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# MBRP1545N

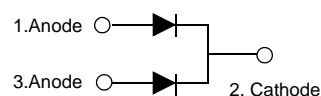
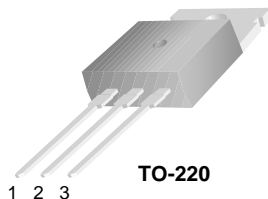
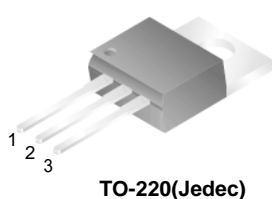
## Schottky Barrier Rectifier

### 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  | 45          | V                |
| $V_R$          | Maximum DC Reverse Voltage  | 45          | V                |
| $I_{F(AV)}$    | Average Rectified Forward Current @ $T_C = 100^\circ\text{C}$               | 15          | A                |
| $I_{FSM}$      | Non-repetitive Peak Surge Current (per diode)<br>60Hz Single Half-Sine Wave | 150         | A                |
| $T_J, T_{STG}$ | Operating Junction and Storage Temperature                                  | -65 to +150 | $^\circ\text{C}$ |

### Thermal Characteristics

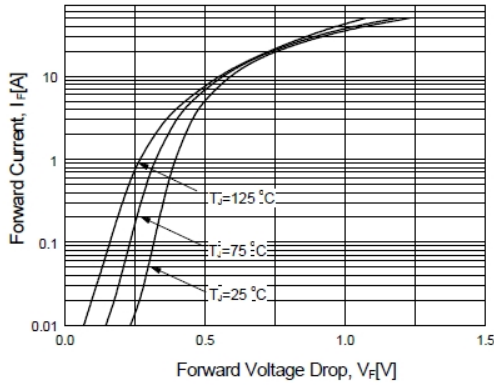
| Symbol          | Parameter  | Value | Units                     |
|-----------------|--|-------|---------------------------|
| $R_{\theta JC}$ | Maximum Thermal Resistance, Junction to Case (per diode) | 3.0   | $^\circ\text{C}/\text{W}$ |

### Electrical Characteristics (per diode)

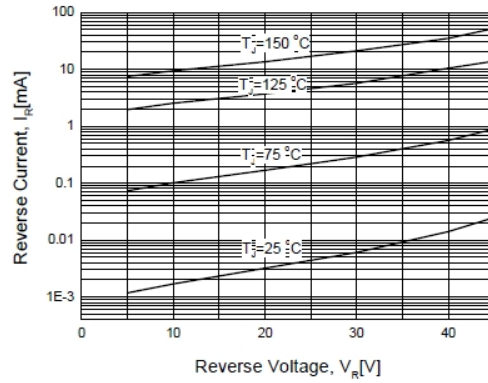
| Symbol     | Parameter   | Value                     | Units |    |
|------------|---|---------------------------|-------|----|
| $V_{FM}^*$ | Maximum Instantaneous Forward Voltage<br>$I_F = 7.5\text{A}$<br>$I_F = 7.5\text{A}$<br>$I_F = 15\text{A}$<br>$I_F = 15\text{A}$ | $T_C = 25^\circ\text{C}$  | 0.65  | V  |
|            |   | $T_C = 125^\circ\text{C}$ | 0.57  |    |
|            |   | $T_C = 25^\circ\text{C}$  | 0.80  |    |
|            |   | $T_C = 125^\circ\text{C}$ | 0.65  |    |
| $I_{RM}^*$ | Maximum Instantaneous Reverse Current<br>@ rated $V_R$  | $T_C = 25^\circ\text{C}$  | 1     | mA |
|            |   | $T_C = 125^\circ\text{C}$ | 40    |    |

\* Pulse Test: Pulse Width=300 $\mu\text{s}$ , Duty Cycle=2%

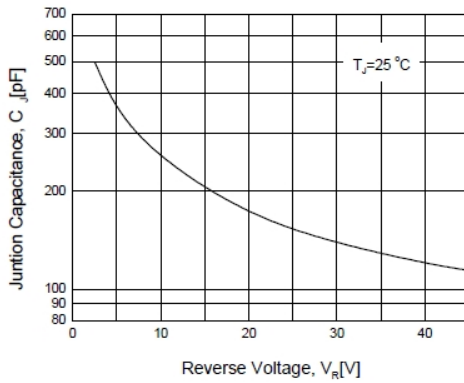
## Typical Performance Characteristics



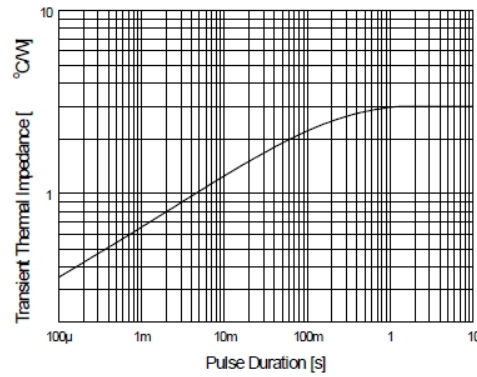
**Figure 1. Typical Forward Voltage Characteristics (per diode)**



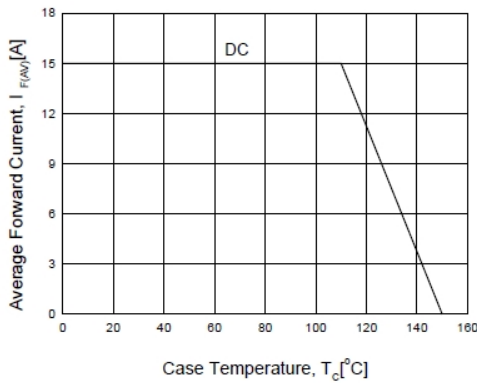
**Figure 2. Typical Reverse Current vs. Reverse Voltage (per diode)**



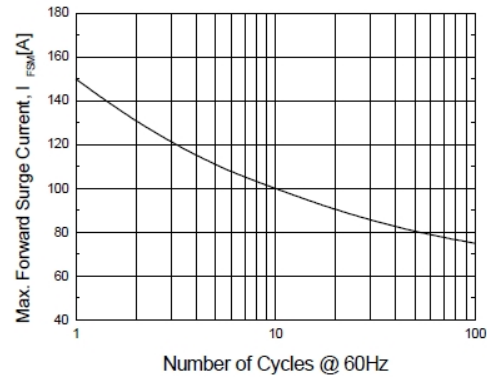
**Figure 3. Typical Junction Capacitance (per diode)**



**Figure 4. Thermal Impedance Characteristics (per diode)**



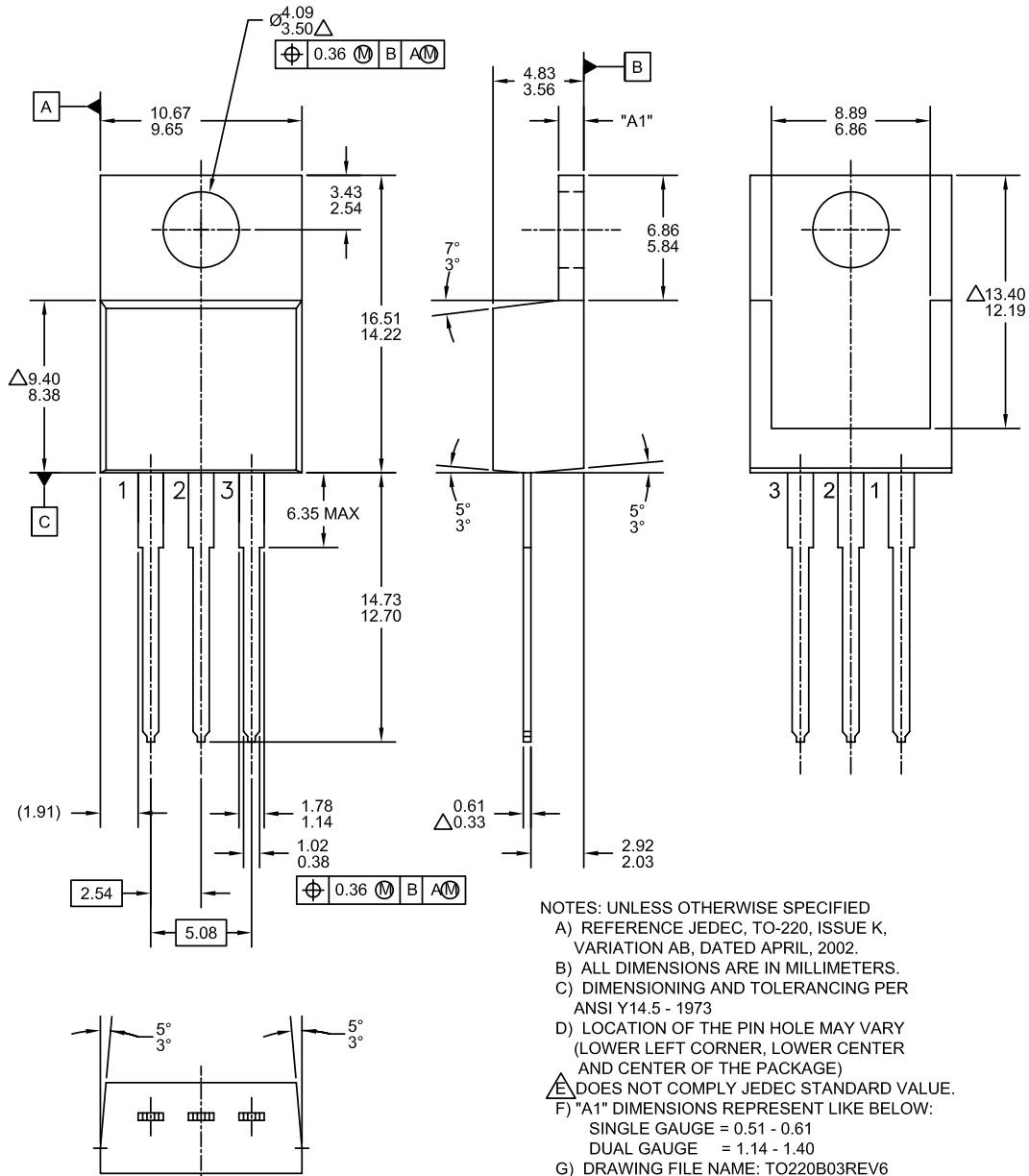
**Figure 5. Forward Current Derating Curve**



**Figure 6. Non-Repetitive Surge Current (per diode)**

Physical Dimensions

TO-220








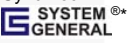
- NOTES: UNLESS OTHERWISE SPECIFIED
- A) REFERENCE JEDEC, TO-220, ISSUE K, VARIATION AB, DATED APRIL, 2002.
  - B) ALL DIMENSIONS ARE IN MILLIMETERS.
  - C) DIMENSIONING AND TOLERANCING PER ANSI Y14.5 - 1973
  - D) LOCATION OF THE PIN HOLE MAY VARY (LOWER LEFT CORNER, LOWER CENTER AND CENTER OF THE PACKAGE)
  - $\Delta$  DOES NOT COMPLY JEDEC STANDARD VALUE.
  - F) "A1" DIMENSIONS REPRESENT LIKE BELOW:  
 SINGLE GAUGE = 0.51 - 0.61  
 DUAL GAUGE = 1.14 - 1.40
  - G) DRAWING FILE NAME: TO220B03REV6

Dimensions in Millimeters



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