

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 adaptators, 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.
- * 150°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

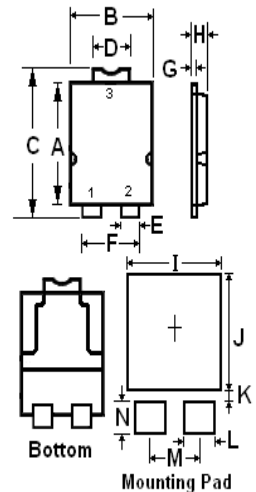
**5 AMPERES
60 VOLTS**



TO-277

MAXIMUM RATINGS

| Characteristic | Symbol | S05L60 | 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 | $I_{F(AV)}$ | 5 | A |
| Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz) | I_{FSM} | 125 | A |
| Operating and Storage Junction Temperature Range | T_J, T_{stg} | -65 to +150 | °C |



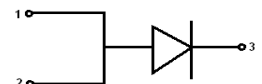
| DIM | MILLIMETERS | |
|-----|-------------|------|
| | MIN | MAX |
| A | 5.20 | 5.40 |
| B | 4.10 | 3.90 |
| C | 6.40 | 6.60 |
| D | 1.70 | 1.90 |
| E | 0.80 | 1.00 |
| F | 1.80 | 1.90 |
| G | 0.25 | 0.35 |
| H | 1.05 | 1.15 |
| I | 3.36 | ---- |
| J | 4.86 | ---- |
| K | 0.85 | ---- |
| L | 1.40 | ---- |
| M | 1.84 | ---- |
| N | 1.40 | ---- |

THERMAL RESISTANCES

| | | | |
|---|------------------|---|------|
| Typical Thermal Resistance junction to body | $R_{\theta j-c}$ | 5 | °C/w |
|---|------------------|---|------|

ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | S10M60C | | | Unit |
|---|--------|---------|------|----------------------|------|
| | | Min | Typ. | Max. | |
| Maximum Instantaneous Forward Voltage ($I_F = 0.1$ Amp $T_C = 25^\circ C$) ($I_F = 3.0$ Amp $T_C = 25^\circ C$) ($I_F = 5.0$ Amp $T_C = 25^\circ C$) | V_F | --- | 0.25 | 0.26 0.46 0.55 | V |
| Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ C$) (Rated DC Voltage, $T_C = 125^\circ C$) | I_R | --- | 0.05 | 0.1 10 | mA |



S05L60

FIG-1 FORWARD CURRENT DERATING CURVE

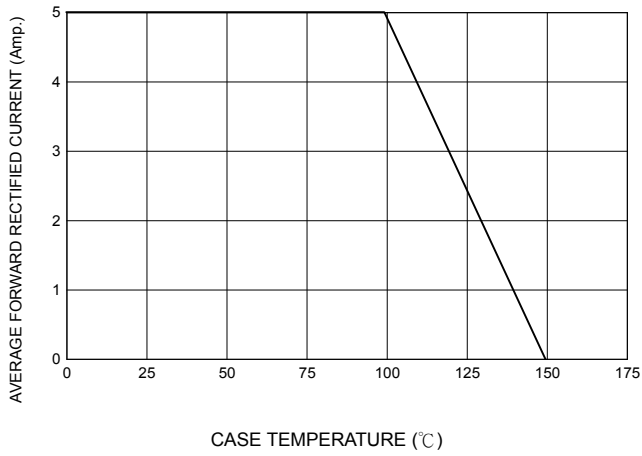


FIG-2 TYPICAL FORWARD CHARACTERISTICS

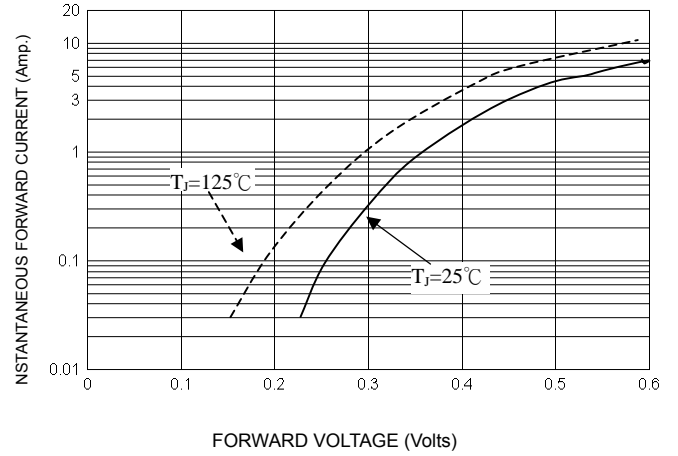


FIG-3 TYPICAL REVERSE CHARACTERISTICS

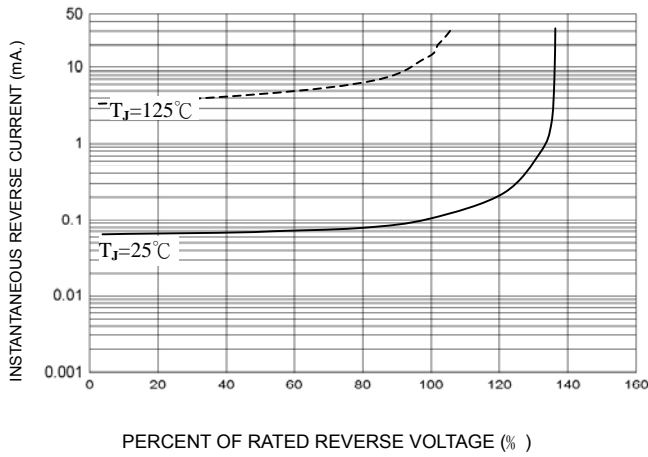


FIG-4 TYPICAL JUNCTION CAPACITANCE

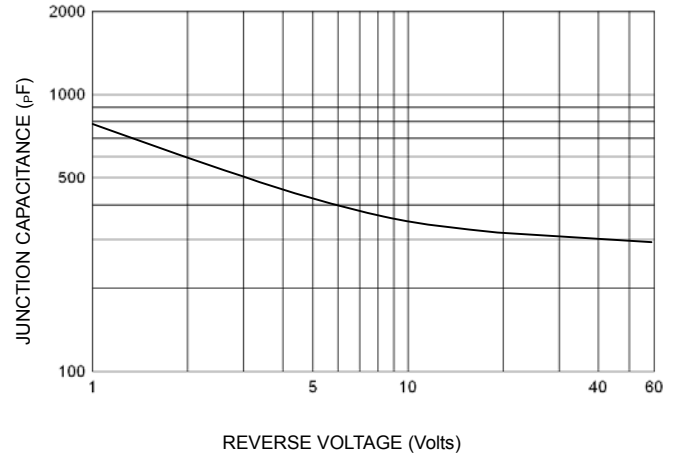
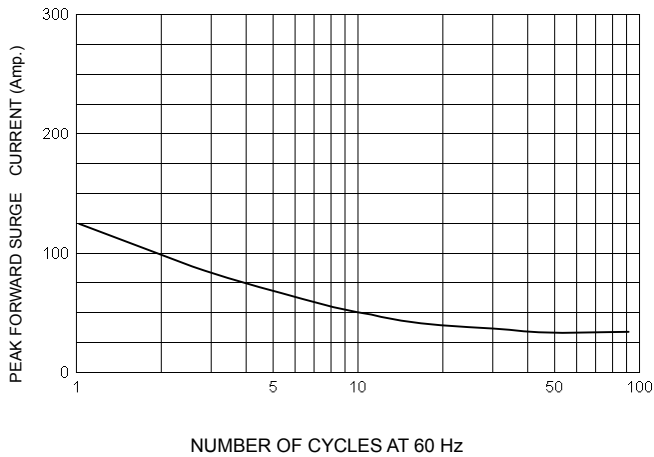


FIG-5 PEAK FORWARD SURGE CURRENT



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