



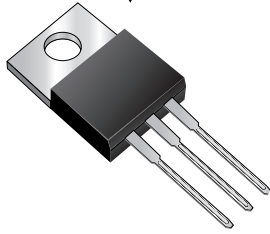
# MBR1090CT thru MBR10100CT

New Product

Vishay Semiconductors  
formerly General Semiconductor

## Dual High-Voltage Schottky Rectifiers

Reverse Voltage 90 to 100V  
Forward Current 10A



TO-220AB

### 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

### Mechanical Data

**Case:** JEDEC TO-220AB molded plastic body over passivated chips

**Terminals:** Plated leads, solderable per MIL-STD-750, Method 2026

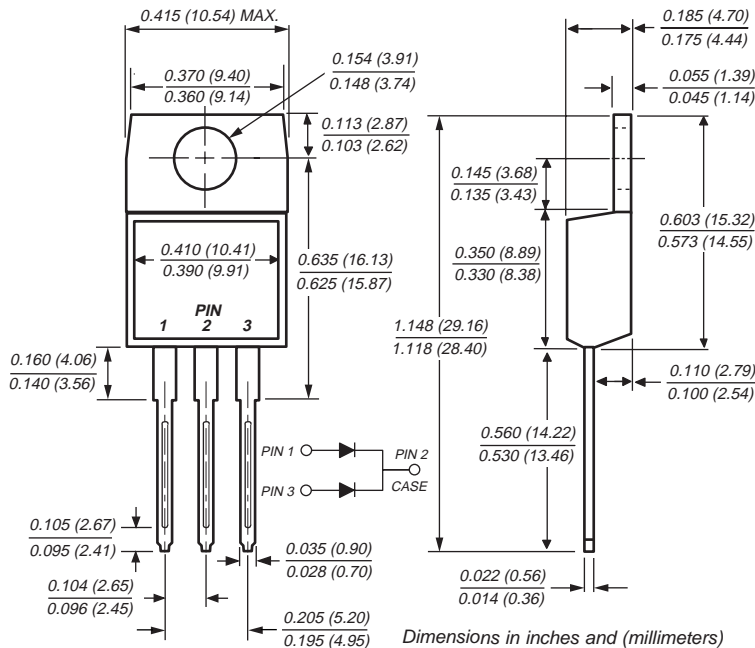
High temperature soldering guaranteed: 250°C/10 seconds, 0.25" (6.35mm) from case

**Polarity:** As marked

**Mounting Position:** Any

**Mounting Torque:** 10 in-lbs maximum

**Weight:** 0.08 oz., 2.24 g



### Maximum Ratings and Thermal Characteristics (T<sub>C</sub> = 25°C unless otherwise noted)

Parameter	Symbol	MBR1090CT	MBR10100CT	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	90	100	V
Working peak reverse voltage	V <sub>RWM</sub>	90	100	V
Maximum DC blocking voltage	V <sub>DC</sub>	90	100	V
Maximum average forward rectified current at T <sub>C</sub> = 105°C <i>Total device</i> <i>Per leg</i>	I <sub>F(AV)</sub>	10 5		A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I <sub>FSM</sub>	120		A
Peak repetitive reverse current per leg at t <sub>p</sub> = 2μs, 1KHZ	I <sub>RRM</sub>	0.5		A
Voltage rate of change (rated V <sub>R</sub> )	dv/dt	10,000		V/μs
Typical thermal resistance per leg	R <sub>θJC</sub>	4.4		°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150		°C

### Electrical Characteristics (T<sub>C</sub> = 25°C unless otherwise noted)

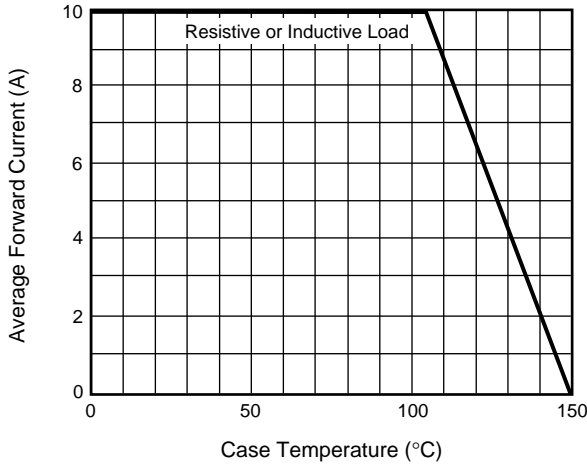
Parameter	Symbol	MBR1090CT	MBR10100CT	Unit
Maximum instantaneous forward voltage per leg <sup>(4)</sup> at I <sub>F</sub> = 5.0A, T <sub>C</sub> = 125°C at I <sub>F</sub> = 5.0A, T <sub>C</sub> = 25°C	V <sub>F</sub>	0.75 0.85		V
Maximum reverse current per leg at working peak reverse voltage <sup>(4)</sup> T <sub>J</sub> = 25°C T <sub>J</sub> = 100°C	I <sub>R</sub>	100 6.0		μA mA

- 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: 300μs pulse width, 1% duty cycle

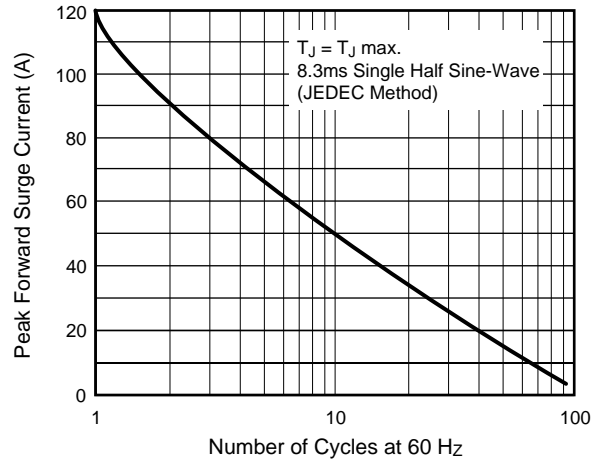
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## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

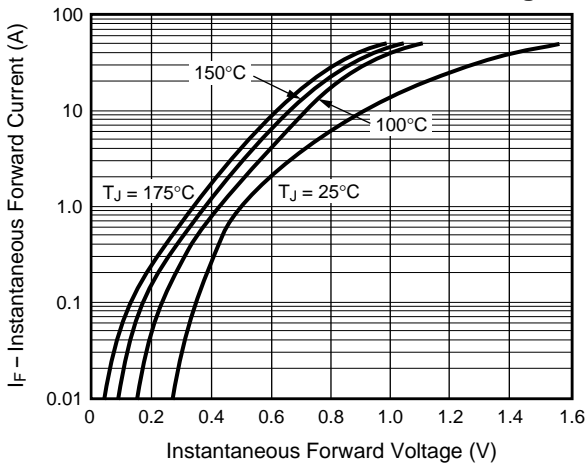
**Fig. 1 – Forward Current Derating Curve**



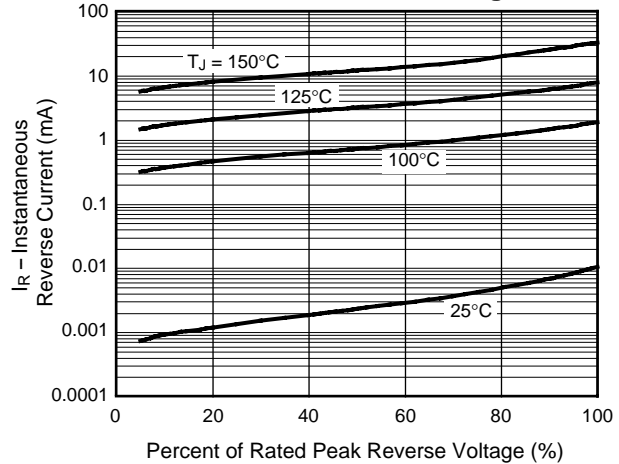
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



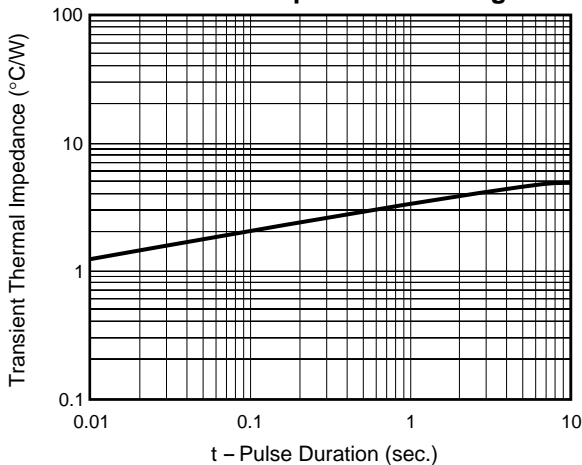
**Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg**



**Fig. 4 – Typical Reverse Characteristics Per Leg**



**Fig. 5 – Typical Transient Thermal Impedance Per Leg**



**Fig. 6 – Typical Junction Capacitance Per Leg**

