

## Schottky Barrier 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.

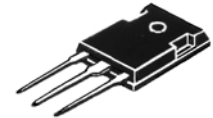
### Features

- \* Low Forward Voltage.
- \* Low Switching noise.
- \* High Current Capacity
- \* Guarantee Reverse Avalanche.
- \* Guard-Ring for Stress Protection.
- \* Low Power Loss & High efficiency.
- \* 150°C Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory
- \* **ESD: 8KV(Min.) Human-Body Model**
- \* Flammability Classification 94V-O
- \* **Pb free**
- \* **In compliance with EU RoHs directives**



### SCHOTTKY BARRIER RECTIFIERS

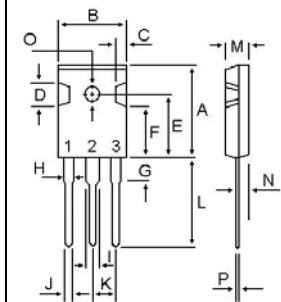
**30 AMPERES  
60 VOLTS**



**TO-3P**

### MAXIMUM RATINGS

| Characteristic                                                                                               | Symbol                          | S30D60C     | Unit |
|--------------------------------------------------------------------------------------------------------------|---------------------------------|-------------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                       | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 60          | V    |
| RMS Reverse Voltage                                                                                          | $V_{R(RMS)}$                    | 42          | V    |
| Average Rectifier Forward Current (Per diode)<br>Total Device (Rated $V_R$ ), $T_C=100^\circ\text{C}$        | $I_{F(AV)}$                     | 15<br>30    | A    |
| Peak Repetitive Forward Current<br>(Rate $V_R$ , Square Wave, 20kHz)                                         | $I_{FM}$                        | 30          | A    |
| Non-Repetitive Peak Surge Current (Surge<br>applied at rate load conditions halfwave, single<br>phase, 60Hz) | $I_{FSM}$                       | 300         | A    |
| Operating and Storage Junction Temperature<br>Range                                                          | $T_J, T_{STG}$                  | -65 to +150 | °C   |



| DIM | MILLIMETERS |       |
|-----|-------------|-------|
|     | MIN         | MAX   |
| A   | 20.80       | 21.80 |
| 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   | 3.75        | 4.35  |
| H   | 1.90        | 2.30  |
| I   | 2.90        | 3.30  |
| J   | 1.00        | 1.40  |
| K   | 5.26        | 5.66  |
| L   | 19.50       | 20.50 |
| M   | 4.68        | 5.36  |
| N   | 2.40        | 2.80  |
| O   | 3.25        | 3.65  |
| P   | 0.48        | 0.72  |

### ELECTRICAL CHARACTERISTICS

| Characteristic                                                                                                                       | Symbol          | Min. | Typ.         | Max.        | Unit |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------|------|--------------|-------------|------|
| Maximum Instantaneous Forward Voltage<br>( $I_F=15$ Amp $T_C=25^\circ\text{C}$ )<br>( $I_F=15$ Amp $T_C=125^\circ\text{C}$ )         | $V_F$           | ---  | 0.60<br>0.58 | 0.70<br>--- | V    |
| Typical Thermal Resistance junction to case                                                                                          | $R_{\theta jc}$ |      | 2.8          |             | °C/w |
| Maximum Instantaneous Reverse Current<br>(Rated DC Voltage, $T_C=25^\circ\text{C}$ )<br>(Rated DC Voltage, $T_C=125^\circ\text{C}$ ) | $I_R$           | ---  | 0.03<br>30   | 0.5<br>---  | mA   |



FIG-1 FORWARD CURRENT DERATING CURVE

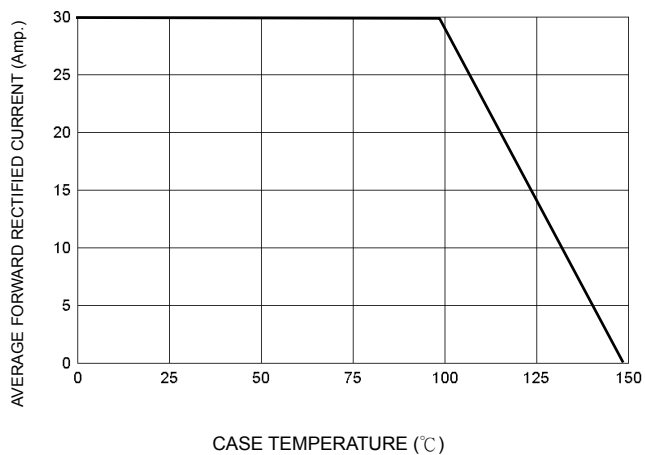


FIG-2 TYPICAL FORWARD CHARACTERISTICS

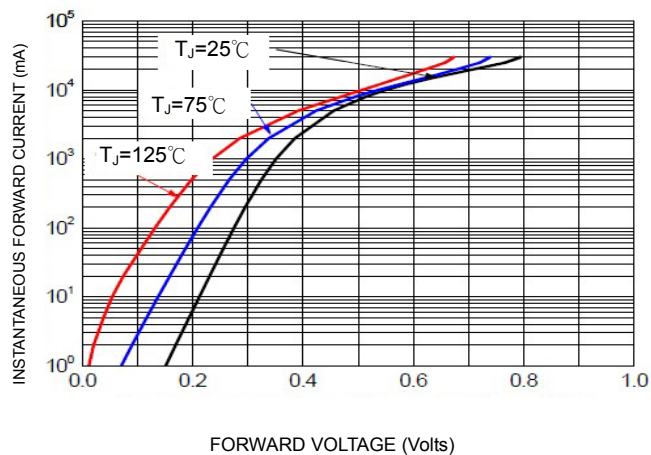


FIG-3 TYPICAL REVERSE CHARACTERISTICS

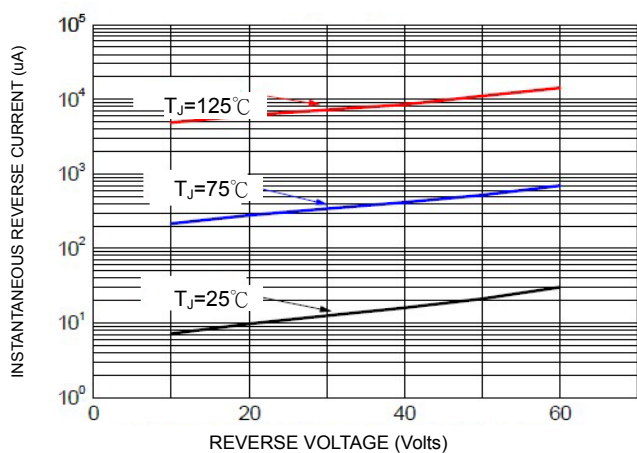


FIG-4 TYPICAL JUNCTION CAPACITANCE

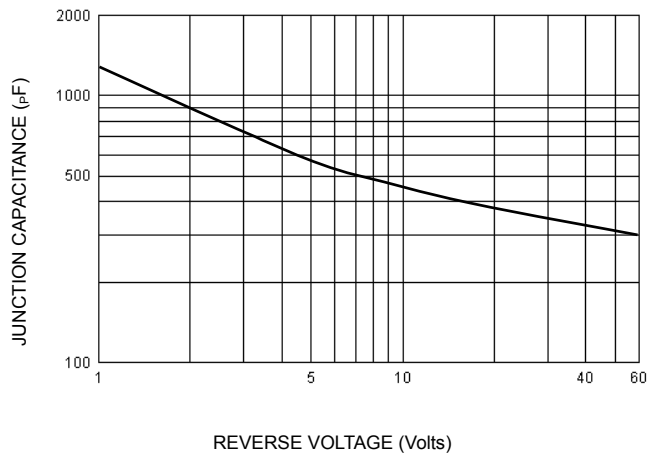
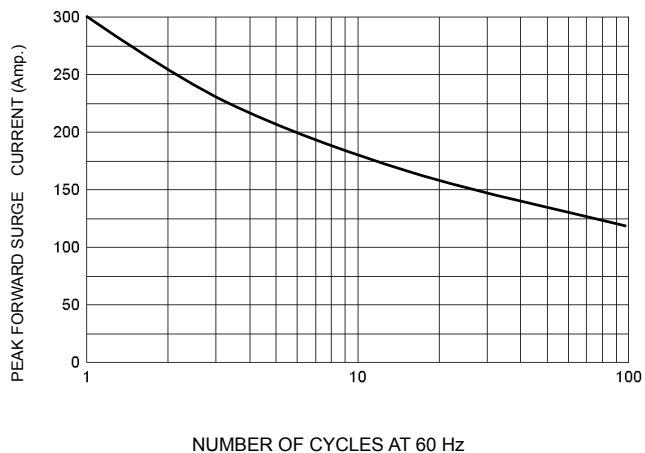


FIG-5 PEAK FORWARD SURGE CURRENT



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