

Schottky Barrier Power Rectifiers

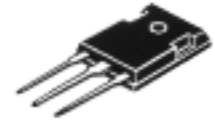
Using the Schottky Barrier principle with a Molybdenum barrier metal. These state-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes.

- * Low Forward Voltage.
- * Low Switching noise.
- * High Current Capacity
- * Guarantee Reverse Avalanche.
- * Guard-Ring for Stress Protection.
- * Low Power Loss & High efficiency.
- * 150 Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction.
- * Plastic Material used Carries Underwriters Laboratory
- * ESD: 4KV(Min.) Human-Body Model
- * *In compliance with EU RoHs 2002/95/EC directives*

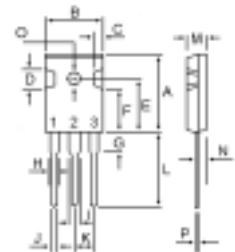


SCHOTTKY BARRIER RECTIFIERS

**30 AMPERES
70-100 VOLTS**



TO-3P



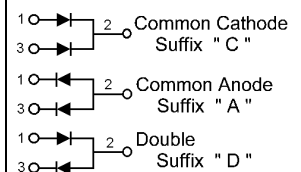
MAXIMUM RATINGS

| Characteristic | Symbol | S30D70 | S30D80 | S30D90 | S30D100 | Unit |
|---|---------------------------------|-------------|--------|--------|---------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 70 | 80 | 90 | 100 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 49 | 56 | 63 | 70 | V |
| Average Rectifier Forward Current Per diodes Total Device (Rated V_R , $T_C=125$) | $I_{F(AV)}$ | 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} | 275 | | | | A |
| Operating and Storage Junction Temperature Range | T_J, T_{STG} | -65 to +150 | | | | |

| DIM | MILLIMETERS | |
|-----|-------------|-------|
| | MIN | MAX |
| A | 20.63 | 22.38 |
| B | 15.38 | 16.20 |
| C | 1.90 | 2.70 |
| D | 5.10 | 6.10 |
| E | 14.81 | 15.22 |
| F | 11.72 | 12.84 |
| G | 4.20 | 4.50 |
| H | 1.82 | 2.46 |
| I | 2.92 | 3.23 |
| J | 0.89 | 1.53 |
| K | 5.26 | 5.66 |
| L | 18.50 | 21.50 |
| M | 4.68 | 5.36 |
| N | 2.40 | 2.80 |
| O | 3.25 | 3.65 |
| P | 0.55 | 0.70 |

ELECTRIAL CHARACTERISTICS

| Characteristic | Symbol | S30D70 | S30D80 | S30D90 | S30D100 | Unit |
|--|------------------|--------------|-----------|--------------|---------|------|
| Maximum Instantaneous Forward Voltage ($I_F = 15$ Amp $T_C = 25$) ($I_F = 15$ Amp $T_C = 100$) | V_F | 0.75 0.69 | | 0.85 0.75 | | V |
| Typical Thermal Resistance junction to case | $R_{\theta j-c}$ | 3.0 | | | | /w |
| Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25$) (Rated DC Voltage, $T_C = 125$) | I_R | | 0.5 30 | | | mA |



S30D70 Thru S30D100

FIG-1 FORWARD CURRENT DERATING CURVE

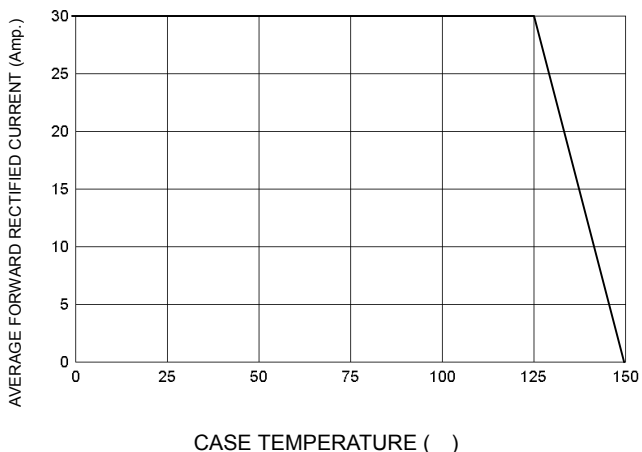


FIG-2 TYPICAL FORWARD CHARACTERISTICS

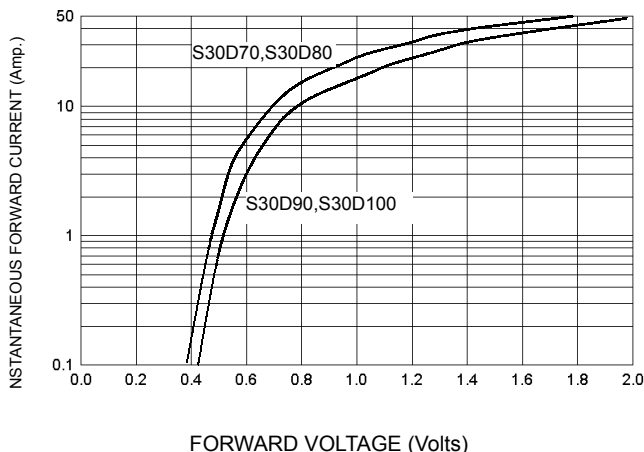


FIG-3 TYPICAL REVERSE CHARACTERISTICS

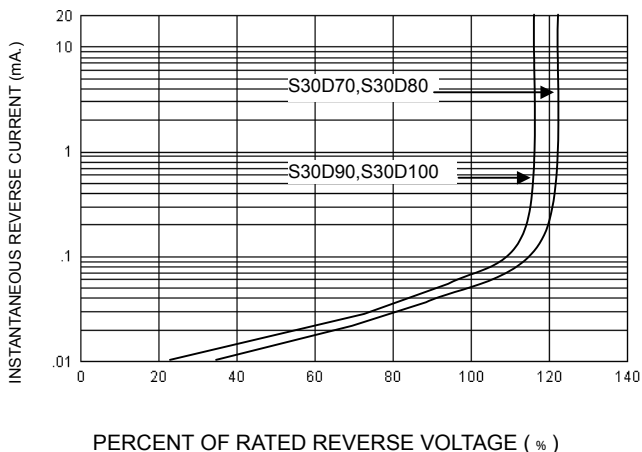


FIG-4 TYPICAL JUNCTION CAPACITANCE

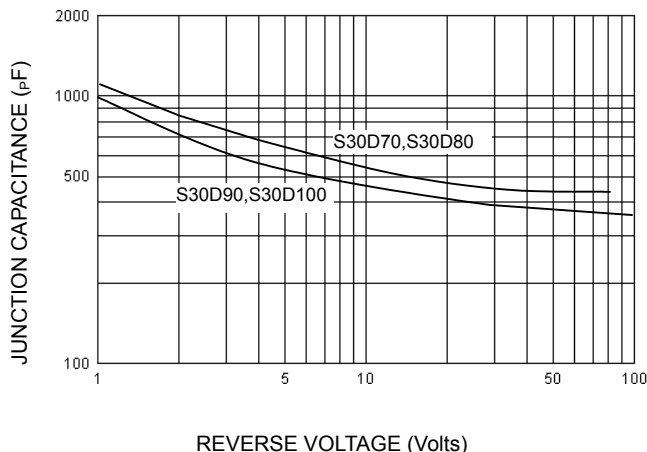
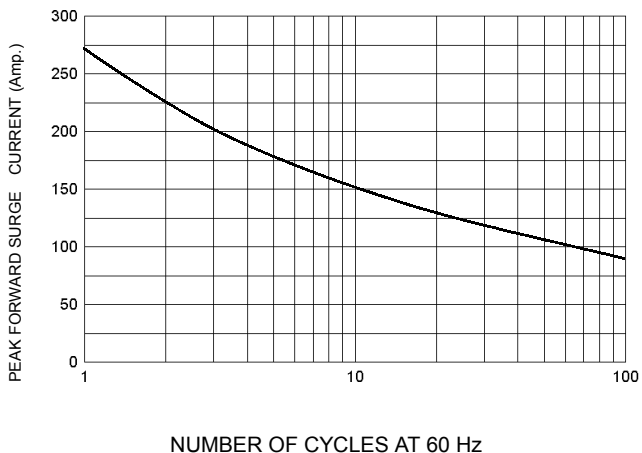


FIG-5 PEAK FORWARD SURGE CURRENT



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