



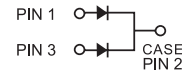
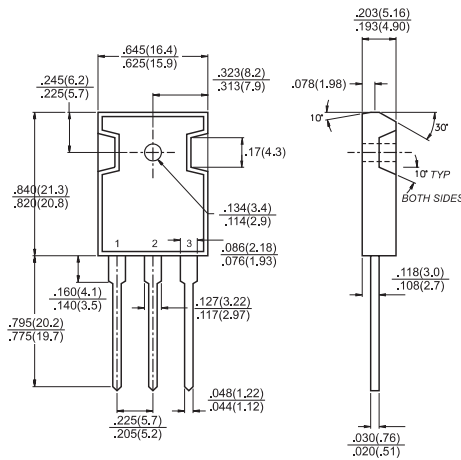
MBR4035PT - MBR40150PT

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



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: 0.2 ounce, 5.6 grams

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 $T_c=125^{\circ}C$	$I_{(AV)}$	40							A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz) at $T_c=120^{\circ}C$	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) $I_F=20A, T_c=25^{\circ}C$ $I_F=20A, T_c=125^{\circ}C$ $I_F=40A, T_c=25^{\circ}C$ $I_F=40A, T_c=125^{\circ}C$	V_F	0.75	0.77	0.84	0.95				V
Maximum Instantaneous Reverse Current @ $T_c=25^{\circ}C$ at Rated DC Blocking Voltage Per Leg @ $T_c=125^{\circ}C$ (Note 1)	I_R	1.0			0.5			mA	
		30	20	10		mA			
Voltage Rate of Change at (Rated V_R)	dV/dt	10,000		1,000				V/ μ S	
Typical Thermal Resistance Per Leg (Note 3)	$R_{\theta JC}$	1.2							$^{\circ}C/W$
Operating Junction Temperature Range	T_J	-65 to +150							$^{\circ}C$
Storage Temperature Range	T_{STG}	-65 to +175							$^{\circ}C$

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

RATINGS AND CHARACTERISTIC CURVES (MBR4035PT THRU MBR40150PT)

FIG.1- FORWARD CURRENT DERATING CURVE

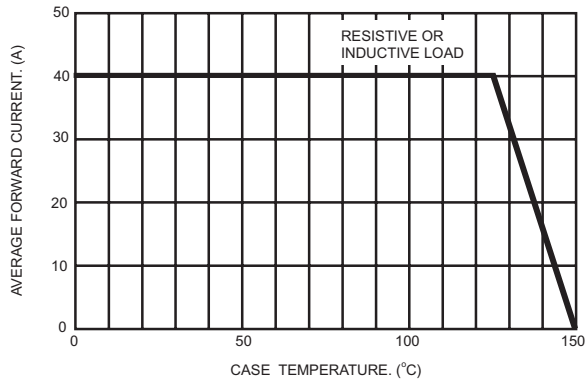


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

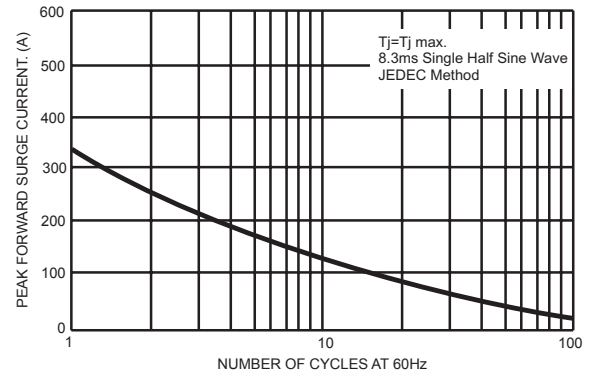


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

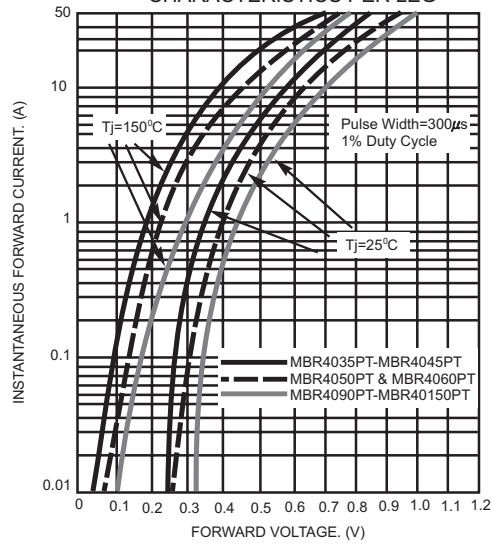


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

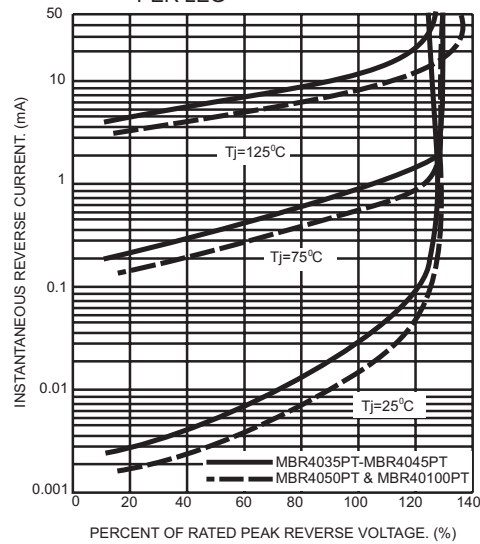


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

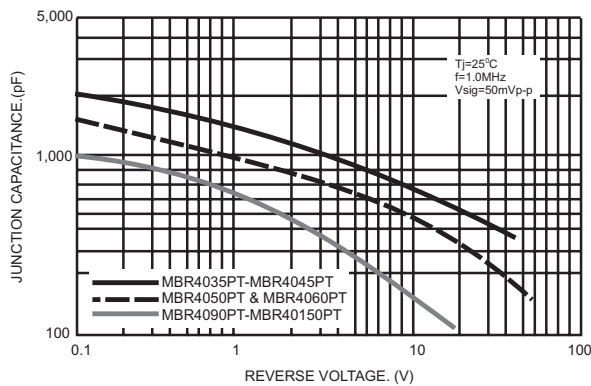


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

