

# MBR6035PT - MBR60100PT

## 60 AMPS. Schottky Barrier Rectifiers

### TO-3P/TO-247AD



### Features

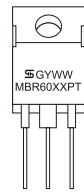
- ✧ UL Recognized File # E-326243
- ✧ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✧ Metal silicon rectifier, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ High surge capability
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guardring for overvoltage protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds, 0.17"(4.3mm) from case
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.



Dimensions in inches and (millimeters)

### 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: 6.15 grams



Marking Diagram

MBR60XXPT = 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 6035 PT	MBR 6045 PT	MBR 6050 PT	MBR 6060 PT	MBR 6090 PT	MBR 60100 PT	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	35	45	50	60	90	100	V
Maximum RMS Voltage	$V_{RMS}$	24	31	35	42	63	70	V
Maximum DC Blocking Voltage	$V_{DC}$	35	45	50	60	90	100	V
Maximum Average Forward Rectified Current at $T_c=125^\circ\text{C}$	$I_{F(AV)}$	60						A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_c=120^\circ\text{C}$	$I_{FRM}$	60						A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	420						A
Peak Repetitive Reverse Surge Current (Note2)	$I_{RRM}$	1.0						A
Maximum Instantaneous Forward Voltage at $I_F=30\text{A}, T_A=25^\circ\text{C}$ $I_F=30\text{A}, T_A=125^\circ\text{C}$ $I_F=60\text{A}, T_A=25^\circ\text{C}$	$V_F$	0.70 0.60 0.82		0.75 0.65 0.93		0.84 — 0.98		V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage Per Leg (Note 1) @ $T_A=25^\circ\text{C}$ @ $T_A=125^\circ\text{C}$	$I_R$	1.0 30		1.0		10		mA mA
Voltage Rate of Change at (Rated $V_R$ )	$dV/dt$	10,000						V/ $\mu\text{s}$
Typical Thermal Resistance Per Leg	$R_{\theta JC}$	1.2						$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	-65 to +150						$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +175						$^\circ\text{C}$

Notes: 1. Pulse Test: 300us Pulse Width, 1% Duty Cycle  
 2. 2.0us Pulse Width, f=1.0 KHz

## 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

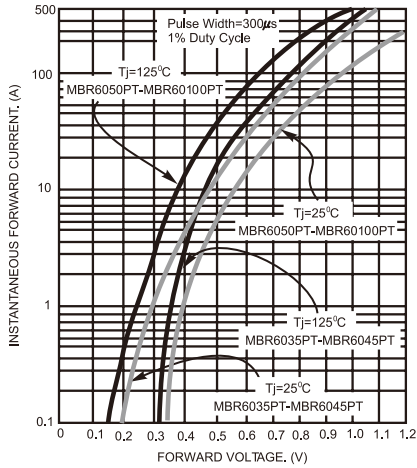


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

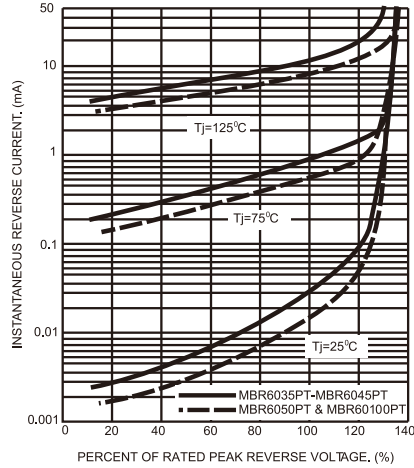


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

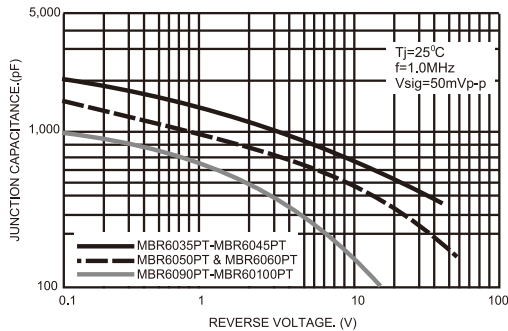


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

