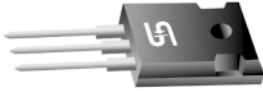




MBR4035PT THRU MBR4060PT

40.0 AMPS. Schottky Barrier Rectifiers



Voltage Range
35 to 60 Volts
Current
40.0 Amperes

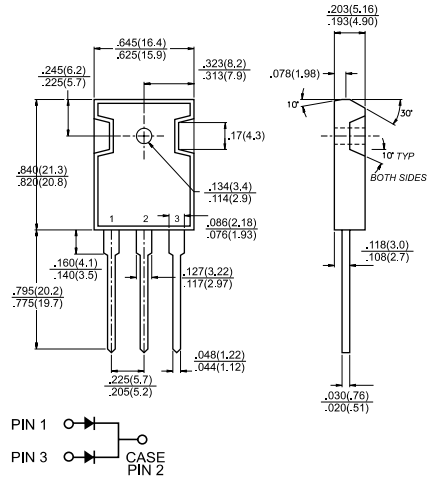
TO-3P/TO-247AD

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: 250°C/10 seconds, 0.17" (4.3mm) from case

Mechanical Data

- ✧ Cases: JEDEC TO-3P/TO-247AD molded plastic body
- ✧ Terminals: Leads 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	MBR4035PT	MBR4045PT	MBR4050PT	MBR4060PT	Units
Maximum Recurrent Peak Reverse Voltage	35	45	50	60	V
Maximum RMS Voltage	24	31	35	42	V
Maximum DC Blocking Voltage	35	45	50	60	V
Maximum Average Forward Rectified Current at T _c =125°C	40				A
Peak Repetitive Forward Current (Rated V _R , Square Wave, 20KHz) at T _c =120°C	40.0				A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	400				A
Peak Repetitive Reverse Surge Current (Note 1)	2.0		1.0		A
Maximum Instantaneous Forward Voltage at (Note 2) I _F =20A, T _c =25°C I _F =20A, T _c =125°C I _F =40A, T _c =25°C I _F =40A, T _c =125°C	0.70 0.60 0.80 0.75		0.72 0.62 - -		V
Maximum Instantaneous Reverse Current @ T _c =25°C at Rated DC Blocking Voltage Per Leg @ T _c =125°C (Note 1)	1.0 100.0				mA mA
Voltage Rate of Change at (Rated V _R)	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: 1. 2.0us Pulse Width, f=1.0 KHz

2. Pulse Test: 300us Pulse Width, 1% Duty Cycle

3. Thermal Resistance from Junction to Case Per Leg

RATINGS AND CHARACTERISTIC CURVES (MBR4035PT THRU MBR4060PT)

FIG.1- FORWARD CURRENT DERATING CURVE

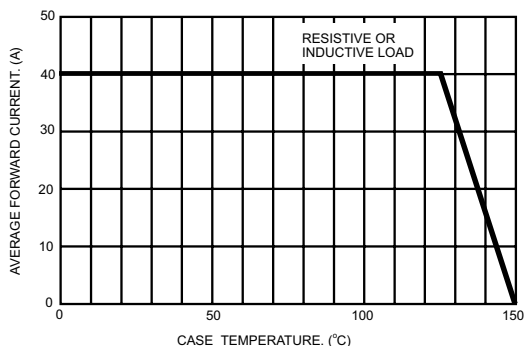


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

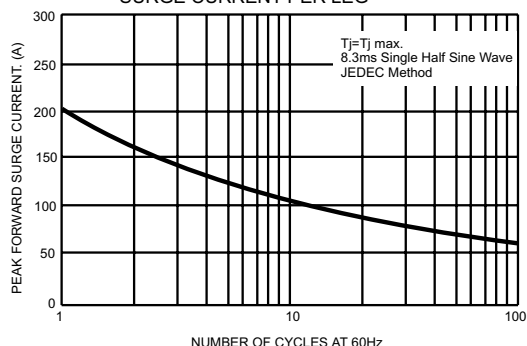


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

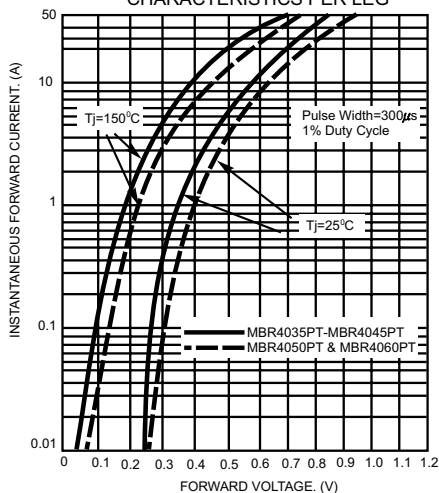


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

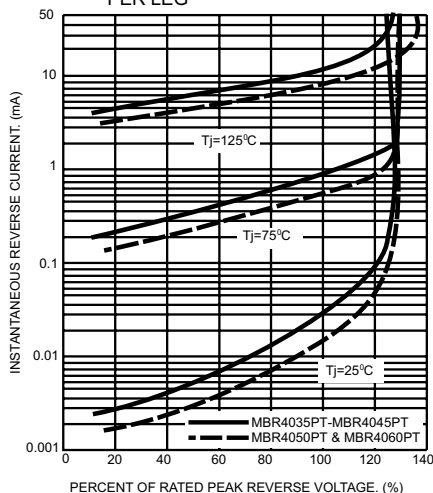


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

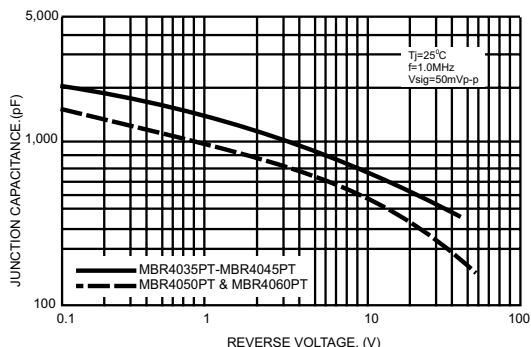


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

