# MOSPEC

# S60D90 Thru S60D100

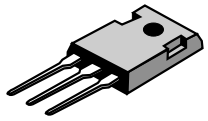
## Schottky Barrier Rectifiers

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.

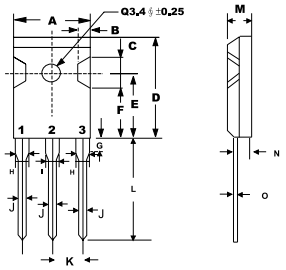
* Low Forward Voltag.
* Low Switching noise.
* High Current Capacity
* Guarantee Reverse Avalance.
* Guard-Ring for Stress Protection.
* Low Power Loss & High efficiency.
* 125 °C Operating Junction Temperature
* Low Stored Charge Majority Carrier Cnduction.
* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O

**SCHOTTKY BARRIER RECTIFIERS**

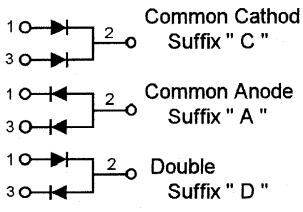
**60 AMPERES**
**90 -- 100 VOLTS**



**TO-247 (3P)**




| DIM | MILLMETERS | |
|---|---|---|
| | MIN | MAX |
| A | -- | 16.2 |
| B | 1.7 | 2.7 |
| C | 5.0 | 6.0 |
| D | -- | 23.0 |
| E | 14.8 | 15.2 |
| F | 11.7 | 12.7 |
| G | -- | 4.5 |
| H | -- | 2.5 |
| I | -- | 3.5 |
| J | 1.1 | 1.4 |
| K | 5.25 | 5.65 |
| L | 19 | -- |
| M | 4.7 | 5.3 |
| N | 2.8 | 3.2 |
| O | 0.45 | 0.85 |




## MAXIMUM RATINGS

| Characteristic | Symbol | S60D90 | S60D100 | Unit |
|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 90 | 100 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 63 | 70 | V |
| Average Rectifier Forward Current<br>Total Device | $I_{F(AV)}$ | 30<br>60 | | A |
| Peak Repetitive Forward Current<br>( Rate $V_R$, Square Wave, 20kHz ) | $I_{FRM}$ | 60 | | A |
| Non-Repetitive Peak Surge Current<br>( Surge applied at rate load conditions halfware, single phase, 60Hz ) | $I_{FSM}$ | 450 | | A |
| Operating and Storage Junction Temperature Range | $T_J$ , $T_{stg}$ | - 65 to + 125 | | °C |

## ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | S60D90 | S60D100 | Unit |
|---|---|---|---|---|
| Maximum Instantaneous Forward Voltage<br>( $I_F$ = 30 Amp, $T_C$ = 25 °C)<br>( $I_F$ = 30 Amp, $T_C$ = 100 °C) | $V_F$ | 0.90<br>0.78 | | V |
| Maximum Instantaneous Reverse Current<br>( Rated DC Voltage, $T_C$ = 25 °C)<br>( Rated DC Voltage, $T_C$ = 100 °C) | $I_R$ | 20<br>200 | | mA |

# S60D90 , S60D100

FIG-1 FORWARD CURRENT DERATING CURVE

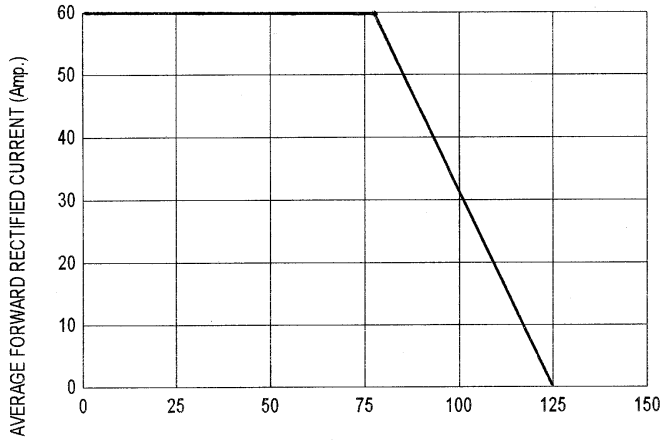



FIG-2 TYPICAL FORWARD CHARACTERISTICS

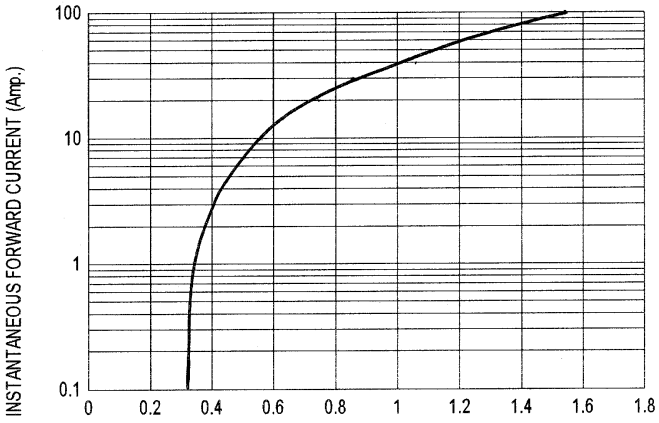



FIG-3 TYPICAL REVERSE CHARACTERISTICS

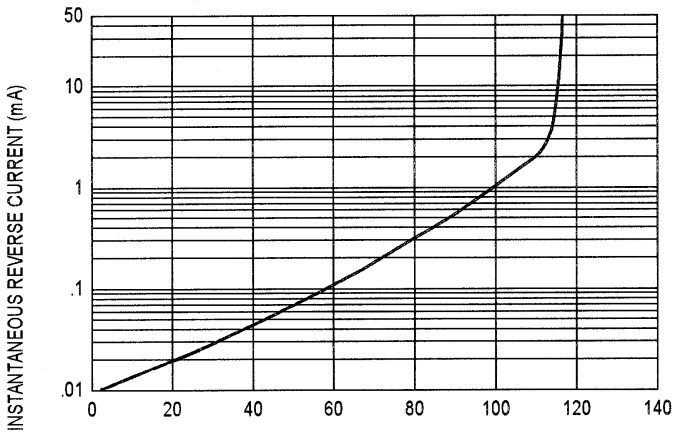



FIG-4 TYPICAL JUNCTION CAPACITANCE

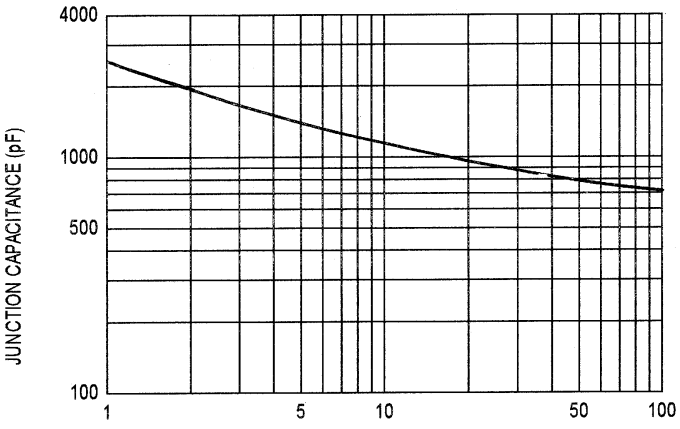



FIG-5 PEAK FORWARD SURGE CURRENT