

Switchmode Schottky Barrier Power Rectifiers

Using the Schottky Barrier principle with high temperature operation metal. The proprietary barrier technology allows for reliable operation up to 150°C junction temperature. Typical application are in switching Mode Power Supplies such as adaptors, Photovoltaic Solar cell protection, free-wheeling and polarity protection diodes.

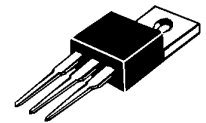
Features

- * Ultra Low Forward Voltage.
- * Low Switching noise.
- * High Current Capacity
- * Low Power Loss & High efficiency.
- * High Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction.
- * Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O
- * Pb free
- * In compliance with EU RoHs directives



SCHOTTKY BARRIER RECTIFIERS

**40 AMPERES
60 VOLTS**



TO-220AB

MAXIMUM RATINGS

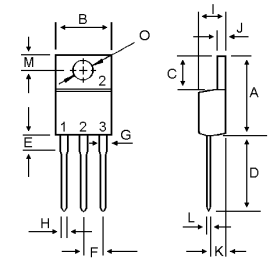
| Characteristic | Symbol | S40M60C | Unit |
|---|---------------------------------|-------------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 60 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 42 | V |
| Average Rectifier Forward Current (per diode) Total Device (Rated V_R), | $I_{F(AV)}$ | 20 40 | A |
| Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz) | I_{FM} | 40 | 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 +150 | °C |

THERMAL RESISTANCES

| | | | |
|--|------------------|-----|------|
| Typical Thermal Resistance junction to case(per diode) | $R_{\theta j-c}$ | 5.8 | °C/w |
|--|------------------|-----|------|

ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | Min. | Typ. | Max. | Unit |
|--|--------|------|--------------|-------------|------|
| Maximum Instantaneous Forward Voltage (per diode) ($I_F = 20.0$ Amp $T_C = 25^\circ\text{C}$) ($I_F = 20.0$ Amp $T_C = 125^\circ\text{C}$) | V_F | --- | 0.53 0.55 | 0.60 --- | 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 | --- | 0.1 40 | 0.2 --- | mA |



| DIM | MILLIMETERS | |
|-----|-------------|-------|
| | MIN | MAX |
| A | 14.68 | 16.00 |
| B | 9.78 | 10.42 |
| C | 5.02 | 6.60 |
| D | 13.00 | 14.62 |
| E | 3.10 | 4.19 |
| F | 2.41 | 2.67 |
| G | 1.10 | 1.67 |
| H | 0.69 | 1.01 |
| I | 4.22 | 4.98 |
| J | 1.14 | 1.40 |
| K | 2.20 | 3.30 |
| L | 0.28 | 0.61 |
| M | 2.48 | 3.00 |
| O | 3.50 | 4.00 |

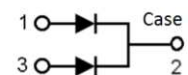


FIG-1 FORWARD CURRENT DERATING CURVE

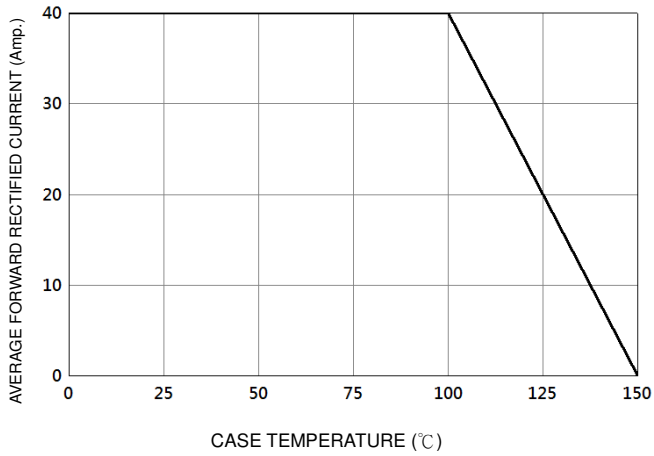


FIG-2 TYPICAL FORWARD CHARACTERISTICS

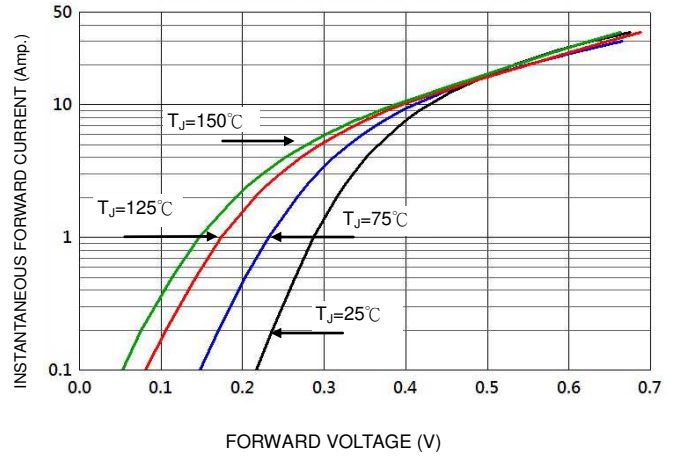


FIG-3 TYPICAL REVERSE CHARACTERISTICS

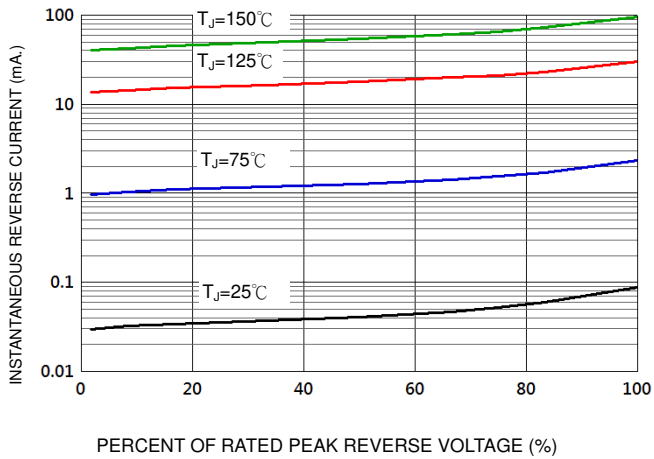


FIG-4 TYPICAL JUNCTION CAPACITANCE

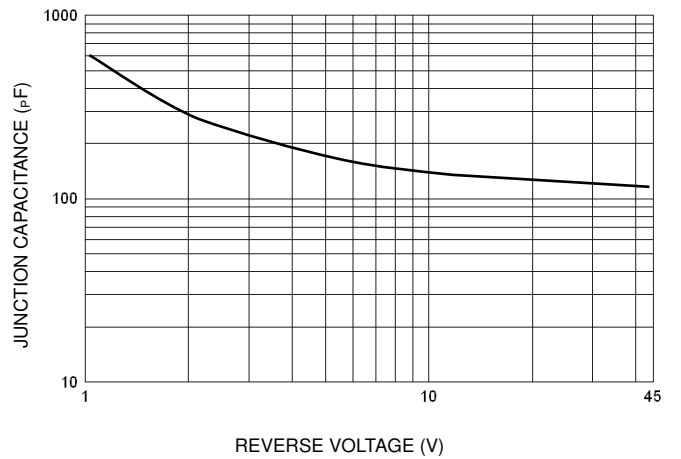
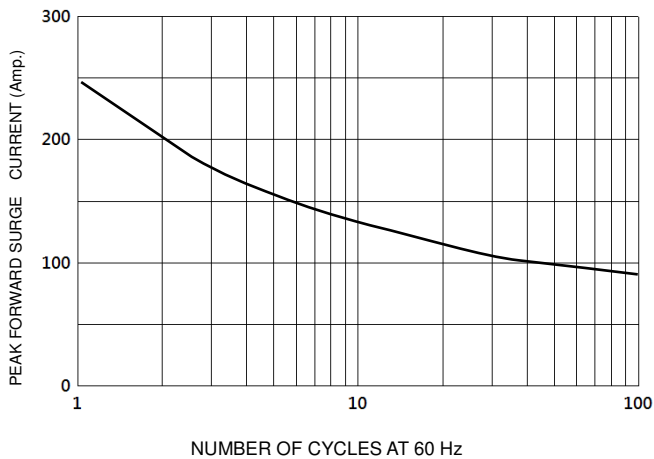


FIG-5 PEAK FORWARD SURGE CURRENT



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