

MBR2035PT - MBR20150PT

20.0 AMPS. Schottky Barrier Rectifiers

TO-3P/TO-247AD

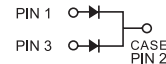
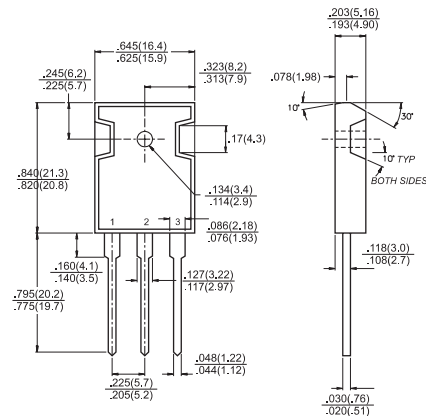


Features

- ✧ 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

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)

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 _(AV)	20							A
Peak Repetitive Forward Current (Rated V _R , Square Wave, 20KHz) at T _c =105°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 (Note 1) I _F =10A, T _c =25°C I _F =10A, T _c =125°C I _F =20A, T _c =25°C I _F =20A, T _c =125°C	V _F	— 0.57 0.84 0.72			0.80 0.70 0.95 0.85		0.85 0.75 0.95 0.85		0.95 0.92 1.02 0.98 V
Maximum Instantaneous Reverse Current @ T _c =25 °C at Rated DC Blocking Voltage Per Leg(Note 2) @ T _c =125 °C	I _R	0.1 15				0.1 10			0.1 5.0 mA mA
Voltage Rate of Change at (Rated V _R)	dV/dt	10,000							V/μS
Maximum Thermal Resistance Per Leg(Note 3)	R _{θJC}	1.0							°C/W
Operating Junction Temperature Range	T _J	-65 to +150							°C
Storage Temperature Range	T _{STG}	-65 to +175							°C

- Notes:
- 2.0us Pulse Width, $f=1.0\text{ KHz}$
 - Pulse Test: 300us Pulse Width, 1% Duty Cycle
 - Thermal Resistance from Junction to case Per Leg. With Heatsink Size (4" x 6" x 0.25") Al. Plate.

RATINGS AND CHARACTERISTIC CURVES (MBR2035PT THRU MBR20150PT)

FIG.1- FORWARD CURRENT DERATING CURVE

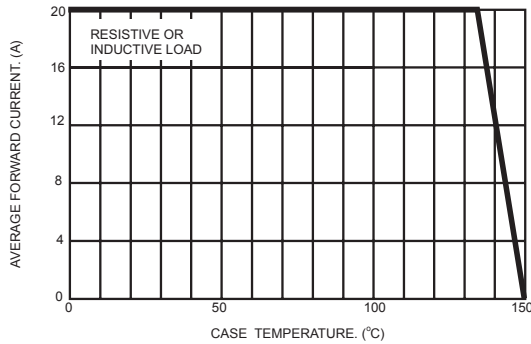


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

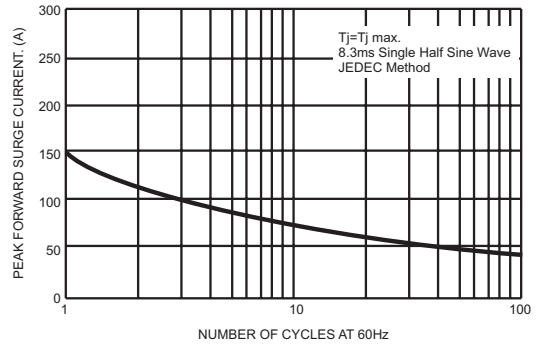


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

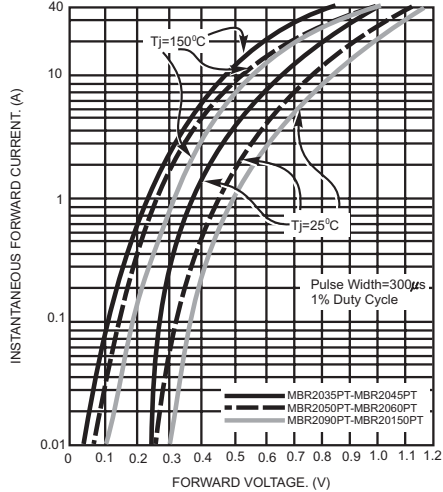


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

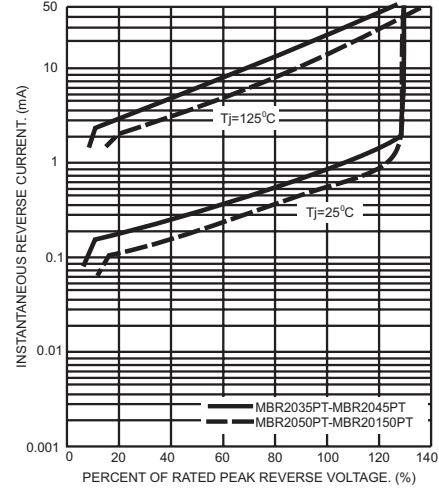


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

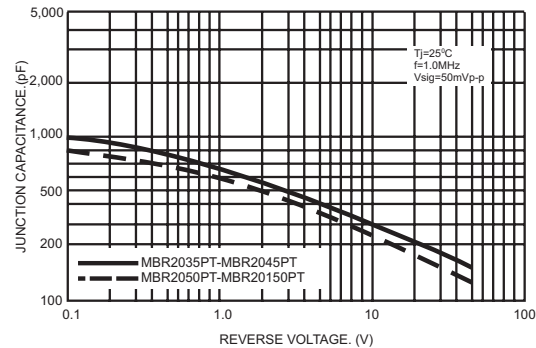


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

