

Switchmode Full Plastic Dual Schottky Barrier Power Rectifiers

Using the Schottky Barrier principle with a Refractory metal capable of high temperature operation metal. The proprietary barrier technology allows for reliable operation up to 175°C junction temperature. Typical application are in switching Mode Power Supplies such as adaptors, DC/DC converters, free-wheeling and polarity protection diodes.

Features

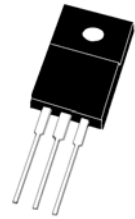
- * Low Forward Voltage.
- * Low Switching noise.
- * High Current Capacity
- * Guarantee Reverse Avalanche.
- * Guard-Ring for Stress Protection.
- * Low Power Loss & High efficiency.
- * 175°C Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction.
- * Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O



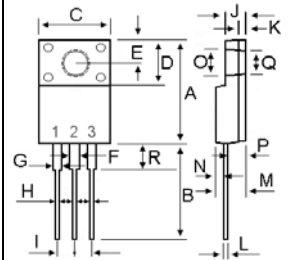
* In compliance with EU RoHs 2002/95/EC directives

SCHOTTKY BARRIER RECTIFIERS

**10 AMPERES
100 VOLTS**



ITO-220AB



| DIM | MILLIMETERS | |
|-----|-------------|-------|
| | MIN | MAX |
| A | 14.90 | 15.15 |
| B | 13.35 | 13.55 |
| C | 10.00 | 10.10 |
| D | 6.55 | 6.65 |
| E | 2.65 | 2.75 |
| F | 1.55 | 1.65 |
| G | 1.15 | 1.25 |
| H | 0.55 | 0.65 |
| I | 2.50 | 2.60 |
| J | 3.00 | 3.20 |
| K | 1.10 | 1.20 |
| L | 0.55 | 0.65 |
| M | 4.40 | 4.60 |
| N | 1.15 | 1.25 |
| O | 3.35 | 3.45 |
| P | 2.65 | 2.75 |
| Q | 3.15 | 3.25 |
| R | 3.60 | 3.80 |

MAXIMUM RATINGS

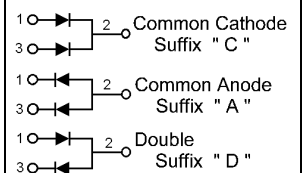
| Characteristic | Symbol | MBRF10100CK | Unit |
|--|---------------------------------|-------------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 100 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 70 | V |
| Average Rectifier Forward Current (per diode) Total Device (Rated V_R), $T_C=125^\circ\text{C}$ | $I_{F(AV)}$ | 5.0 10 | A |
| Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz) | I_{FM} | 10 | A |
| Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz) | I_{FSM} | 125 | A |
| Operating and Storage Junction Temperature Range | T_J, T_{stg} | -65 to +175 | °C |

THERMAL RESISTANCES

| | | | |
|---|-----------------|-----|------|
| Typical Thermal Resistance junction to case | $R_{\theta jc}$ | 3.8 | °C/w |
|---|-----------------|-----|------|

ELECTRIAL CHARACTERISTICS

| Characteristic | Symbol | MBRF10100CK | Unit |
|--|--------|--------------|------|
| Maximum Instantaneous Forward Voltage ($I_F=5.0$ Amp $T_C=25^\circ\text{C}$) ($I_F=5.0$ Amp $T_C=125^\circ\text{C}$) | V_F | 0.85 0.75 | V |
| Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C=25^\circ\text{C}$) (Rated DC Voltage, $T_C=125^\circ\text{C}$) | I_R | 0.01 10 | mA |



MBRF10100CK

FIG-1 FORWARD CURRENT DERATING CURVE

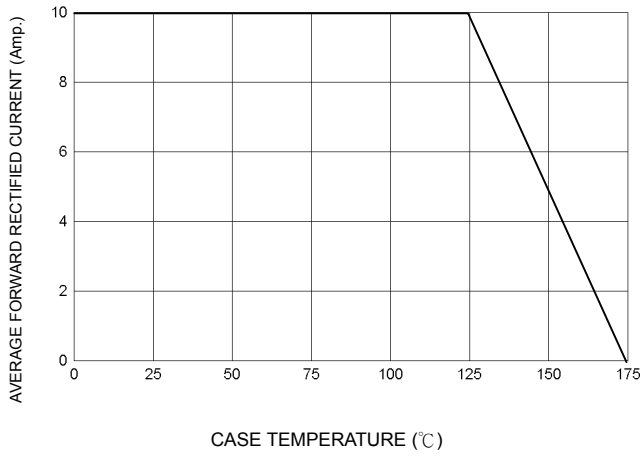


FIG-2 TYPICAL FORWARD CHARACTERISTICS

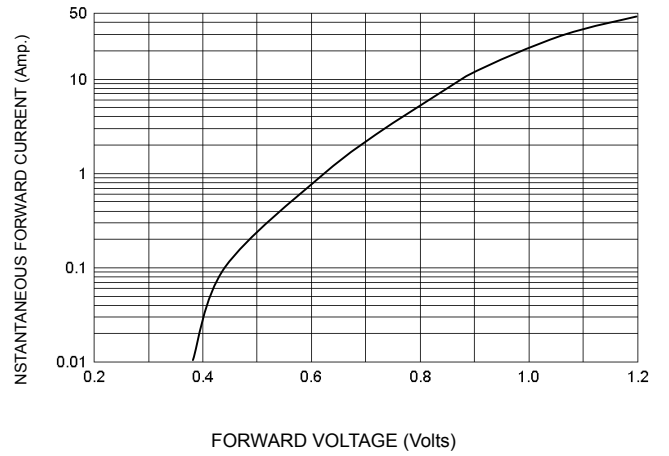


FIG-3 TYPICAL REVERSE CHARACTERISTICS

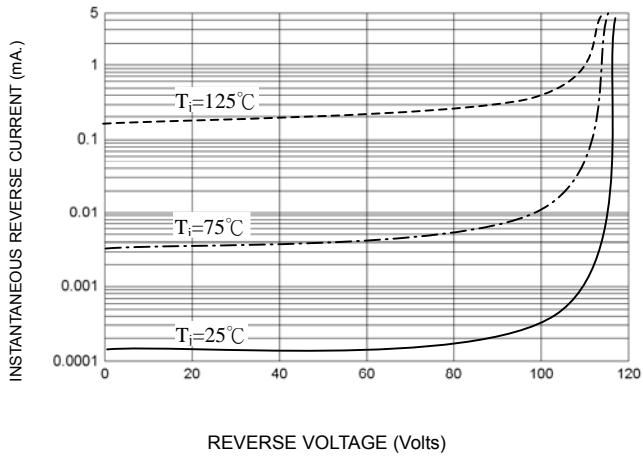


FIG-4 TYPICAL JUNCTION CAPACITANCE

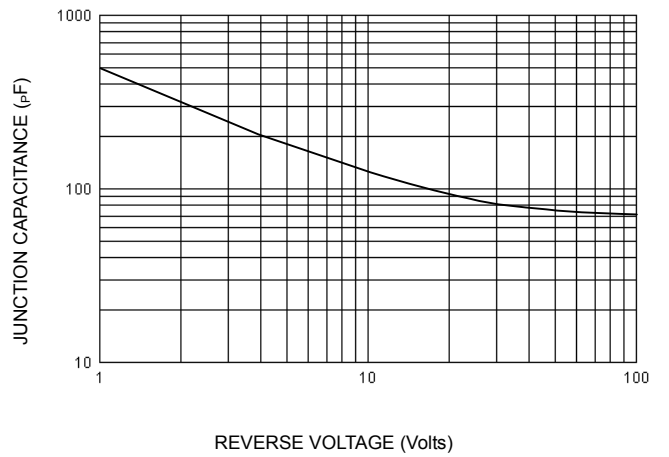
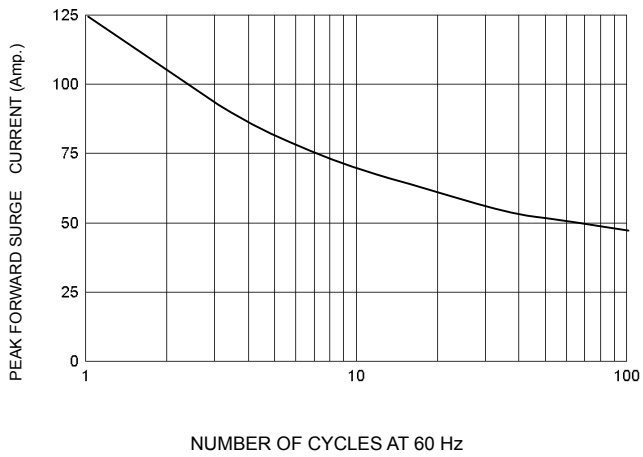


FIG-5 PEAK FORWARD SURGE CURRENT



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