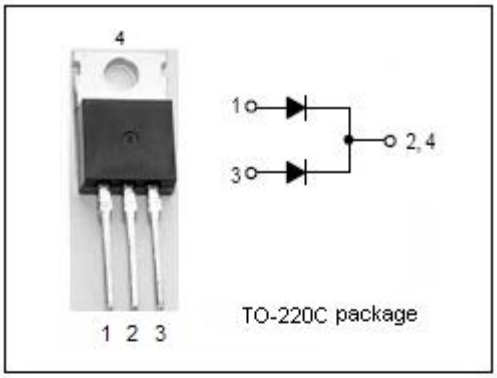
# Schottky Barrier Rectifier — MBR20100CT

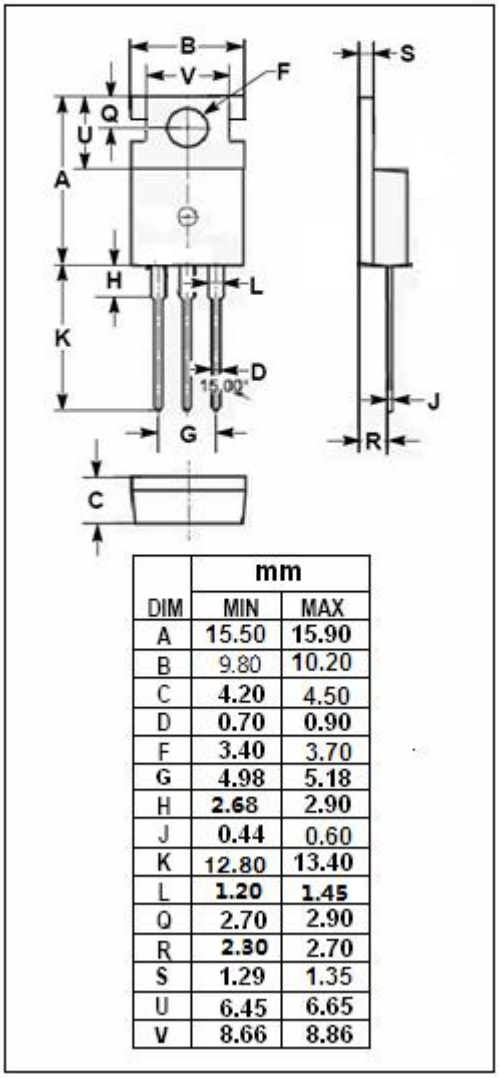
## FEATURES

- Low Forward Voltage
- Guaranteed Reverse Avalanche
- Low Power Loss/High Efficiency
- High Surge Capacity
- Low Stored Charge Majority Carrier Conduction
- Dual Rectifier Conduction, Positive Center Tap
- Minimum Lot-to-Lot variations for robust device performance and reliable operation




## MECHANICAL CHARACTERISTICS

- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260℃ Max. for 10 Seconds




| DIM | mm MIN | mm MAX |
|---|---|---|
| A | 15.50 | 15.90 |
| B | 9.80 | 10.20 |
| C | 4.20 | 4.50 |
| D | 0.70 | 0.90 |
| F | 3.40 | 3.70 |
| G | 4.98 | 5.18 |
| H | 2.68 | 2.90 |
| J | 0.44 | 0.60 |
| K | 12.80 | 13.40 |
| L | 1.20 | 1.45 |
| Q | 2.70 | 2.90 |
| R | 2.30 | 2.70 |
| S | 1.29 | 1.35 |
| U | 6.45 | 6.65 |
| V | 8.66 | 8.86 |

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | 100 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current<br>(Rated $V_R$) $T_C$= 133℃ | 20 | A |
| $I_{FSM}$ | Nonrepetitive Peak Surge Current<br>(Surge applied at rated load conditions half-wave, single phase, 60Hz) | 150 | A |
| $I_{RRM}$ | Peak Repetitive Reverse Current<br>(2.0 μs, 1.0kHz) | 0.5 | A |
| $T_J$ | Junction Temperature | -65~150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -65~175 | ℃ |
| dv/dt | Voltage Rate of Change (Rated $V_R$) | 10,000 | V/μs |

# Schottky Barrier Rectifier MBR20100CT

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance,Junction to Case | 2.0 | ℃/W |
| $R_{th\ j\text{-}a}$ | Thermal Resistance,Junction to Ambient | 60 | ℃/W |

## ELECTRICAL CHARACTERISTICS(Pulse Test: Pulse Width=300 μ s,Duty Cycle≤2%)

| SYMBOL | PARAMETER | CONDITIONS | MAX | UNIT |
|---|---|---|---|---|
| $V_F$ | Maximum Instantaneous Forward Voltage | $I_F$= 10A ; $T_C$= 125℃<br>$I_F$= 10A ; $T_C$= 25℃<br>$I_F$= 20A ; $T_C$= 125℃<br>$I_F$= 20A ; $T_C$= 25℃ | 0.75<br>0.85<br>0.85<br>0.95 | V |
| $I_R$ | Maximum Instantaneous Reverse Current | Rated DC Voltage, $T_C$= 125℃<br>Rated DC Voltage, $T_C$= 25℃ | 6.0<br>0.1 | mA |