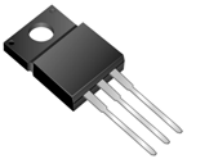
MBRF1090CT thru MBRF10100CT

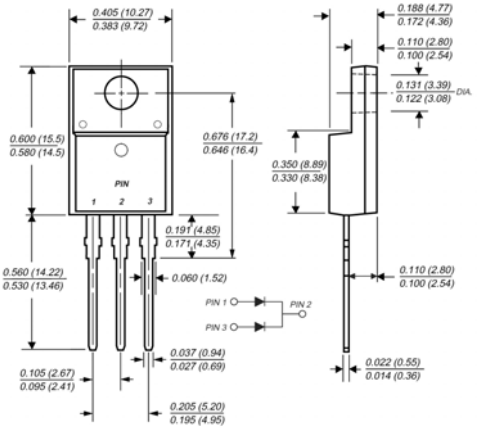
Dual High-Voltage Schottky Barrier Rectifiers
Reverse Voltage 90 to 100 Volts Forward Current 10.0 Amperes

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center tap
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- Guardring for overvoltage protection
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications



ITO-220AB



Dimensions in inches and (millimeters)

Mechanical Data

- Case: JEDEC ITO-220AB molded plastic body
- Terminals: Plated leads, solderable per MIL-STD-750, Method 2026
- High temperature soldering guaranteed: 250°C/10 seconds, 0.25" (6.35mm) from case
- Polarity: As marked
- Mounting Position: Any
- Mounting Torque: 10 in-lbs maximum
- Weight: 0.08 ounce, 2.24 grams

Maximum Ratings and Electrical Characteristics

(T_C = 25°C unless otherwise noted)

Parameter	Symbol	MBRF1090CT	MBRF10100CT	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	90	100	Volts
Working peak reverse voltage	V_{RWM}	90	100	Volts
Maximum DC blocking voltage	V_{DC}	90	100	Volts
Maximum average forward rectified current (See Fig. 1) Total device / Per leg	$I_{F(AV)}$	10 / 5.0		Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I_{FSM}	120		Amps
Peak repetitive reverse current per leg at t_p = 2.0us, 1KHz	I_{RRM}	0.5		Amps
Voltage rate of change (rated V_R)	dv/dt	10,000		V/us
Maximum instantaneous forward voltage per leg (Note 4) at I_F=5.0A, T_C=25°C / at I_F=5.0A, T_C=125°C	V_F	0.85 / 0.75		Volts
Maximum reverse current per leg at working peak reverse voltage (Note 4) T_J=25°C / T_J=100°C	I_R	100 / 6.0		uA / mA
Typical thermal resistance per leg	$R_{\theta JC}$	6.8		°C/W
RMS Isolation voltage (MBRF type only) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V_{ISOL}	4500 (Note 1) / 3500 (Note 2) / 1500 (Note 3)		Volts
Operating junction temperature range	T_J	-55 to +150		°C
Storage temperature range	T_{STG}	-55 to +150		°C

Notes: 1. Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
2. Clip mounting (on case), where leads do overlap heatsink
3. Screw mounting with 4-40 screw, where washer diameter is < 4.9 mm (0.19")
4. Pulse test: 300us pulse width, 1% duty cycle

RATINGS AND CHARACTERISTIC CURVES

(T_A = 25°C unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

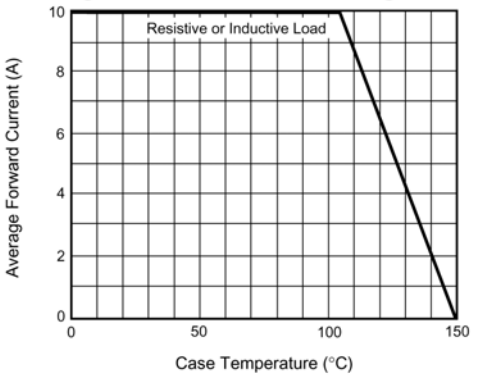


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

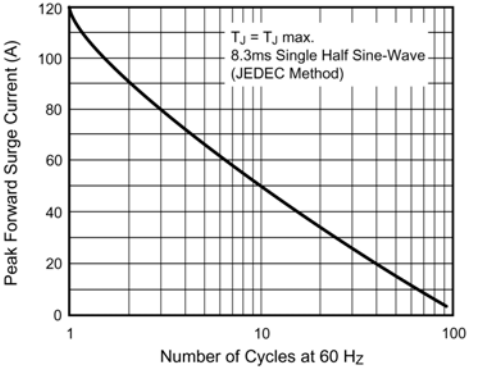


Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg

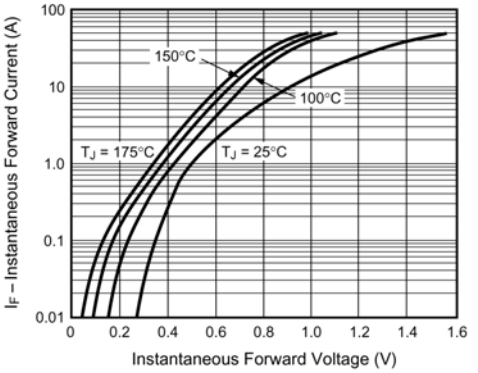


Fig. 4 – Typical Reverse Characteristics Per Leg

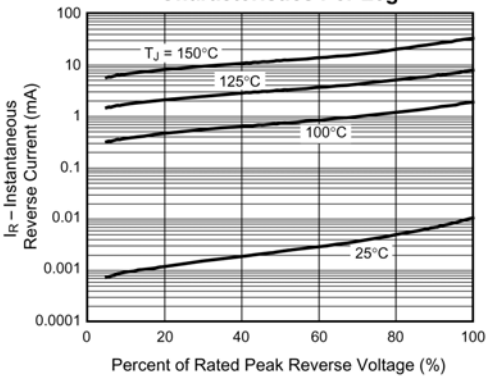


Fig. 5 – Typical Transient Thermal Impedance Per Leg

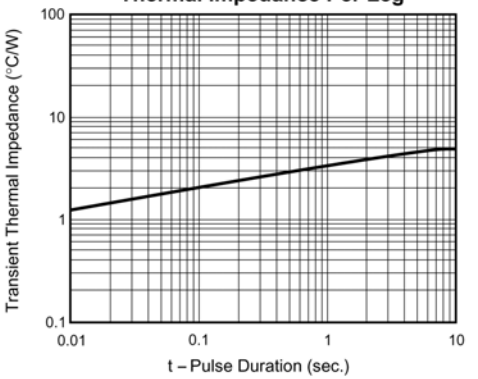


Fig. 6 – Typical Junction Capacitance Per Leg