

### DESCRIPTION

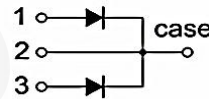
The MBR10100CT meet the ROHS and Green Product requirement with full function reliability approved.

### FEATURE

- \*Schottky Barrier Chip
- \*Guard Ring Die Construction for Transient Protection
- \*Low Power Loss,High Efficiency
- \*High Surge Capability
- \*High Current Capability and Low Forward Voltage Drop
- \*For Use in Low Voltage, High Frequency Inverters,Free Wheeling, and Polarity Protection Applications



1. ANODE
2. CATHODE
3. ANODE



### ABSOLUTE MAXIMUM RATINGS(TA=25°C, unless otherwise specified.)

| SYMBOL  | PARAMETER  | VALUE      | UNIT |
|---------|--|------------|------|
| VRRM    | Peak repetitive reverse voltage                                  | 100        | V    |
| VRWM    | Working peak reverse voltage                                     | 100        | V    |
| VR      | DC blocking voltage  | 100        | V    |
| VR(RMS) | RMS reverse voltage  | 70         | V    |
| IO      | Average rectified output current                                 | 10 (5*2)   | A    |
| IFSM    | Non-Repetitive peak forward surge current( 8.3ms half sine wave) | 100*2      | A    |
| Tj      | Junction temperature   | 175        | °C   |
| Tstg    | Storage temperature  | -55 ~ +150 | °C   |
| RθJA    | Thermal Resistance from Junction to Ambient                      | 60         | °C/W |
| RθJC    | Thermal Resistance From Junction To Case                         | 4          | °C/W |

Notes: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

### ■ ELECTRICAL CHARACTERISTICS (TA=25°C, unless otherwise specified)

| PARAMETER       | SYMBOL            | TEST CONDITIONS       |                      | MIN | TYP  | MAX  | UNIT |
|-----------------|-------------------|-----------------------|----------------------|-----|------|------|------|
| Reverse voltage | V <sub>(BR)</sub> | I <sub>R</sub> =0.1mA |                      | 100 |      |      | V    |
| Reverse current | I <sub>R</sub>    | V <sub>R</sub> =100V  |                      |     | 1    | 5    | uA   |
| Forward voltage | V <sub>F1</sub>   | I <sub>F</sub> =3A    | T <sub>j</sub> =25°C |     | 0.70 |      | V    |
|                 | V <sub>F2</sub>   | I <sub>F</sub> =5A    | T <sub>j</sub> =25°C |     | 0.77 | 0.82 | V    |
|                 | V <sub>F3</sub>   | I <sub>F</sub> =10A   | T <sub>j</sub> =25°C |     |      | 0.95 | V    |

Notes: 1. Short duration pulse test used to minimize self-heating effect.  
 2. Thermal resistance junction to case mounted on heatsink.

### ■ TYPICAL CHARACTERISTICS

FIG.1: FORWARD CURRENT DERATING CURVE

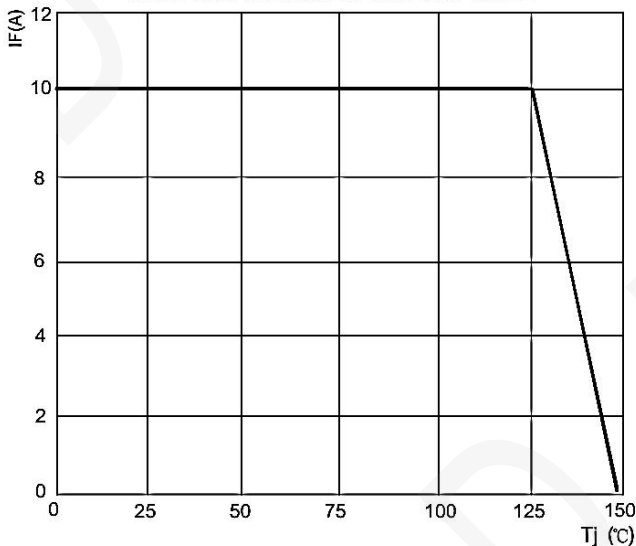


FIG.2: TYPICAL FORWARD CHARACTERISTICS

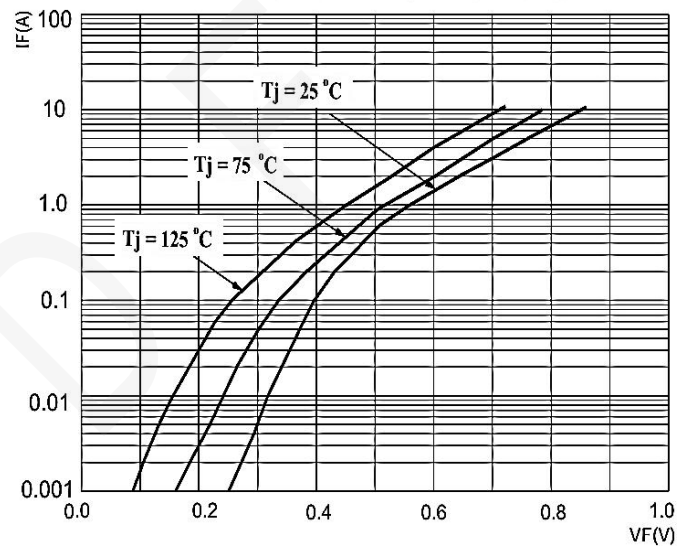


FIG.3: TOTAL CAPACITANCE DERATING CURVE

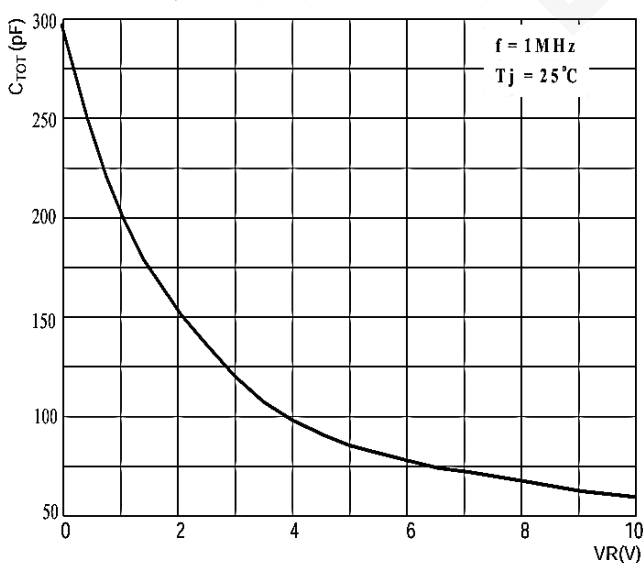
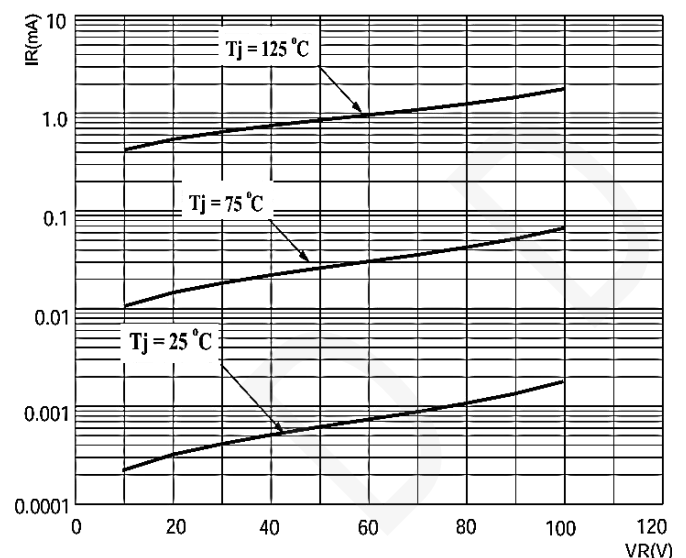
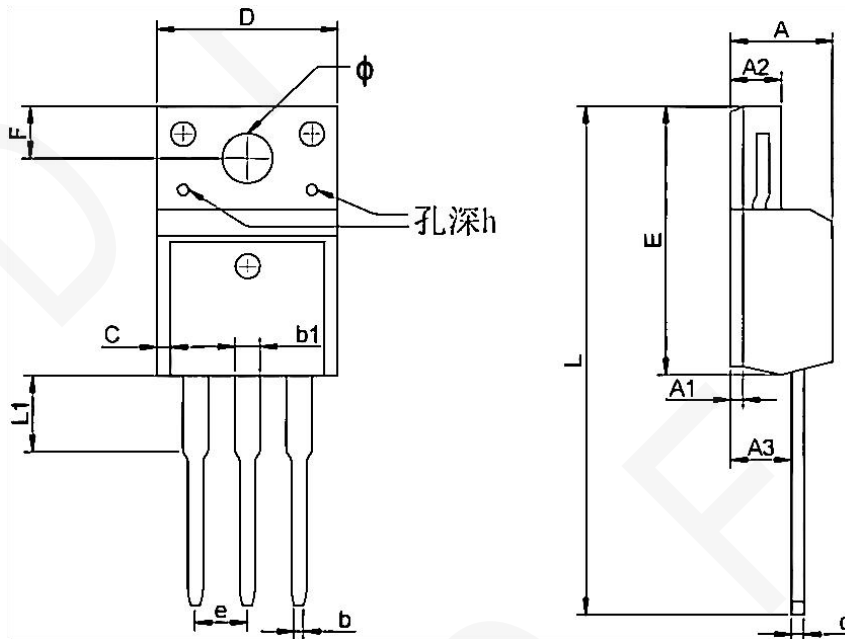


FIG.4: TYPICAL REVERSE CHARACTERISTICS



**TO-220F PACKAGE OUTLINE DIMENSIONS**


| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min.                      | Max    | Min                  | Max   |
| A      | 4.300                     | 4.750  | 0.169                | 0.185 |
| A1     | 1.830 REF                 |        | 0.072 REF            |       |
| A2     | 2.300                     | 2.850  | 0.090                | 0.112 |
| A3     | 2.500                     | 2.900  | 0.098                | 0.114 |
| b      | 0.400                     | 0.420  | 0.016                | 0.016 |
| b1     | 1.220                     | 1.280  | 0.048                | 0.050 |
| C      | 0.690                     | 0.720  | 0.027                | 0.028 |
| c      | 0.490                     | 0.510  | 0.019                | 0.020 |
| D      | 9.960                     | 10.200 | 0.392                | 0.400 |
| E      | 15.000                    | 15.950 | 0.588                | 0.625 |
| e      | 2.574 TYP                 |        | 0.101 TYP            |       |
| F      | 3.470 REF                 |        | 0.136 REF            |       |
| y      | 3.200 REF                 |        | 0.125 REF            |       |
| h      | 0.000                     | 0.300  | 0.000                | 0.012 |
| L      | 28.780                    | 28.900 | 1.128                | 1.133 |
| L1     | 2.990                     | 3.100  | 0.117                | 0.122 |