

Dual Schottky Rectifiers

Reverse Voltage 35 to 60V
Forward Current 30A

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

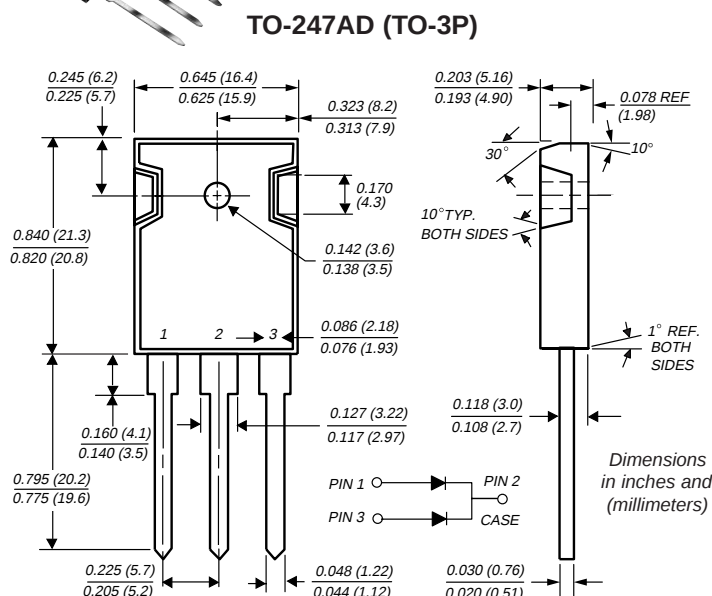
Case: JEDEC TO-247AD molded plastic body

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

Parameter	Symbol	MBR3035PT	MBR3045PT	MBR3050PT	MBR3060PT	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 (See Fig. 1)	I _{F(AV)}	30				A
Peak repetitive forward current per leg at T _C = 105°C (rated V _R , square wave, 20 KHz)	I _{FRM}	30				A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	200				A
Peak repetitive reverse surge current ⁽¹⁾	I _{RRM}	2.0		1.0		A
Thermal resistance from junction to case per leg	R _{θJC}	1.4				°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

Parameter	Symbol	MBR3035PT	MBR3045PT	MBR3050PT	MBR3060PT	Unit
Maximum instantaneous forward voltage per leg at: ⁽²⁾ $I_F = 20A, T_C = 25^\circ C$ $I_F = 20A, T_C = 125^\circ C$ $I_F = 30A, T_C = 25^\circ C$ $I_F = 30A, T_C = 125^\circ C$	V_F	— 0.60 0.76 0.72	— 0.65 — —	0.75 0.65 — —		V
Maximum instantaneous reverse current at rated DC blocking voltage per leg ⁽²⁾ $T_C = 25^\circ C$ $T_C = 125^\circ C$	I_R	1.0 60	5.0 100			mA

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

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

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

Fig. 1 – Forward Current Derating Curve

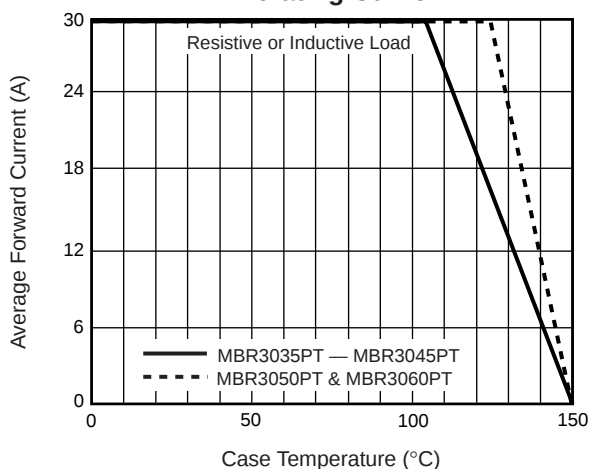


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

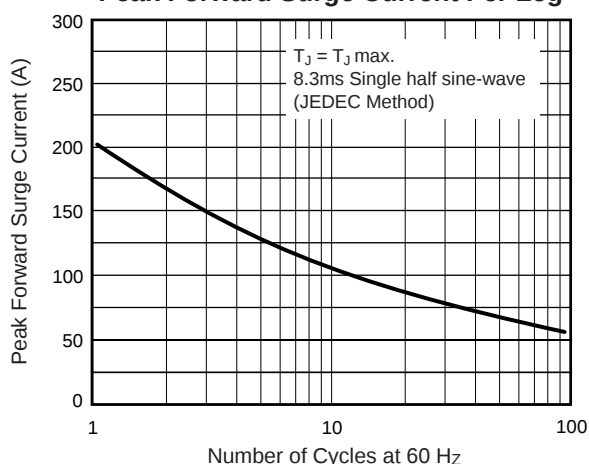


Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg

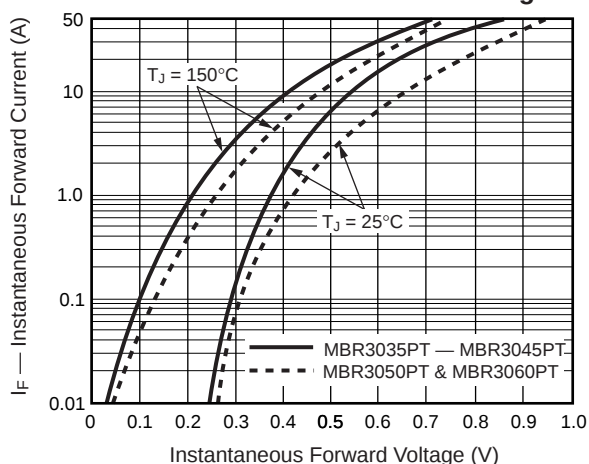


Fig. 4 – Typical Reverse Characteristics Per Leg

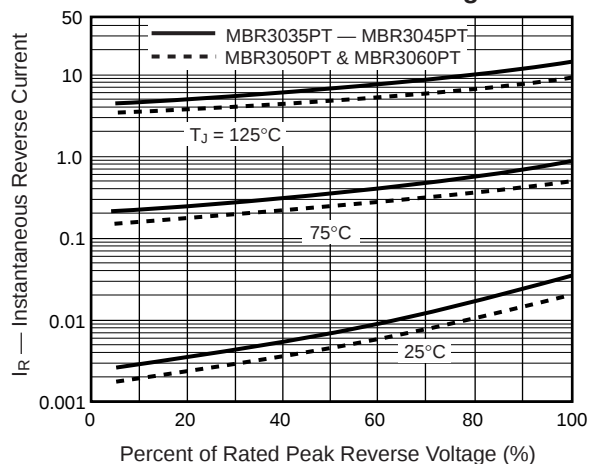


Fig. 5 – Typical Junction Capacitance Per Leg

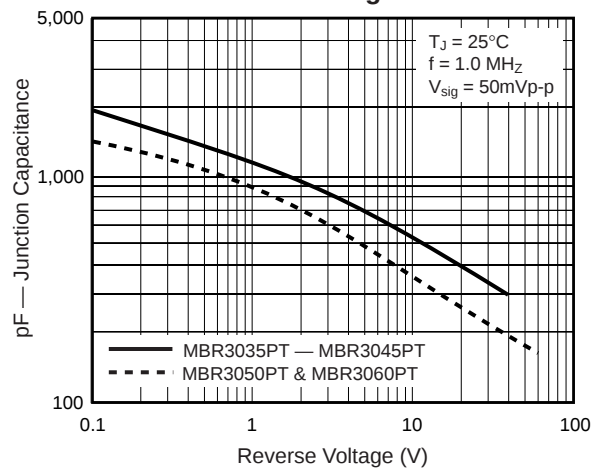


Fig. 6 – Typical Transient Thermal Impedance Per Leg

