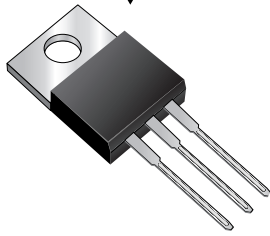
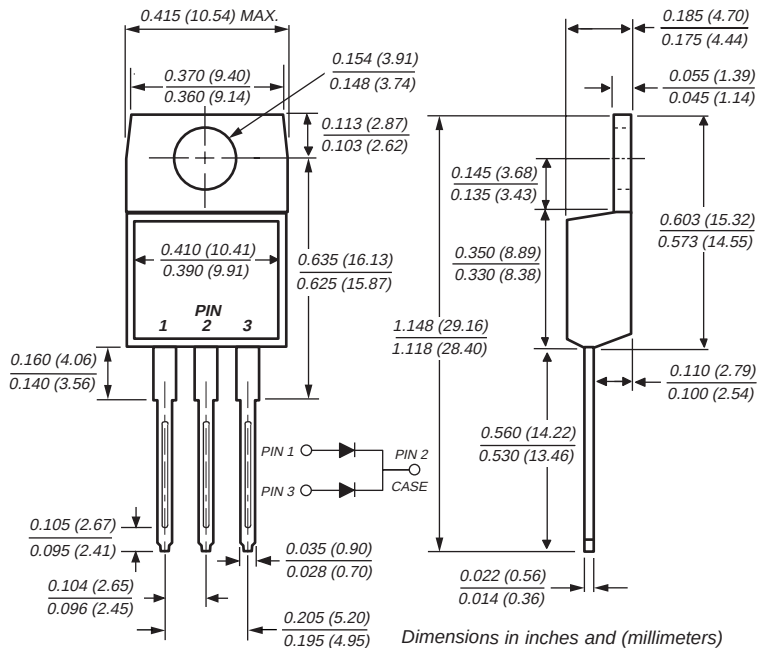




## Dual High-Voltage Schottky Rectifiers

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 2026High 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 gMaximum 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 <i>Total device at T<sub>C</sub> = 105°C<br/>Per leg</i>       | I <sub>F(AV)</sub>                | 10<br>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   |

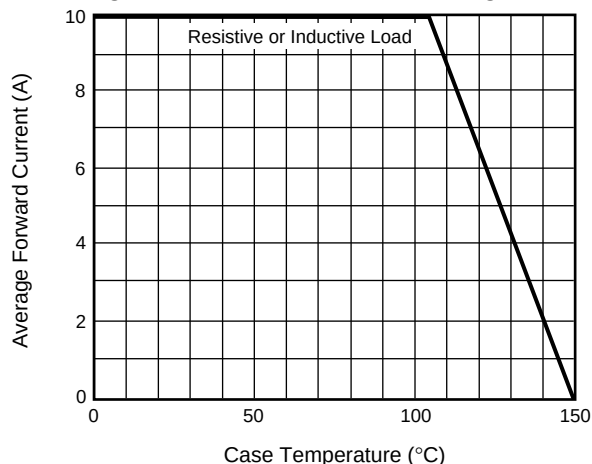
Electrical Characteristics (T<sub>C</sub> = 25°C unless otherwise noted)

| 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<br>at I <sub>F</sub> = 5.0A, T <sub>C</sub> = 25°C | V <sub>F</sub> | 0.75<br>0.85 |            | V        |
| Maximum reverse current per leg at working peak reverse voltage <sup>(4)</sup> T <sub>J</sub> = 25°C<br>T <sub>J</sub> = 100°C                                   | I <sub>R</sub> | 100<br>6.0   |            | μA<br>mA |

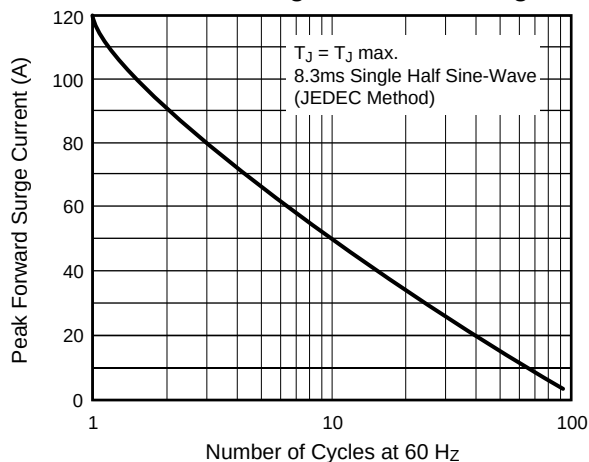
**Notes:** (1) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset  
(2) Clip mounting (on case), where leads do overlap heatsink  
(3) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19")  
(4) Pulse test: 300μs pulse width, 1% duty cycle

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

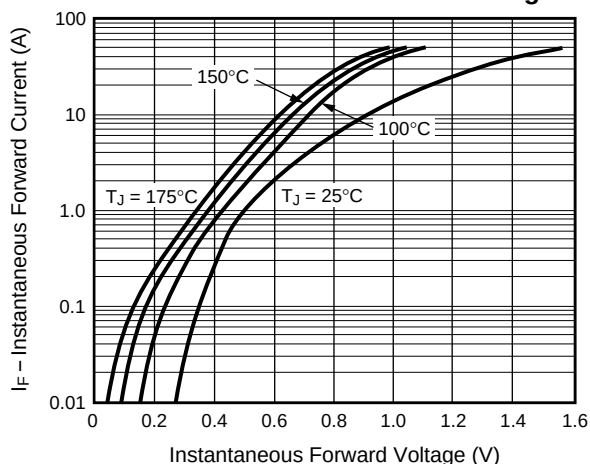
**Fig. 1 – Forward Current Derating Curve**



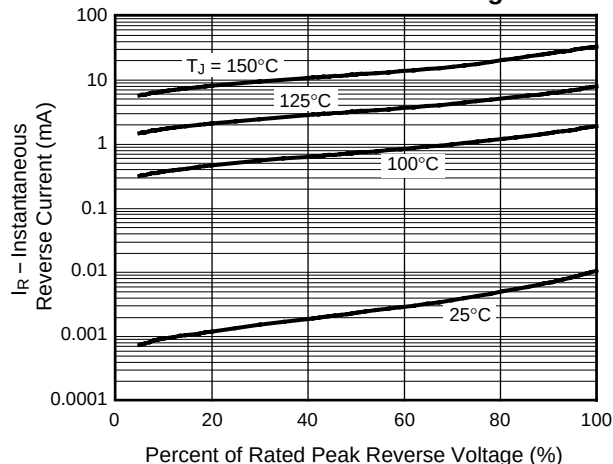
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



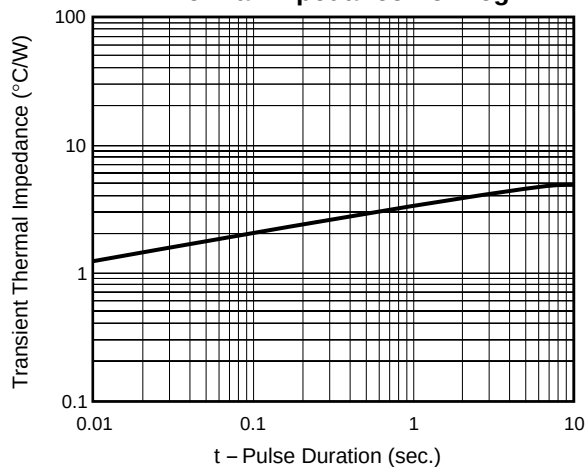
**Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg**



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



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



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

