SIRECT ELECTRONIC

# MBR10150FCT

## Power Schottky Rectifier - 10Amp 150Volt

### ☐ Features

-Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
-High Junction Temperature Capability
-Low forward voltage, high current capability
-High surge capacity
-Low power loss, high efficiency

### ☐ Application

-AC/DC Switching Adaptor
-Switch-Mode Power Supply

### ☐ Absolute maximum ratings

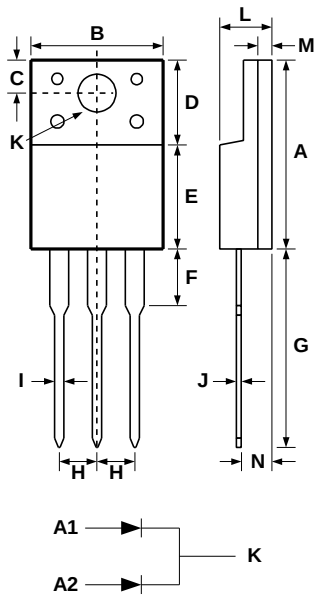
| Symbol | Ratings | Unit | Conditions |
|---|---|---|---|
| $I_{F(AV)}$ | 10 | A | At Tc=125ºC |
| $V_{RRM}$ | 150 | V | Maximum repetitive peak reverse voltage |
| $I_{FSM}$ | 120 | A | 8.3ms single half sine-wafe single shot |
| $V_{F(max)}$ | 0.92 | V | At $I_F$=5A, Tc=25ºC |
| $T_j$ | -50 to +175 | ºC | |
| $T_{stg}$ | -50 to +150 | ºC | |

### ☐ Electrical characteristics

| Parameters | Symbol | Ratings | Conditions |
|---|---|---|---|
| Maximum Instantaneous Forward Voltage | $V_F$ | 0.92V | Tc=25ºC |
| | | 0.75V | Tc=125ºC |
| Maximum Reverse Current At Rated DC Blocking Voltage | $I_R$ | 50μA | Tc=25ºC |
| | | 10mA | Tc=125ºC |
| Voltage Rate of Change | dv/dt | 10,000 V/μs | Rated $V_R$ |

Note: (1)Pulse Test : 380μs pulse width, 2% duty cycle

ITO-220AB




| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | .577 | .600 | 14.65 | 15.25 | |
| B | .386 | .406 | 9.80 | 10.30 | |
| C | .102 | .114 | 2.60 | 2.90 | |
| D | .258 | .274 | 6.55 | 6.95 | |
| E | .315 | .331 | 8.00 | 8.40 | |
| F | .148 | .159 | 3.75 | 4.05 | |
| G | .508 | .531 | 12.90 | 13.50 | |
| H | .089 | .100 | 2.25 | 2.55 | |
| I | .022 | .028 | 0.55 | 0.70 | |
| J | .022 | .028 | 0.55 | 0.70 | |
| K | .126 | .138 | 3.20 | 3.50 | |
| L | .173 | .185 | 4.40 | 4.70 | |
| M | .055 | .063 | 1.40 | 1.60 | |
| N | .102 | .114 | 2.60 | 2.90 | |

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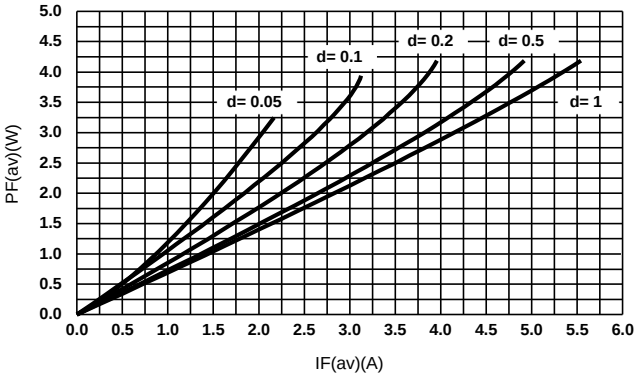


**Figure 1. Average forward power dissipation versus average forward current (per diode)**

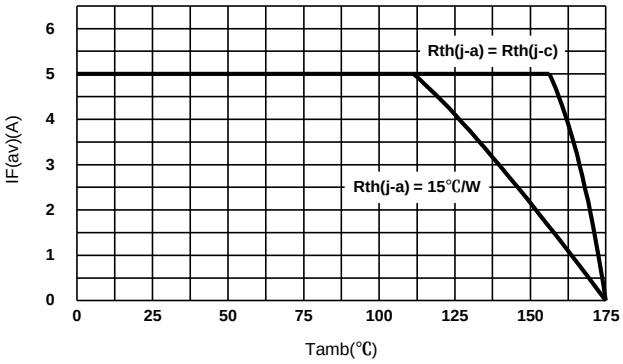


**Figure 2. Average forward current versus ambient temperature (d= 0.5, per diode)**

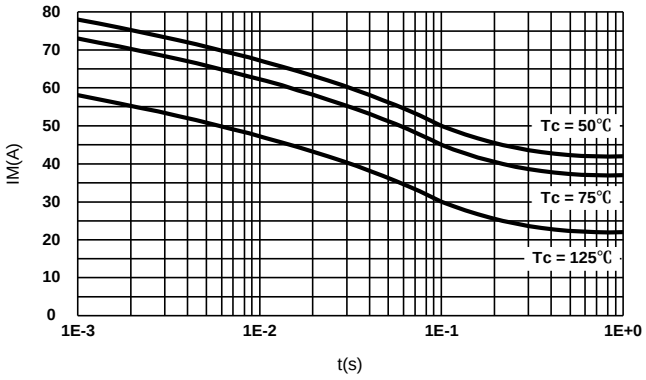


**Figure 3. Non repetitive surge peak forward current versus overload duration (maximum values, per diode)**

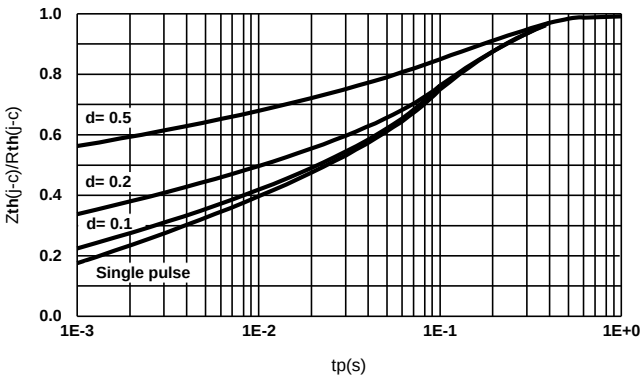


**Figure 4. Relative variation of thermal impedance junction to case versus pulse duration (per diode)**

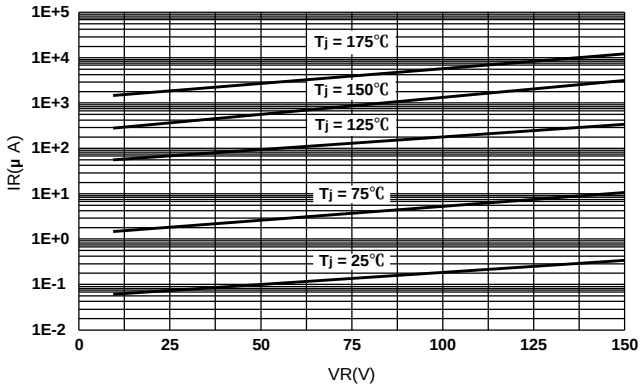


**Figure 5. Reverse leakage current versus reverse voltage applied (ytpical values, per diode)**

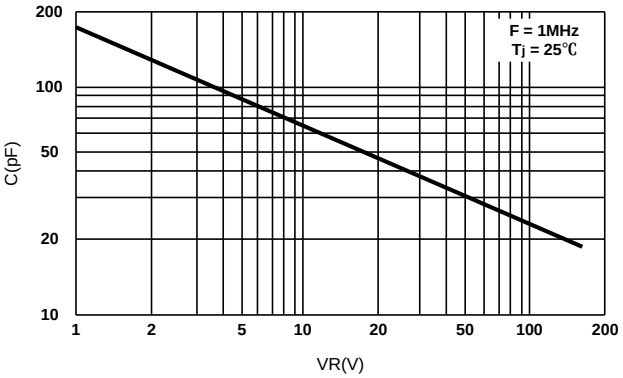


**Figure 6. Junction capacitance versus reverse voltage applied (typical values, per diode)**

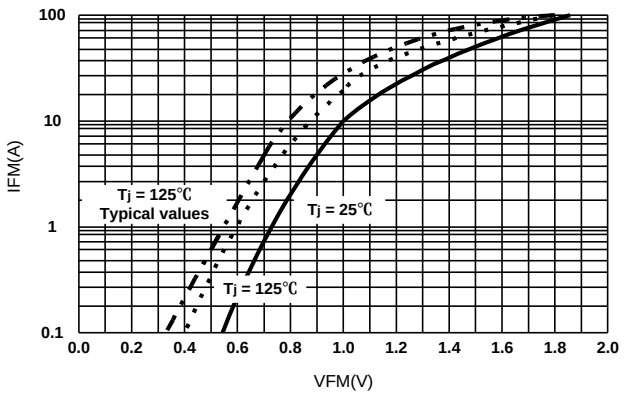


**Figure 7. Forward voltage drop versus forward current (maximum values, per diode)**

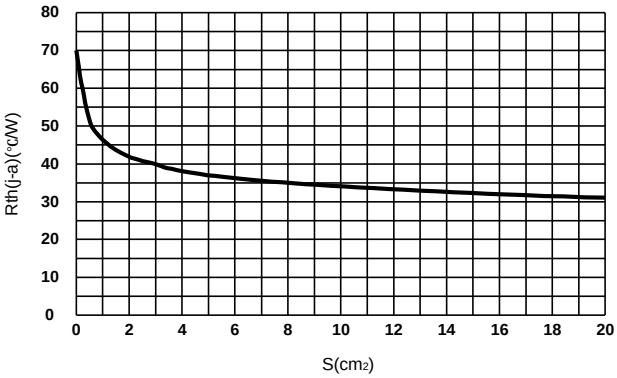


**Figure 8. Thermal resistance junction to ambient versus copper surface under tab (Epoxy printed circuit board, copper thickness : 35µ m) (STPS10150CG only)**