

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 applications are in switching Mode Power Supplies such as adaptors, DC/DC converters, free-wheeling and polarity protection diodes.

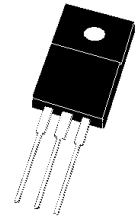
Features

- * Low Forward Voltage.
- * Low Switching noise.
- * High Current Capacity
- * Guarantee Reverse Avalanche.
- * Guard-Ring for Stress Protection.
- * Low Power Loss & High efficiency.
- * High Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction.
- * Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-0
- * Pb free
- * In compliance with EU RoHs directives

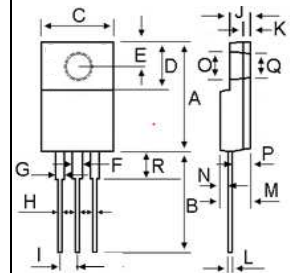


SCHOTTKY BARRIER RECTIFIERS

**30 AMPERES
100 VOLTS**



ITO-220AB



| DIM | MILLIMETERS | |
|-----|-------------|-------|
| | MIN | MAX |
| A | 14.80 | 16.10 |
| B | 12.65 | 14.40 |
| C | 9.70 | 10.36 |
| D | 4.60 | 6.80 |
| E | 2.50 | 3.50 |
| F | 0.90 | 1.45 |
| G | 0.90 | 1.45 |
| H | 0.50 | 0.90 |
| I | 2.40 | 2.70 |
| J | 2.34 | 3.30 |
| K | 0.55 | 1.30 |
| L | 0.36 | 0.80 |
| M | 4.20 | 4.90 |
| N | 1.10 | 1.80 |
| O | 2.90 | 3.50 |
| P | 2.30 | 3.15 |
| Q | 2.90 | 3.50 |
| R | 2.80 | 4.85 |

MAXIMUM RATINGS

| Characteristic | Symbol | MBRF30100C | 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) | $I_{F(AV)}$ | 15 30 | A |
| Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz) | I_{FM} | 30 | A |
| Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz) | I_{FSM} | 250 | A |
| Operating and Storage Junction Temperature Range | T_J, T_{stg} | -65 to +175 | °C |

THERMAL RESISTANCES

| | | | |
|---|-----------------|-----|------|
| Typical Thermal Resistance junction to case | $R_{\theta jc}$ | 3.2 | °C/w |
|---|-----------------|-----|------|

ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | Min. | Typ. | Max. | Unit |
|--|--------|------|--------------|-------------|---------------|
| Maximum Instantaneous Forward Voltage ($I_F = 15$ Amp $T_C = 25^\circ C$) ($I_F = 15$ Amp $T_C = 125^\circ C$) | V_F | --- | 0.75 0.62 | 0.86 --- | V |
| Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ C$) (Rated DC Voltage, $T_C = 125^\circ C$) | I_R | --- | 3 5 | 10 --- | μA mA |

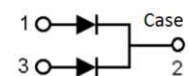


FIG-1 FORWARD CURRENT DERATING CURVE

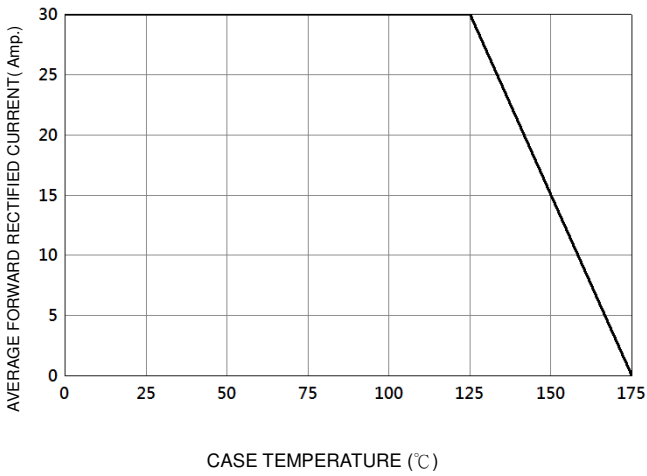


FIG-2 TYPICAL FORWARD CHARACTERISTICS

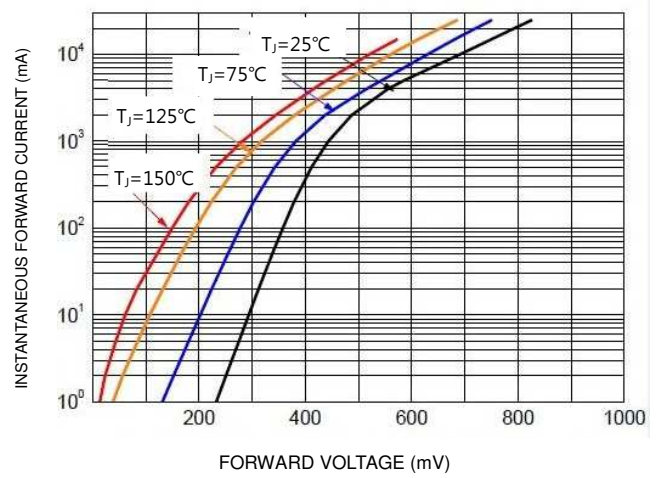


FIG-3 TYPICAL REVERSE CHARACTERISTICS

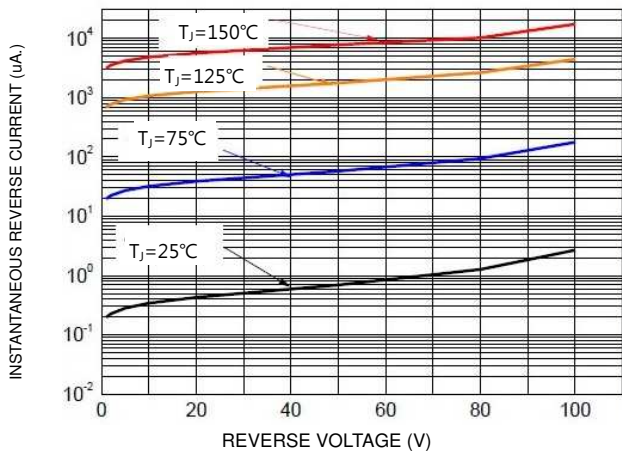


FIG-4 TYPICAL JUNCTION CAPACITANCE

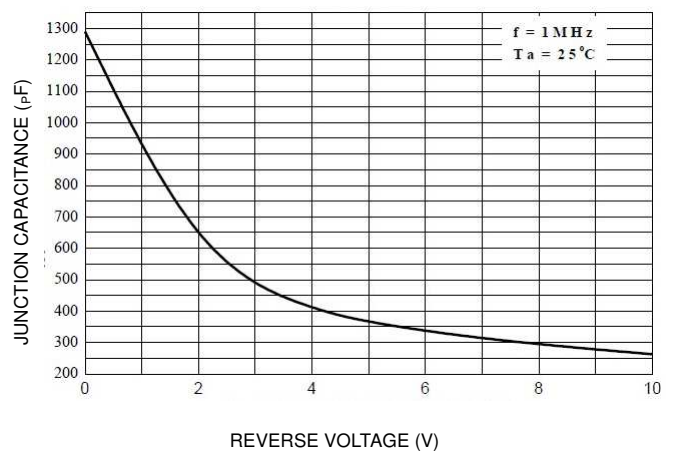
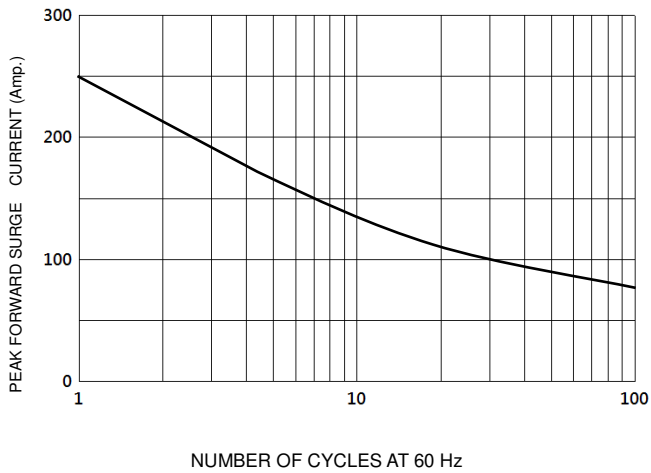


FIG-5 PEAK FORWARD SURGE CURRENT



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