



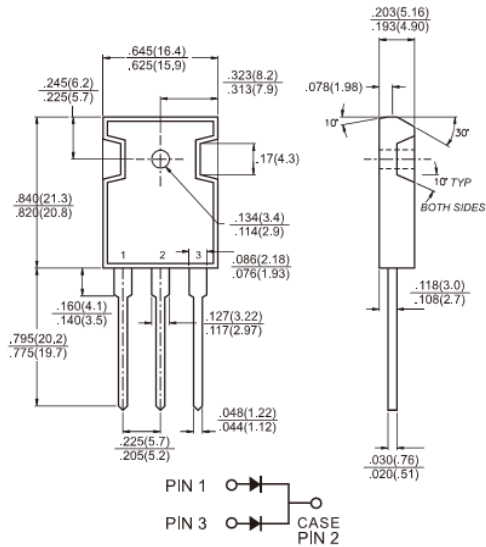
# MBR3035PT - MBR30200PT

## 30.0AMPS. Schottky Barrier Rectifiers

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

### Features

- ✧ UL Recognized File # E-326243
- ✧ Plastic material used carriers Underwriters Laboratory Classification 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 low voltage - high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guard-ring for overvoltage protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.17", (4.3mm) from case
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode



### Mechanical Data

- ✧ Case: JEDEC TO-3P/TO-247AD molded plastic
- ✧ 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: 6.12 grams

### Dimensions in inches and (millimeters)



### Marking Diagram

- MBR30XXPT = 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 3035 PT	MBR 3045 PT	MBR 3050 PT	MBR 3060 PT	MBR 3090 PT	MBR 30100 PT	MBR 30150 PT	MBR 30200 PT	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	35	45	50	60	90	100	150	200	V
Maximum RMS Voltage	$V_{RMS}$	24	31	35	42	63	70	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	35	45	50	60	90	100	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	30								A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_C=105^\circ C$	$I_{FRM}$	30								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	200								A
Peak Repetitive Reverse Surge Current (Note 1)	$I_{RRM}$	2			1					A
Maximum Instantaneous Forward Voltage (Note 2) $I_F=15A, T_A=25^\circ C$ $I_F=15A, T_A=125^\circ C$ $I_F=30A, T_A=25^\circ C$ $I_F=30A, T_A=125^\circ C$	$V_F$	-		0.75		0.85		0.95	1.05	V
		0.60		0.65		0.75		0.92	-	
		0.82		-		-		1.02	1.10	
		0.73		-		-		0.98	-	
Maximum Reverse Current @ Rated $V_R$ $T_A=25^\circ C$ $T_A=125^\circ C$	$I_R$	1			0.5				0.1	mA
		20		15	10					
Voltage Rate of Change, (Rated $V_R$ )	$dV/dt$	10000								V/us
Typical Junction Capacitance	$C_j$	600		460			320			pF
Maximum Thermal Resistance Per Leg	$R_{\theta JC}$	1.4								$^\circ C/W$
Operating Temperature Range	$T_J$	- 65 to + 150								$^\circ C$
Storage Temperature Range	$T_{STG}$	- 65 to + 175								$^\circ C$

Note 1: 2.0uS Pulse Width,  $f=1.0KHz$

Note 2: Pulse Test : 300uS Pulse Width, 1% Duty Cycle

## RATINGS AND CHARACTERISTIC CURVES (MBR3035PT THRU MBR30200PT)

FIG.1 FORWARD CURRENT DERATING CURVE

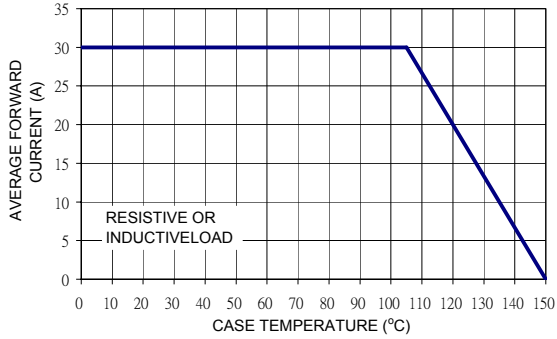


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

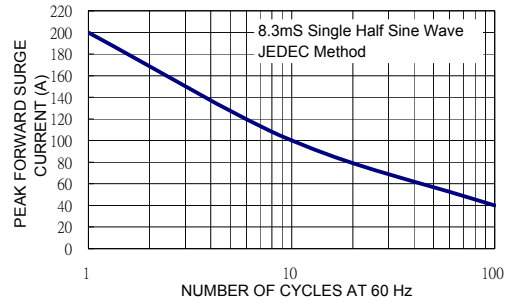


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

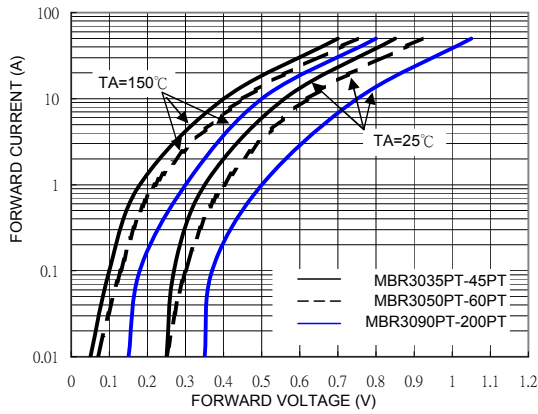


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

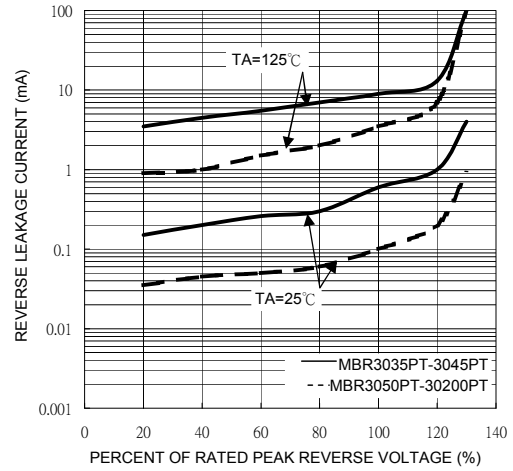


FIG. 5 TYPICAL JUNCTION CAPACITANCE

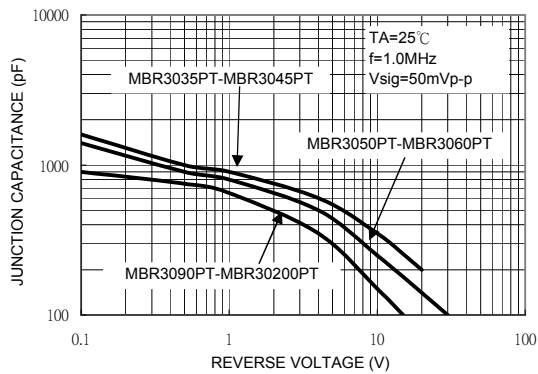


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

