

MBR20S100CT

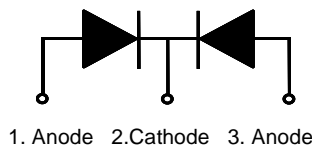
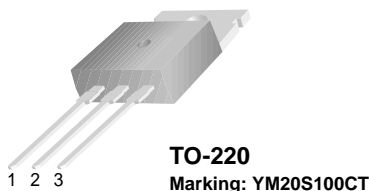
Schottky Barrier Rectifier

Features

- Low forward voltage drop
- High frequency properties and switching speed
- Guard ring for over-voltage protection

Applications

- Switched mode power supply
- Freewheeling diodes



Absolute Maximum Ratings $T_a = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|----------------|-----------------------------------------------------------------------------|-------------|------------------|
| V_{RRM} | Maximum Repetitive Reverse Voltage | 100 | V |
| V_R | Maximum DC Reverse Voltage | 100 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current @ $T_C = 135^\circ\text{C}$ | 20 | A |
| I_{FSM} | Non-Repetitive Peak Surge Current (per diode) 60Hz Single Half-Sine Wave | 200 | A |
| T_J, T_{STG} | Operating Junction and Storage Temperature | -65 to +150 | $^\circ\text{C}$ |

Thermal Characteristics

| Symbol | Parameter | Value | Units |
|-----------------|----------------------------------------------------------|-------|--------------------|
| $R_{\theta JC}$ | Maximum Thermal Resistance, Junction to Case (per diode) | 1.54 | $^\circ\text{C/W}$ |

Electrical Characteristics $T_C = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|------------|---------------------------------------|---------------------------|-------|
| V_{FM}^* | Maximum Instantaneous Forward Voltage | | |
| | $I_F = 10\text{A}$ | $T_C = 25^\circ\text{C}$ | - |
| | $I_F = 10\text{A}$ | $T_C = 125^\circ\text{C}$ | 0.70 |
| | $I_F = 20\text{A}$ | $T_C = 25^\circ\text{C}$ | 0.95 |
| | $I_F = 20\text{A}$ | $T_C = 125^\circ\text{C}$ | 0.85 |
| I_{RM}^* | Maximum Instantaneous Reverse Current | $T_C = 25^\circ\text{C}$ | 0.1 |
| | @ rated V_R | $T_C = 125^\circ\text{C}$ | 20 |

* Pulse Test: Width = 300 μs , Duty Cycle = 2%

Typical Performance Characteristics

Figure 1. Typical Forward Voltage Characteristics (per diode)

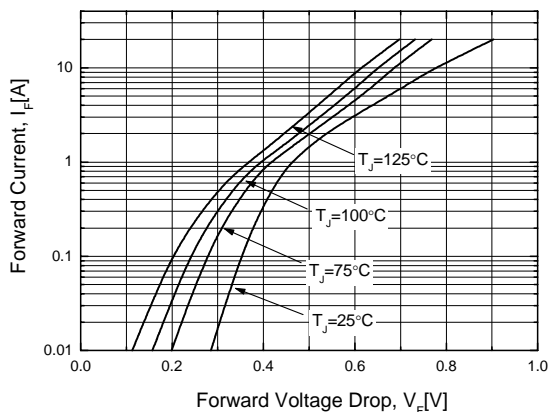


Figure 2. Typical Reverse Current vs. Reverse Voltage (per diode)

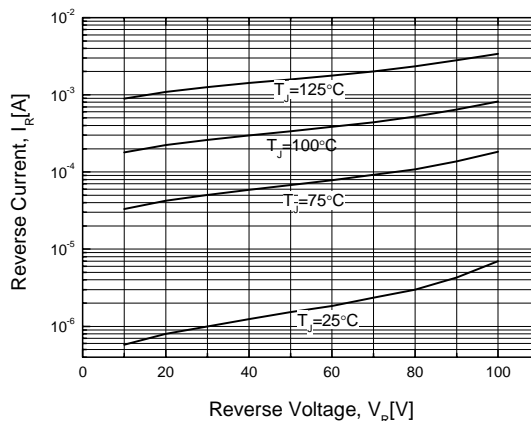


Figure 3. Typical Junction Capacitance (per diode)

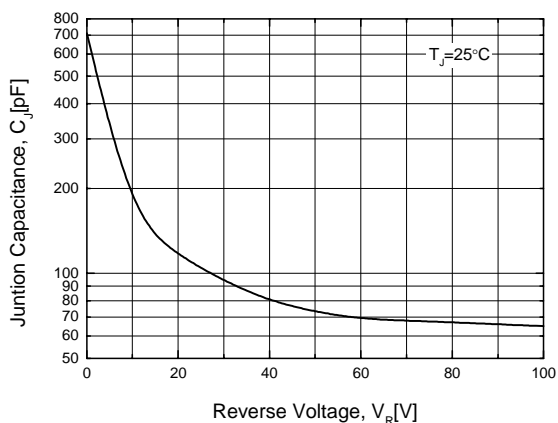


Figure 4. Forward Current Derating Curve

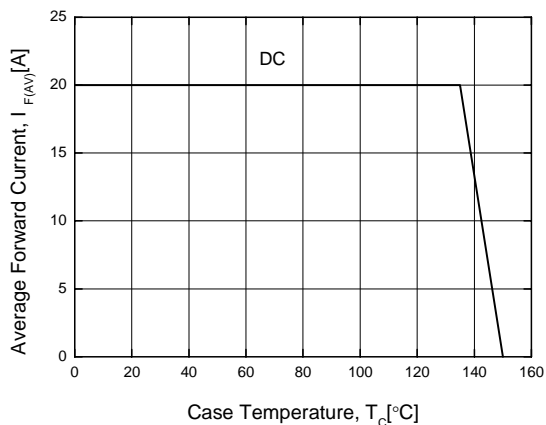
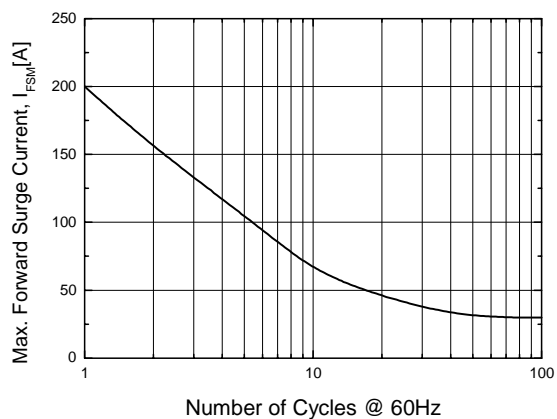
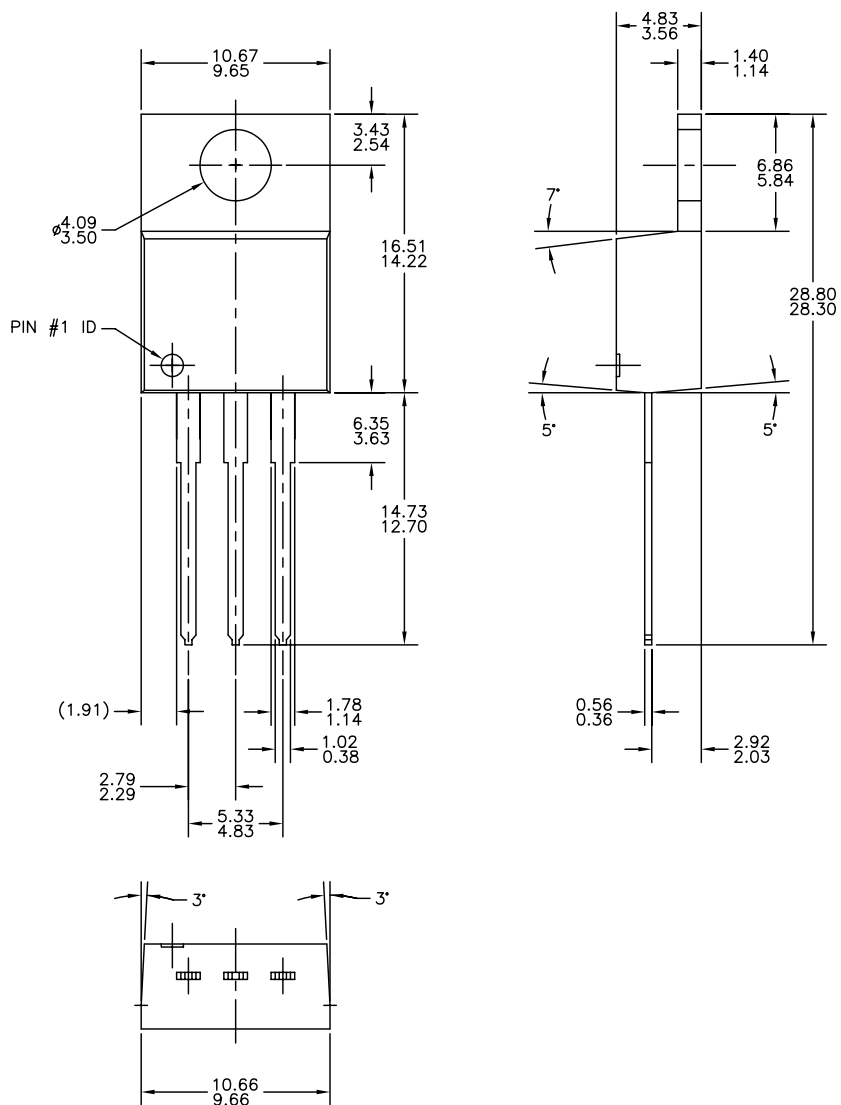


Figure 5. Non-Repetitive Surge Current (per diode)



Mechanical Dimensions

TO-220



- NOTES: UNLESS OTHERWISE SPECIFIED
- A) STANDARD LEAD FINISH: 200 MICROINCHES / 5.08 MICROMETERS MIN. LEAD/TIN 15/85 ON COPPER.
 - B) REFERENCE JEDEC, TO-220, ISSUE J, VARIATION AB, DATED MARCH 24, 1987.
 - C) ALL DIMENSIONS ARE IN MILLIMETERS.
 - D) DIMENSIONING AND TOLERANCING PER ANSI Y14.5 - 1973

Dimensions in Millimeters

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