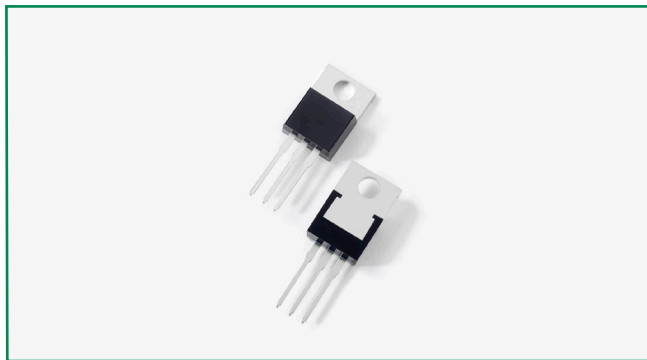
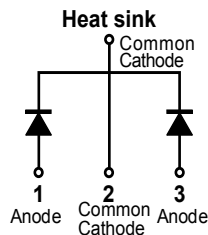


MBR20150CT



Pin out



Description

Littelfuse MBR series Schottky Barrier Rectifier is designed to meet the general requirements of commercial applications by providing high temperature, low leakage and low V_F products.

It is suitable for high frequency switching mode power supply, free-wheeling diodes and polarity protection diodes.

Features

- High junction temperature capability
- High frequency operation capability
- Guard ring for enhanced ruggedness and long term reliability
- Low forward voltage drop
- High frequency operation capability
- Common cathode configuration in TO-220AB package

Applications

- Switching mode power supply
- DC/DC converters
- Free-wheeling diodes
- Polarity protection diodes

Maximum Ratings

| Parameters | Symbol | Test Conditions | Max | Unit |
|--|-------------|--|---------------------------------|------|
| Peak Inverse Voltage | V_{RWM} | - | 150 | V |
| Maximum RMS Voltage | V_{RMS} | - | 105 | V |
| Average Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_C = 125^\circ\text{C}$, rectangular wave form | 10 (Per leg) 20 (Per device) | A |
| Peak Repetitive Surge current (Rated V_R , Square Wave, 20KHz) | I_{RRM} | - | 1.0 | A |
| Peak One Cycle Non-Repetitive Surge Current (per leg) | I_{FSM} | 8.3 ms, half Sine pulse | 150 | A |

Electrical Characteristics

| Parameters | Symbol | Test Conditions | Max | Unit |
|----------------------------------|----------|---|----------|------------------|
| Forward Voltage Drop (per leg) * | V_{F1} | @10A, Pulse, $T_J = 25^\circ\text{C}$ | 0.90 | V |
| | V_{F2} | @10A, Pulse, $T_J = 125^\circ\text{C}$ | 0.83 | |
| Reverse Current (per leg) * | I_{R1} | @ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$ | 0.50 Max | mA |
| | I_{R2} | @ $V_R = \text{rated } V_R, T_J = 125^\circ\text{C}$ | 0.01 Typ | |
| Junction Capacitance (per leg) | C_T | @ $V_R = 5V, T_C = 25^\circ\text{C}, f_{SIG} = 1\text{MHz}$ | 400 | pF |
| Series Inductance (per leg) | L_S | Measured lead to lead 5 mm from package body | 8.0 | nH |
| Voltage Rate of Change | dv/dt | | 10,000 | V/ μs |

* Pulse Width < 300 μs , Duty Cycle < 2%

Thermal-Mechanical Specifications

| Parameters | Symbol | Test Conditions | Max | Unit |
|---|------------|--|-------------|------|
| Junction Temperature | T_J | | -55 to +175 | °C |
| Storage Temperature | T_{stg} | | -55 to +150 | °C |
| Maximum Thermal Resistance Junction to Case(per leg) | R_{thJC} | DC operation | 1.5 | °C/W |
| Maximum Thermal Resistance, Case to Heat Sink | R_{thCS} | Mounting surface, smooth and greased(only for TO-220) | 0.5 | °C/W |
| Approximate Weight | wt | | 2 | g |
| Case Style | | TO-220AB | | |

Figure 1: Typical Forward Characteristics

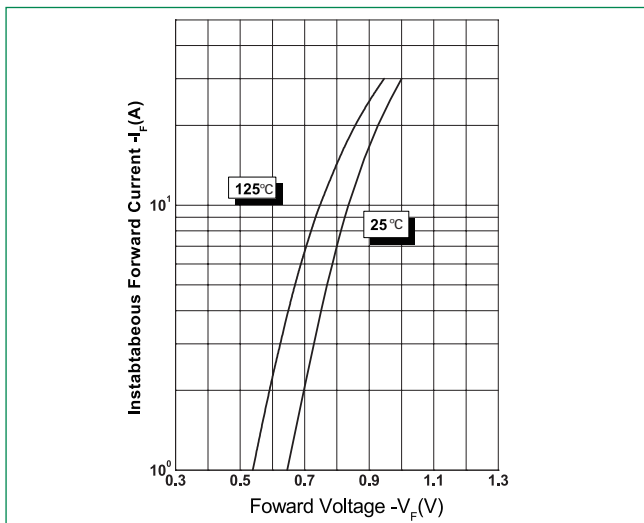


Figure 2: Typical Reverse Characteristics

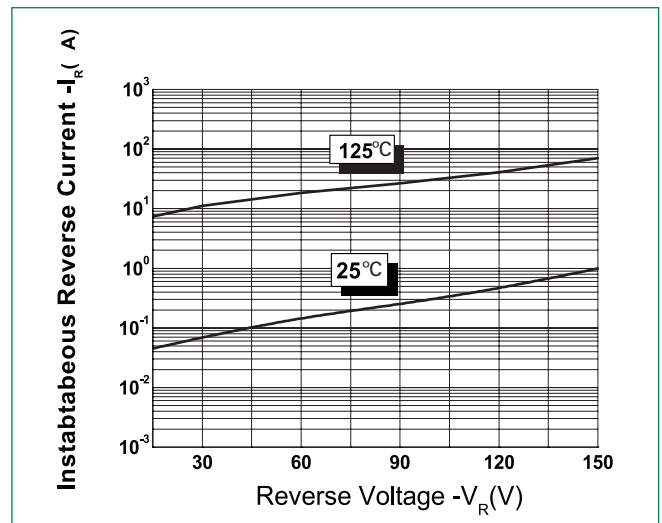
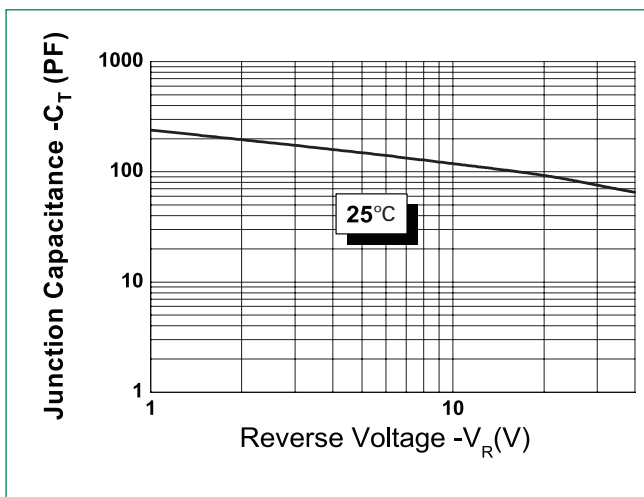
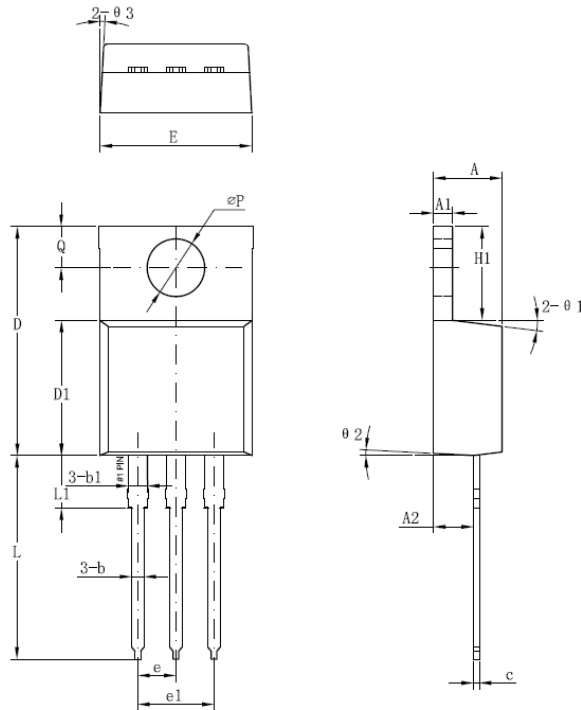


Figure 3: Typical Junction Capacitance



Dimensions- TO-220AB



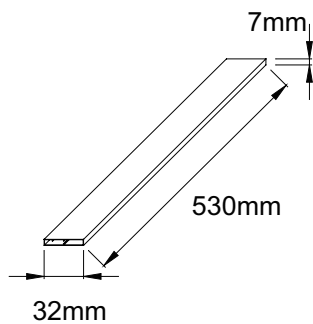
| Symbol | Millimeters | |
|--------|-------------|-------|
| | Min | Max |
| A | 3.56 | 4.83 |
| A1 | 0.51 | 1.40 |
| A2 | 2.03 | 2.92 |
| b | 0.38 | 1.02 |
| b1 | 1.14 | 1.78 |
| c | 0.31* | 0.61 |
| D | 14.22 | 16.51 |
| D1 | 8.38 | 9.15* |
| E | 9.65 | 10.67 |
| e | 2.54 | - |
| e1 | 4.98* | - |
| H1 | 5.84 | 6.86 |
| L | 12.70 | 14.73 |
| L1 | - | 6.35 |
| øP | 3.53 | 4.09 |
| Q | 2.54 | 3.43 |

Footnote *: The spec. does not comply with JEDEC spec.

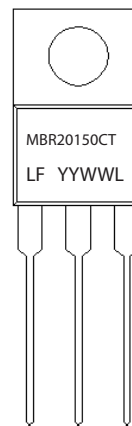
Packing Options

| Part Number | Marking | Packing Mode | M.O.Q |
|-------------|------------|--------------|-------|
| MBR20150CT | MBR20150CT | 50pcs /Tube | 1000 |

Tube Specification



Part Numbering and Marking System



- MBR = Device Type
- 20 = Forward Current (20A)
- 150 = Reverse Voltage (150V)
- CT = Configuration
- LF = Littelfuse
- YY = Year
- WW = Week
- L = Lot Number