



MBR4035PT thru MBR4060PT

Vishay Semiconductors
formerly General Semiconductor

Dual Schottky Barrier Rectifier

Reverse Voltage 35 to 60V
Forward Current 40A

Features

- Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- Dual rectifier construction, positive center-tap
- 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: 250°C/10 seconds, 0.17" (4.3mm) from case

Mechanical Data

Case: JEDEC TO-247AD molded plastic body

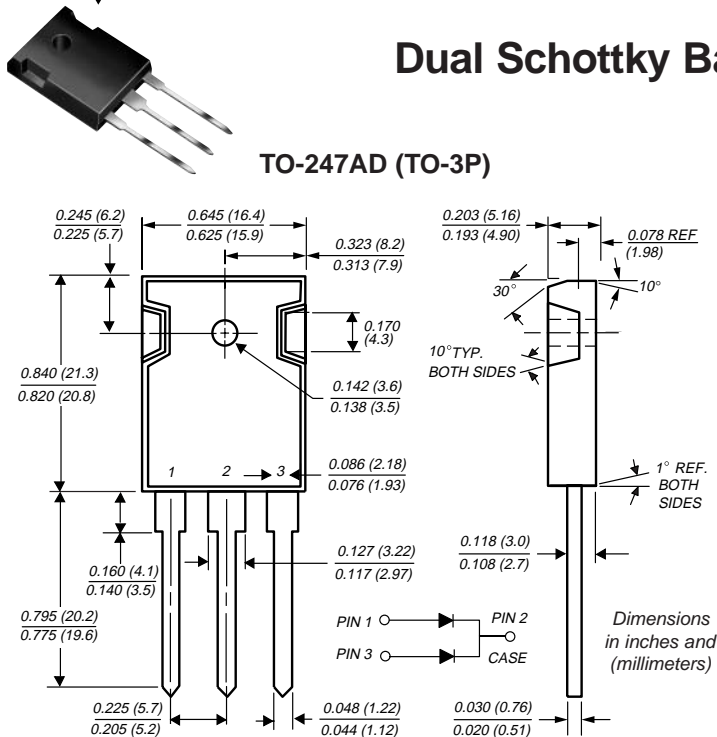
Terminals: Lead solderable per MIL-STD-750, Method 2026

Polarity: As marked

Mounting Position: Any

Mounting Torque: 10 in-lbs max.

Weight: 0.2 oz., 5.6 g



Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	MBR4035PT	MBR4045PT	MBR4050PT	MBR4060PT	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	35	45	50	60	V
Maximum working peak reverse voltage	V _{RWM}	35	45	50	60	V
Maximum DC blocking voltage	V _{DC}	35	45	50	60	V
Maximum average forward rectified current at T _C = 125°C	I _{F(AV)}	40				A
Peak repetitive forward current per leg at T _C =120°C (rated V _R , square wave, 20 KHz)	I _{FRM}	40				A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	400				A
Peak repetitive reverse surge current (NOTE 1)	I _{RRM}	2.0		1.0		A
Maximum thermal resistance from junction to case per leg	R _{θJC}	1.2				°C/W
Voltage rate of change at (rated V _R)	dv/dt	10,000				V/μs
Operating junction temperature range	T _J	−65 to +150				°C
Storage temperature range	T _{STG}	−65 to +175				°C

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	MBR4035PT	MBR4045PT	MBR4050PT	MBR4060PT	Unit
Maximum instantaneous forward voltage per leg at: (NOTE 2) $I_F = 20\text{A}, T_C = 25^\circ\text{C}$ $I_F = 20\text{A}, T_C = 125^\circ\text{C}$ $I_F = 40\text{A}, T_C = 25^\circ\text{C}$ $I_F = 40\text{A}, T_C = 125^\circ\text{C}$	V_F	0.70 0.60 0.80 0.75		0.72 0.62 — —		V
Maximum instantaneous reverse current at rated DC blocking voltage per leg (NOTE 2) $T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$	I_R	1.0 100				mA

Notes: (1) 2.0μs pulse width, f = 1.0 KHz

(2) Pulse test: 300μs pulse width, 1% duty cycle

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

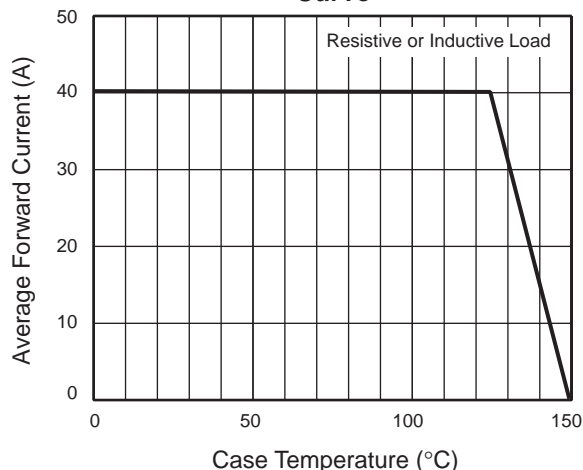


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Leg

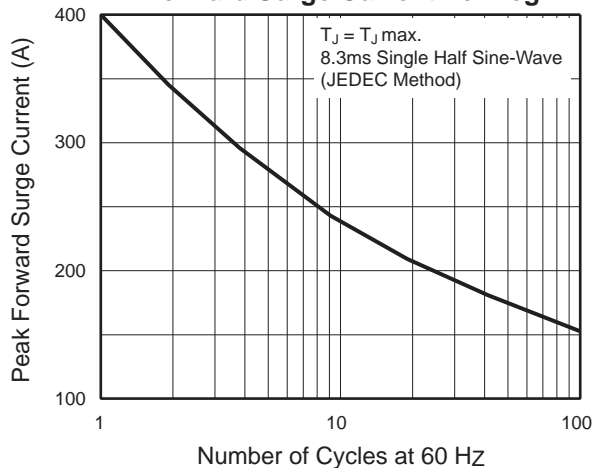


Fig. 3 - Typical Instantaneous Forward Characteristics Per Leg

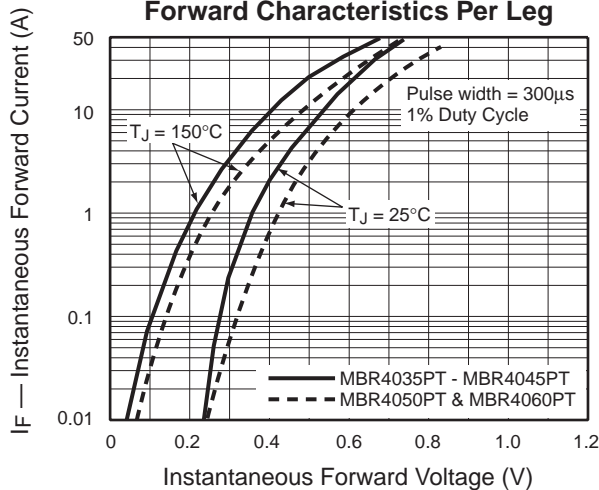


Fig. 4 - Typical Reverse Characteristics Per Leg

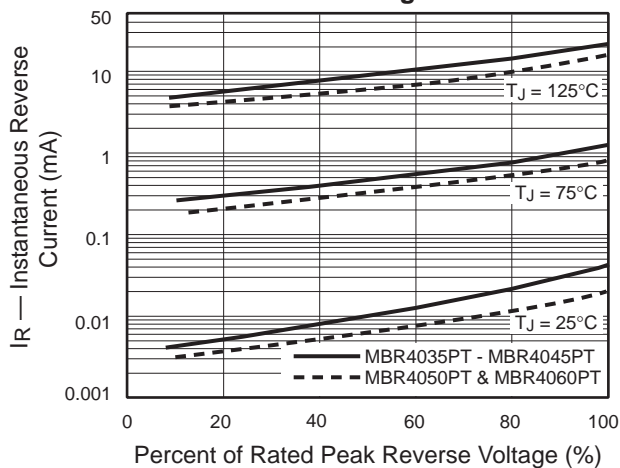


Fig. 5 - Typical Junction Capacitance Per Leg

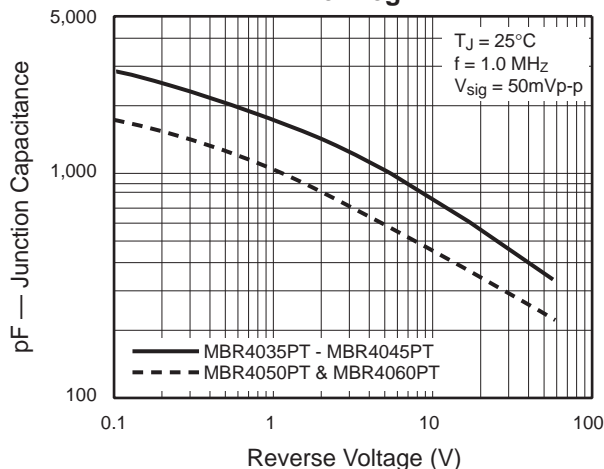
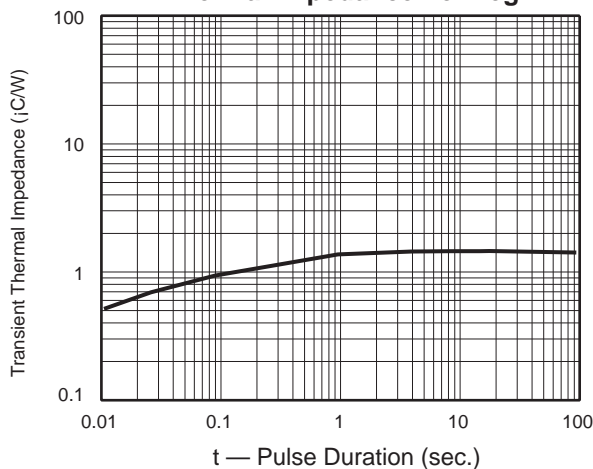


Fig. 6 - Typical Transient Thermal Impedance Per Leg



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