



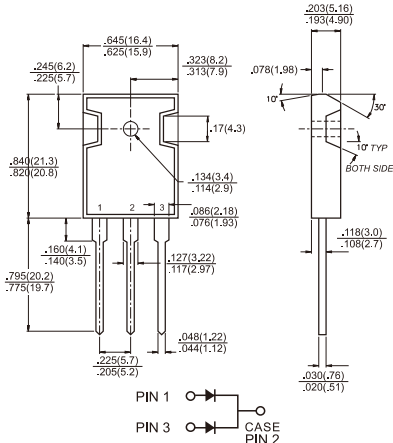
MBR2035PT - MBR20150PT

20.0 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 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
- ✧ 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.

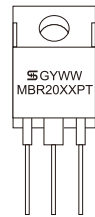


Dimensions in inches and (millimeters)

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: 6.12 grams

Marking Diagram



- MBR20XXPT = 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 2035 PT	MBR 2045 PT	MBR 2050 PT	MBR 2060 PT	MBR 2090 PT	MBR 20100 PT	MBR 20150 PT	Units
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)	$I_{F(AV)}$	20							A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz) at $T_c=105^\circ C$	I_{FRM}	20							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 $I_F=10A, T_A=25^\circ C$ $I_F=10A, T_A=125^\circ C$ $I_F=20A, T_A=25^\circ C$ $I_F=20A, T_A=125^\circ C$	V_F	-		0.80		0.85		0.95	V
Maximum Instantaneous Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage Per Leg (Note 1) @ $T_A=125^\circ C$	I_R	0.1			0.1				mA mA
Voltage Rate of Change at (Rated V_R)	dV/dt	10,000							V/ μ S
Maximum Thermal Resistance Per Leg (Note 3)	$R_{\theta JC}$	1.0							$^\circ C/W$
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. Mount on Heatsink Size of (4" x 6" x 0.25") Al. Plate.

RATINGS AND CHARACTERISTIC CURVES (MBR2035PT THRU MBR20150PT)

FIG.1- FORWARD CURRENT DERATING CURVE

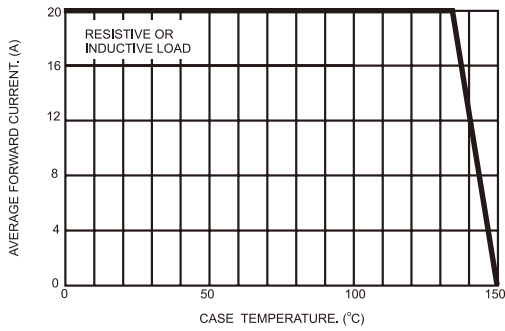


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

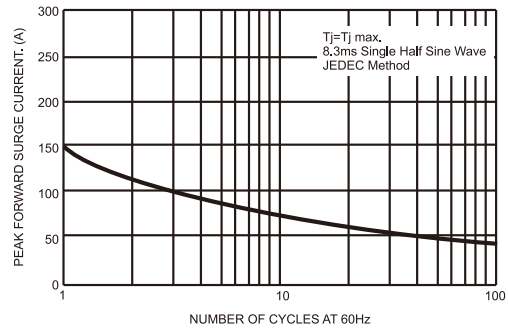


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

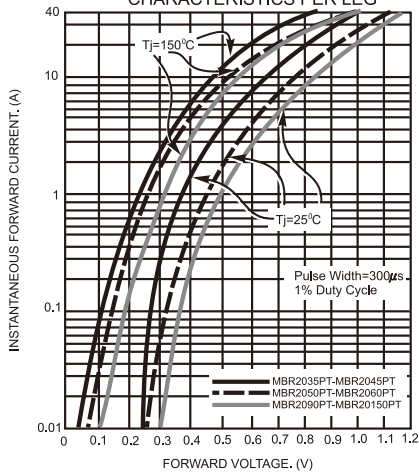


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

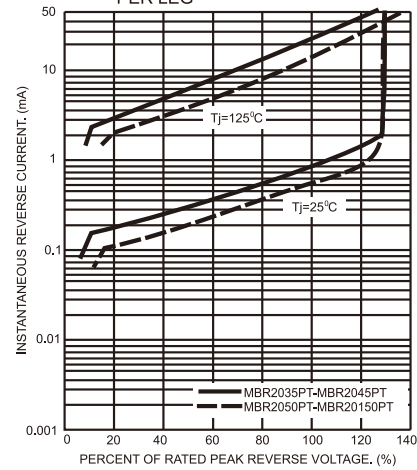


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

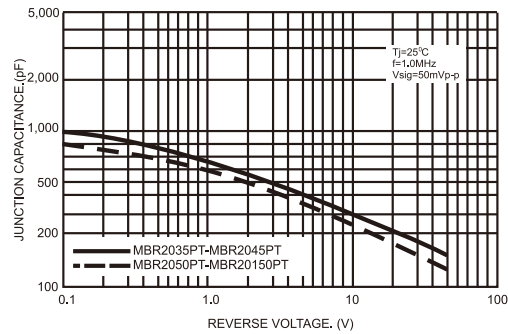


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

