



MBR4035PT - MBR40150PT

40.0 AMPS. Schottky Barrier Rectifiers

TO-3P/TO-247AD

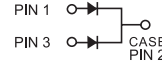
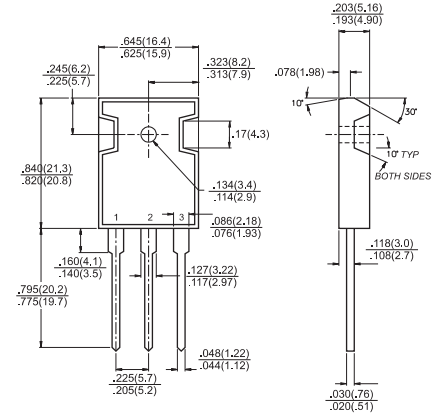
Features

- ✦ 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: 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 4035 PT	MBR 4045 PT	MBR 4050 PT	MBR 4060 PT	MBR 4090 PT	MBR 40100 PT	MBR 40150 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 at Tc=125°C	I _(AV)	40							A
Peak Repetitive Forward Current (Rated V _R , Square Wave, 20KHz) at Tc=120°C	I _{FRM}	40							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	330							A
Peak Repetitive Reverse Surge Current (Note 1)	I _{RRM}	2.0		1.0					A
Maximum Instantaneous Forward Voltage at (Note 2) I _F =20A, Tc=25°C I _F =20A, Tc=125°C I _F =40A, Tc=25°C I _F =40A, Tc=125°C	V _F	0.75 0.65 0.80 0.75	0.77 0.67 — —			0.84 0.74 — —		0.95 0.92 1.02 0.98	V
Maximum Instantaneous Reverse Current @ Tc=25°C at Rated DC Blocking Voltage Per Leg @ Tc=125°C (Note 1)	I _R	1.0 30				0.5 20 10			mA mA
Voltage Rate of Change at (Rated V _R)	dV/dt	10,000			1,000				V/μs
Typical Thermal Resistance Per Leg (Note 3)	R _{θJC}	1.2							°C/W
Operating Junction Temperature Range	T _J	-65 to +150							°C
Storage Temperature Range	T _{STG}	-65 to +175							°C

- Notes:
- 2.0 μ s Pulse Width, $f=1.0$ KHz
 - Pulse Test: 300 μ s Pulse Width, 1% Duty Cycle
 - Thermal Resistance from Junction to Case Per Leg

RATINGS AND CHARACTERISTIC CURVES (MBR4035PT THRU MBR40150PT)

FIG.1- FORWARD CURRENT DERATING CURVE

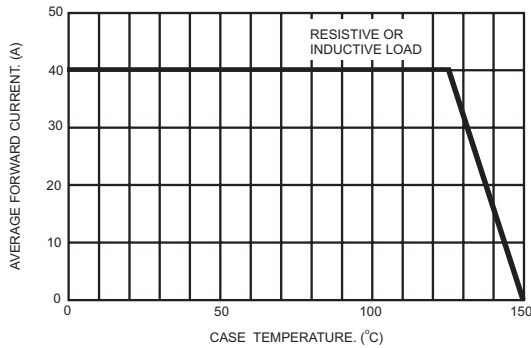


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

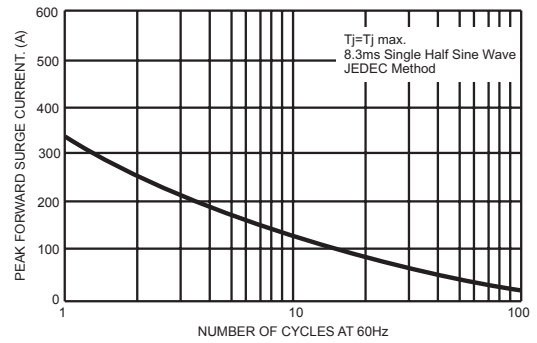


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

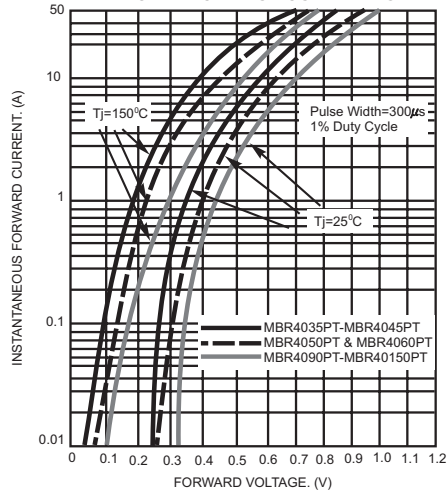


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

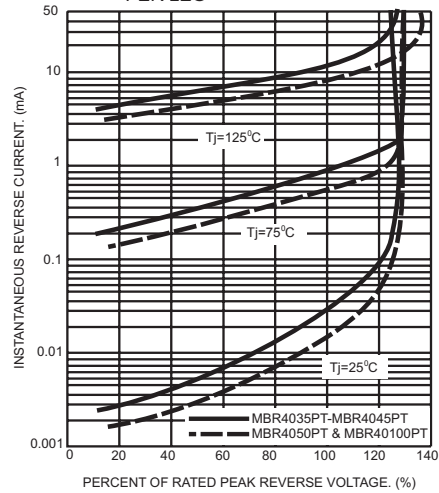


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

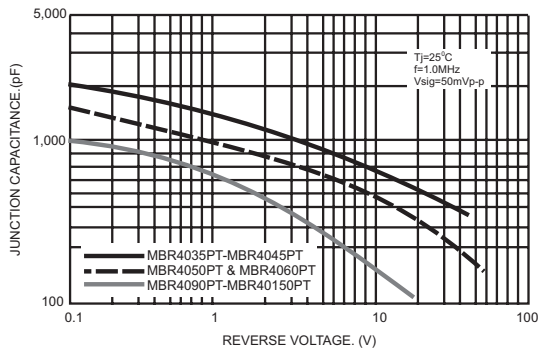


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

