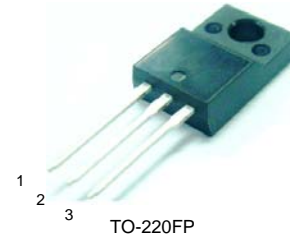


# 10A SCHOTTKY BARRIER DIODE

## Full Pack High Voltage Schottky Rectifier

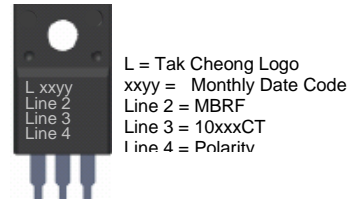
### Specification Features:

- High Voltage Wide Range Selection, 100V, 150V & 200V
- High Switching Speed Device
- Low Forward Voltage Drop
- Low Power Loss and High Efficiency
- Guard Ring for Over-voltage Protection
- High Surge Capability
- RoHS Compliant
- Matte Tin(Sn) Lead Finish
- Terminal Leads Surface is Corrosion Resistant and can withstand to 260°C Wave Soldering or per MIL-STD-750, Method 2026.

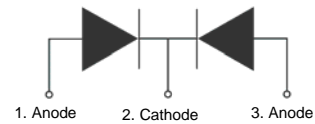


TO-220FP

### DEVICE MARKING DIAGRAM



### POLARITY CONFIGURATION



### MAXIMUM RATINGS (Per Leg, unless otherwise specified)

| Symbol                          | Parameter  | MBRF10100CT | MBRF10150CT | MBRF10200CT | Units |
|---------------------------------|--|-------------|-------------|-------------|-------|
| $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | Maximum Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>Maximum DC Reverse Voltage | 100         | 150         | 200         | V     |
| $I_{F(AV)}$                     | Average Rectified Forward Current<br>Per Leg<br>Per Package                                      |             | 5<br>10     |             | A     |
| $I_{FSM}$                       | Non-repetitive Peak Forward Surge Current<br>8.3mS Single Phase @ Rated Load                     |             | 80          |             | A     |
| $T_{STG}$                       | Storage Temperature Range  |             | -65 to +150 |             | °C    |
| $T_J$                           | Operating Junction Temperature   |             | +150        |             | °C    |

These ratings are limiting values above which the serviceability of the diode may be impaired.

### THERMAL CHARACTERISTIC

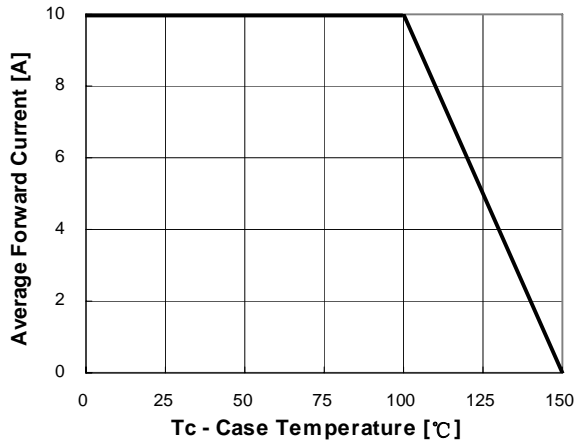
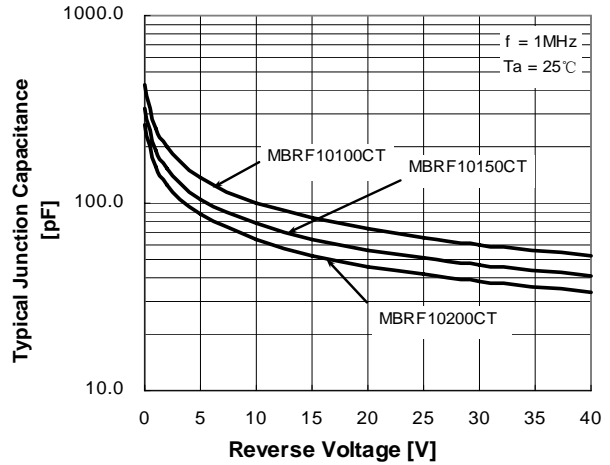
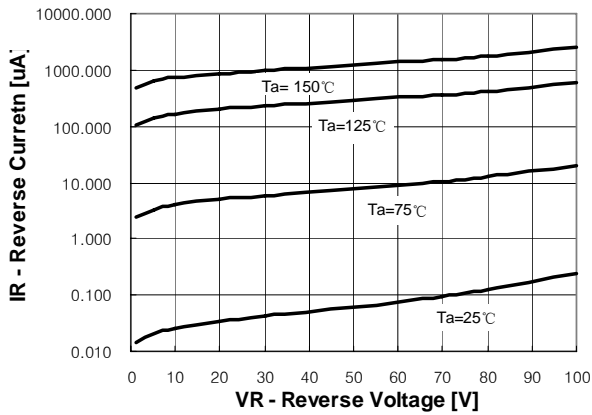
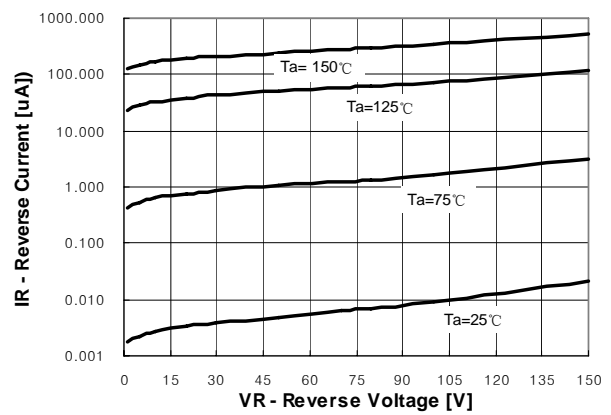
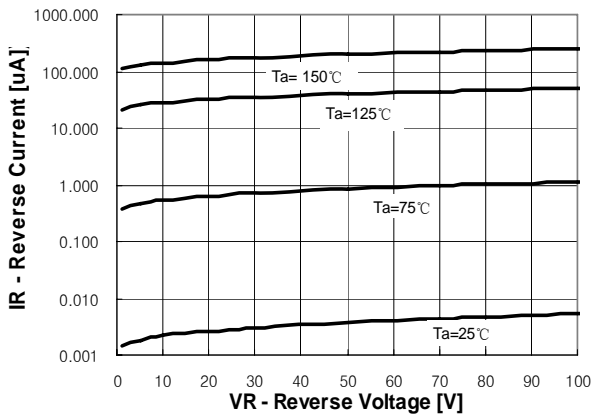
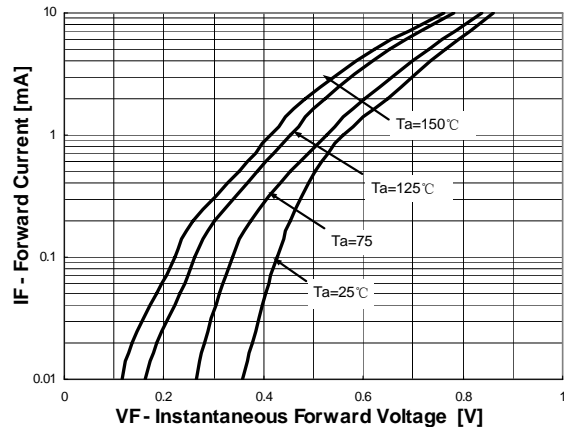
| Symbol          | Parameter   | Value | Units |
|-----------------|---|-------|-------|
| $R_{\theta JC}$ | Maximum Thermal Resistance, Junction-to-Case              | 1.5   | °C/W  |
| $R_{\theta JA}$ | Maximum Thermal Resistance, Junction-to-Ambient (per leg) | 62.5  | °C/W  |

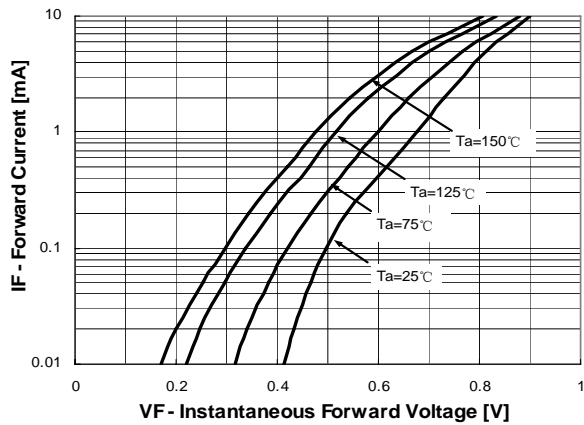
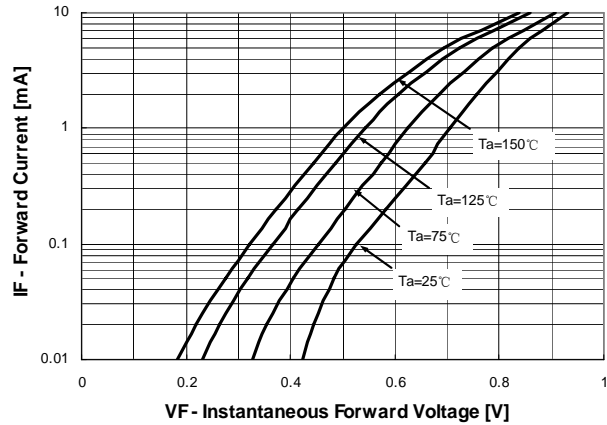
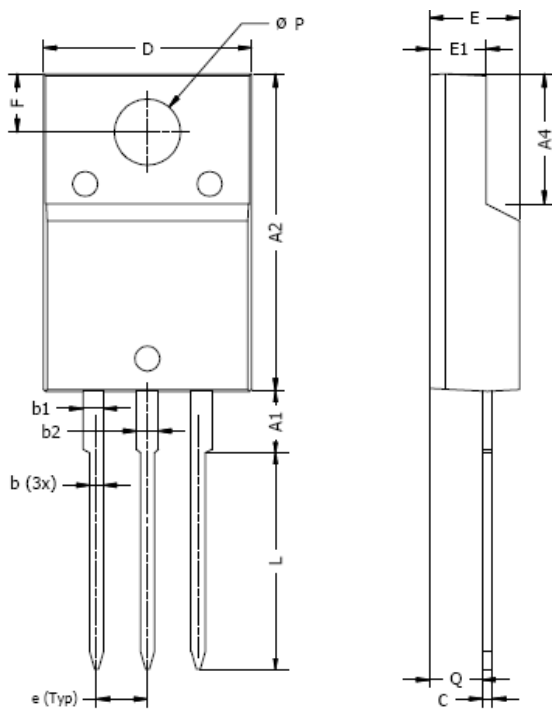
### ELECTRICAL CHARACTERISTICS (Per Leg) $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter       | Test Condition<br>(Note 1) | MBRF10100CT |      | MBRF10150CT |      | MBRF10200CT |      | Units         |
|--------|-----------------|----------------------------|-------------|------|-------------|------|-------------|------|---------------|
|        |                 |                            | Min         | Max  | Min         | Max  | Min         | Max  |               |
| $I_R$  | Reverse Current | @ rated $V_R$              | ---         | 100  | ---         | 100  | ---         | 100  | $\mu\text{A}$ |
| $V_F$  | Forward Voltage | $I_F = 5\text{A}$          | ---         | 0.85 | ---         | 0.92 | ---         | 1.00 | V             |
|        |                 | $I_F = 10\text{A}$         | ---         | 0.95 | ---         | 1.00 | ---         | 1.25 |               |

Note/s:

1. Tested under pulse condition of 300 $\mu\text{S}$ .

**TYPICAL CHARACTERISTICS**
**Figure 1. Forward Current Derating Curve (Per Diode)**

**Figure 2. Junction Capacitance (Per Diode)**

**Figure 3. MBRF10100CT Typical Reverse Current (Per Diode)**

**Figure 4. MBRF10150CT Typical Reverse Current (Per Diode)**

**Figure 5. MBRF10200CT Typical Reverse Current (Per Diode)**

**Figure 6. MBRF10100CT Typical Forward Voltage (Per Diode)**


**Figure 7. MBRF10150CT Typical Forward Voltage (Per Diode)**

**Figure 8. MBRF10200CT Typical Forward Voltage (Per Diode)**

**TO220FP SINGLE GAUGE PACKAGE OUTLINE**


| DIM | MILLIMETERS |      | INCHES |       |
|-----|-------------|------|--------|-------|
|     | MIN         | MAX  | MIN    | MAX   |
| A1  | 2.7         | 3.3  | 0.106  | 0.130 |
| A2  | 15.0        | 15.7 | 0.591  | 0.618 |
| A4  | 6.2         | 6.6  | 0.244  | 0.260 |
| b   | 0.5         | 0.9  | 0.020  | 0.035 |
| b1  | 0.9         | 1.2  | 0.035  | 0.047 |
| b2  | 1.0         | 1.2  | 0.039  | 0.047 |
| c   | 0.4         | 0.6  | 0.016  | 0.024 |
| D   | 9.8         | 10.3 | 0.386  | 0.406 |
| e   | 2.34        | 2.74 | 0.092  | 0.108 |
| E   | 4.3         | 4.6  | 0.169  | 0.181 |
| E1  | 2.5         | 2.9  | 0.098  | 0.114 |
| F   | 2.6         | 3.0  | 0.102  | 0.118 |
| L   | 10.3        | 10.7 | 0.406  | 0.421 |
| ØP  | 3.0         | 3.4  | 0.118  | 0.134 |
| Q   | 2.3         | 2.7  | 0.091  | 0.106 |

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