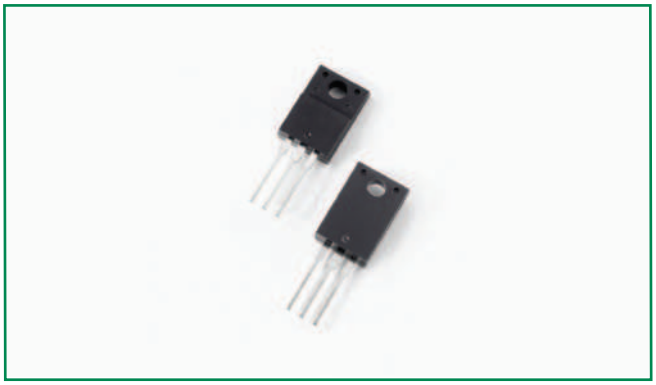
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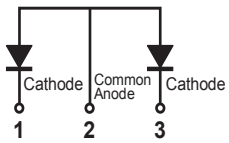
# Schottky Barrier Rectifier
# MBRF20200CTR, 2x 10A, 200V, ITO-220AB, Common Anode

## MBRF20200CTR

RoHS



## 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
- Guard ring for enhanced ruggedness and long term reliability
- Low forward voltage drop
- High frequency operation
- Common anode configuration in electrically isolated ITO-220AB package

## Applications

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

## Maximum Ratings

| Parameters | Symbol | Test Conditions | Max | Unit |
|---|---|---|---|---|
| Peak Inverse Voltage | $V_{RWM}$ | - | 200 | V |
| Average Forward Current | $I_{F(AV)}$ | 50% duty cycle @$T_C$ = 105°C, rectangular wave form | 10(per leg) | A |
| | | | 20(per device) | |
| Peak Repetitive Forward Current(per leg) | $I_{FRM}$ | Rated $V_R$, Square wave,20KHz, @$T_C$=90°C | 20 | 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 °C | 0.95 | V |
| | $V_{F2}$ | @ 10A, Pulse, $T_J$ = 125 °C | 0.85 | |
| Reverse Current at DC condition (per leg) | $I_{R1}$ | @$V_R$ = rated $V_R$ $T_J$ = 25 °C | 1.0 | mA |
| Reverse Current (per leg) * | $I_{R2}$ | @$V_R$ = rated $V_R$ $T_J$ = 125 °C | 50 | |
| Junction Capacitance (per leg) | $C_T$ | @$V_R$ = 5V, $T_C$ = 25 °C $f_{SIG}$ = 1MHz | 300 | 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 |
| RSM Isolation Voltage (t = 1.0 second, R. H. < =30%, $T_A$ = 25 °C) | $V_{ISO}$ | Clip mounting, the epoxy body away from the heatsink edge by more than 0.110" along the lead direction. | 4500 | V |
| | | Clip mounting, the epoxy body is inside the heatsink. | 3500 | |
| | | Screw mounting, the epoxy body is inside the heatsink. | 1500 | |

* Pulse Width < 300µs, Duty Cycle <2%

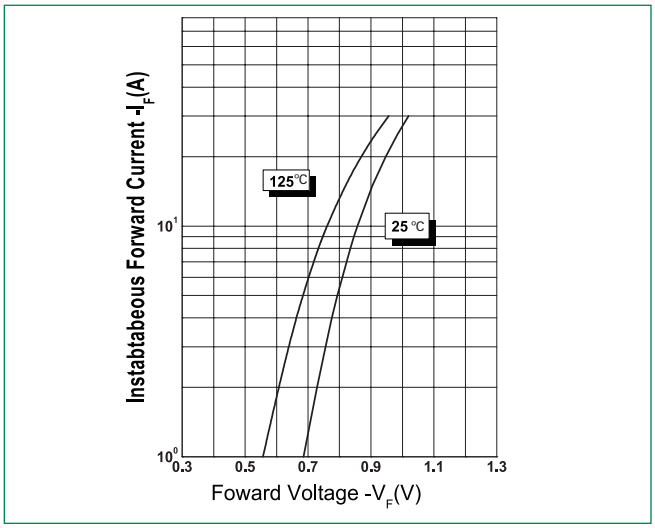
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# Schottky Barrier Rectifier
# MBRF20200CTR, 2x 10A, 200V, ITO-220AB, Common Anode

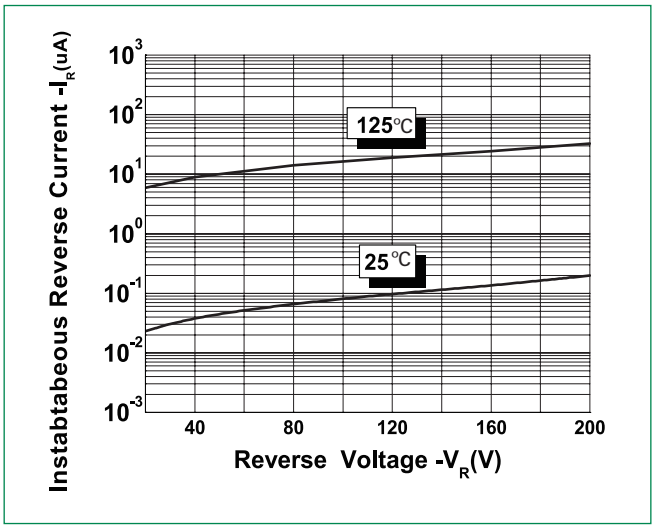
## Thermal-Mechanical Specifications

| Parameters | Symbol | Test Conditions | Max | Unit |
|---|---|---|---|---|
| Junction Temperature | $T_J$ | | -55 to +175 | °C |
| Storage Temperature | $T_{stg}$ | | -55 to +175 | °C |
| Maximum Thermal Resistance Junction to Case (per leg) | $R_{thJC}$ | DC operation | 4.5 | °C/W |
| Approximate Weight | wt | | 2 | g |
| Case Style | | ITO-220AB | | |

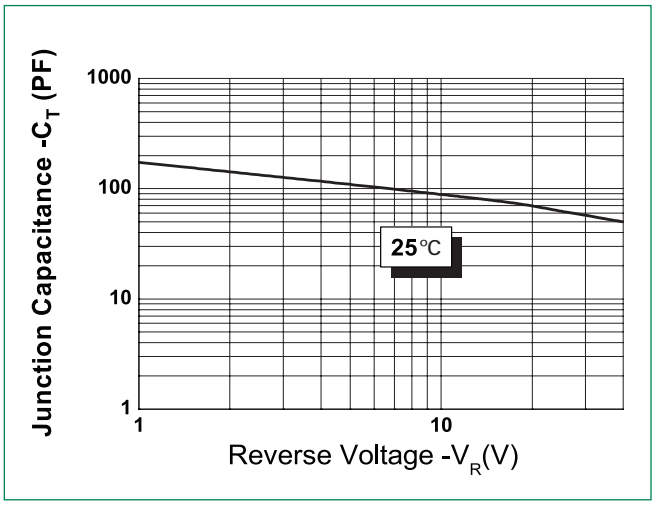
## Figure 1: Typical Forward Characteristics




## Figure 2: Typical Reverse Characteristics




## Figure 3: Typical Junction Capacitance

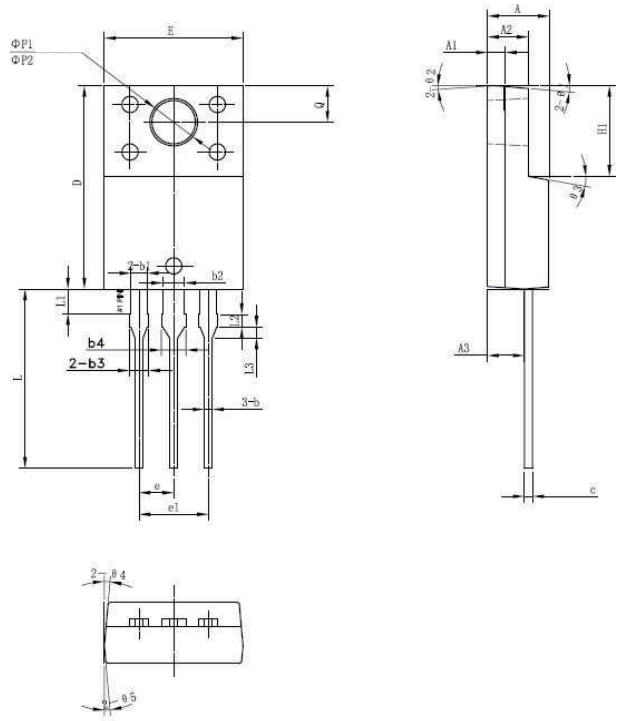



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## Dimensions- ITO-220AB

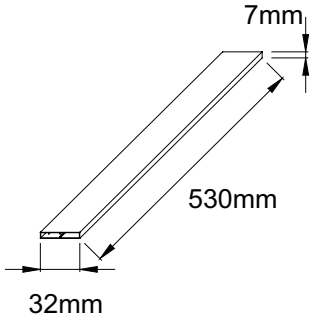



| Symbol | Millimeters | | |
|---|---|---|---|
| | Min | Typ | Max |
| **A** | 4.30 | 4.50 | 4.70 |
| **A1** | 1.10 | 1.30 | 1.50 |
| **A2** | 2.80 | 3.00 | 3.20 |
| **A3** | 2.50 | 2.70 | 2.90 |
| **b** | 0.50 | 0.60 | 0.75 |
| **b1** | 1.10 | 1.20 | 1.35 |
| **b2** | 1.50 | 1.60 | 1.75 |
| **b3** | 1.20 | 1.30 | 1.45 |
| **b4** | 1.60 | 1.70 | 1.85 |
| **c** | 0.55 | 0.60 | 0.75 |
| **D** | 14.80 | 15.00 | 15.20 |
| **E** | 9.96 | 10.16 | 10.36 |
| **e** | | 2.55 | |
| **e1** | | 5.10 | |
| **H1** | 6.50 | 6.70 | 6.90 |
| **L** | 12.70 | 13.20 | 13.70 |
| **L1** | 1.60 | 1.80 | 2.00 |
| **L2** | 0.80 | 1.00 | 1.20 |
| **L3** | 0.60 | 0.80 | 1.00 |
| **ØP1** | 3.30 | 3.50 | 3.70 |
| **ØP2** | 2.99 | 3.19 | 3.39 |
| **Q** | 2.50 | 2.70 | 2.90 |
| **θ1** | | 5° | |
| **θ2** | | 4° | |
| **θ3** | | 10° | |
| **θ4** | | 5° | |
| **θ5** | | 5° | |

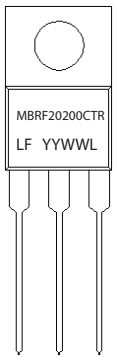
## Packing Options

| Part Number | Marking | Packing Mode | M.O.Q |
|---|---|---|---|
| MBRF20200CTR | MBRF20200CTR | 50pcs / Tube | 1000 |

## Tube Specification




## Part Numbering and Marking System




| | |
|---|---|
| MBR | = Device Type |
| F | = Package type |
| 20 | = Forward Current (20A) |
| 200 | = Reverse Voltage (200V) |
| CTR | = Configuration |
| LF | = Littelfuse |
| YY | = Year |
| WW | = Week |
| L | = Lot Number |

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