

- ✧ Cases: JEDEC TO-3P/TO-247AD molded plastic body
- ✧ Terminals: Leads 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

## Maximum Ratings and Electrical Characteristics

Rating at 25℃ 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 6035PT | MBR 6045PT | MBR 6050PT | MBR 6060PT | MBR 60100PT | Units |
|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 35 | 45 | 50 | 60 | 100 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 24 | 31 | 35 | 42 | 70 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 35 | 45 | 50 | 60 | 100 | V |
| Maximum Average Forward Rectified Current at Tc=125°C | $I_{(AV)}$ | 60 | | | | | A |
| Peak Repetitive Forward Current (Rated $V_R$, Square Wave, 20KHz) at Tc=120°C | $I_{FRM}$ | 60.0 | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method ) | $I_{FSM}$ | 500 | | | | | A |
| Peak Repetitive Reverse Surge Current (Note 1) | $I_{RRM}$ | 1.0 | | | | | A |
| Maximum Instantaneous Forward Voltage at (Note 2)<br>$I_F$=30A, Tc=25°C<br>$I_F$=30A, Tc=125°C<br>$I_F$=60A, Tc=25°C | $V_F$ | 0.62<br>0.55<br>0.75 | | 0.72<br>0.62<br>0.85 | | | V |
| Maximum Instantaneous Reverse Current @Tc=25℃ at Rated DC Blocking Voltage Per Leg @ Tc=125℃ (Note 1) | $I_R$ | 1.0<br>50 | | 1.0<br>100 | | | mA<br>mA |
| Voltage Rate of Change at (Rated $V_R$) | dV/dt | 1,000 | | | | | V/uS |
| Typical Thermal Resistance Per Leg (Note 3) | $R\theta_{JC}$ | 1.2 | | | | | ℃/W |
| Operating Junction Temperature Range | $T_J$ | -65 to +150 | | | | | ℃ |
| Storage Temperature Range | $T_{STG}$ | -65 to +175 | | | | | ℃ |

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 (MBR6035PT THRU MBR60100PT)

FIG.1- FORWARD CURRENT DERATING CURVE

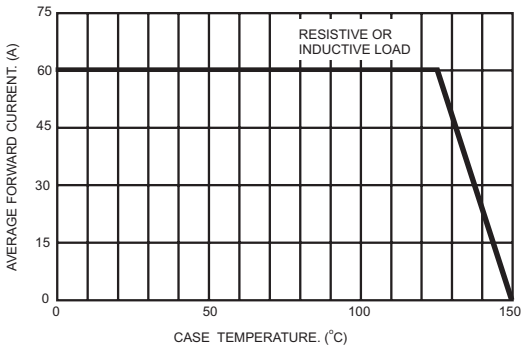



FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

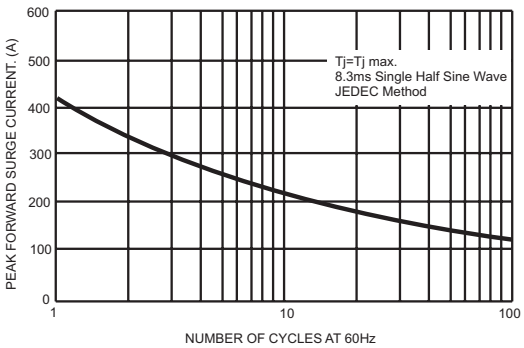



FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

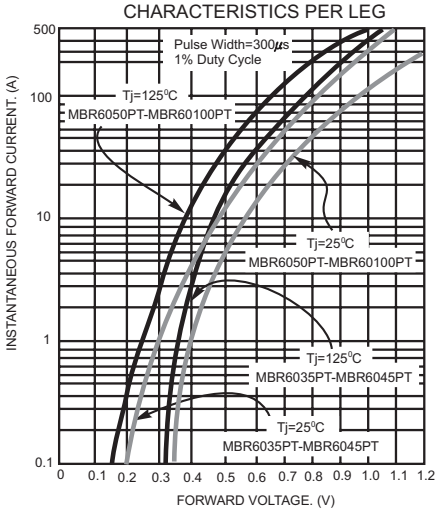



FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

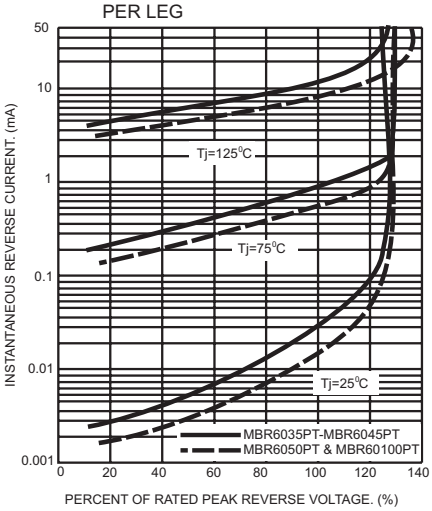



FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

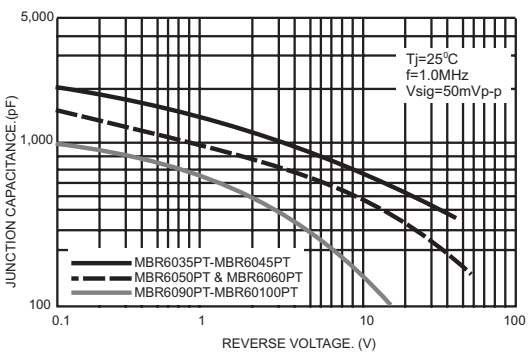



FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG