

## Schottky Barrier Rectifiers

Using the Schottky Barrier principle with a Refractory metal capable of 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, DC/DC converters, free-wheeling and polarity protection diodes.

### Features

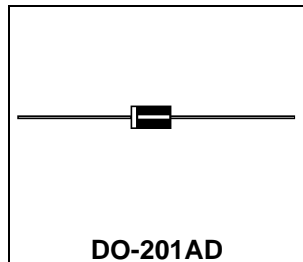
- \* Low Forward Voltage.
- \* Low Switching noise.
- \* High Current Capacity
- \* Guarantee Reverse Avalanche.
- \* Guard-Ring for Stress Protection.
- \* Low Power Loss & High efficiency.
- \* 150°C Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O
- \* Moisture Sensitivity Level: MSL-1



- \* ESD: 8KV(Min.) Humen-Body Model
- \* In compliance with EU RoHs 2002/95/EC directives

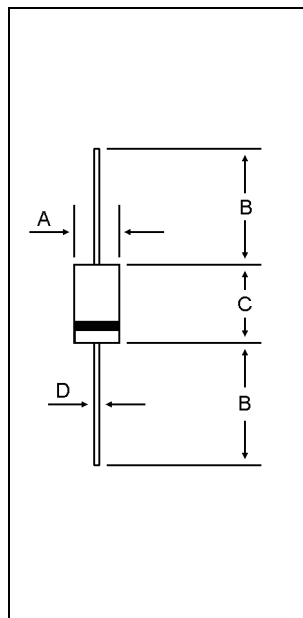
**SCHOTTKY BARRIER RECTIFIERS**

**3.0 AMPERES  
100 VOLTS**



### MAXIMUM RATINGS

| Characteristic  | Symbol                          | SR3100L     | Unit |
|---|---------------------------------|-------------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                      | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 100         | V    |
| RMS Reverse Voltage   | $V_{R(RMS)}$                    | 70          | V    |
| Average Rectifier Forward Current   | $I_O$                           | 3.0         | A    |
| Non-Repetitive Peak Surge Current<br>(Surge applied at rate load conditions half-wave, single phase, 60Hz ) | $I_{FSM}$                       | 75          | A    |
| Operating and Storage Junction Temperature Range  | $T_J, T_{STG}$                  | -65 to +150 | °C   |



### THERMAL RESISTANCES

|  |                  |    |      |
|--|------------------|----|------|
| Typical Thermal Resistance junction from Junction to ambient | $R_{\theta j-A}$ | 30 | °C/w |
|--|------------------|----|------|

### ELECTRIAL CHARACTERISTICS

| Characteristic   | Symbol | SR3100L |                      |                      | Unit |
|--|--------|---------|----------------------|----------------------|------|
|  |        | Min.    | Typ.                 | Max.                 |      |
| Maximum Instantaneous Forward Voltage<br>( $I_F = 0.1$ Amp)<br>( $I_F = 1.5$ Amp)<br>( $I_F = 3.0$ Amp)                                  | $V_F$  | ---     | 0.31<br>0.55<br>0.75 | 0.35<br>0.60<br>0.85 | V    |
| Maximum Instantaneous Reverse Current<br>(Rated DC Voltage, $T_C = 25^\circ\text{C}$ )<br>(Rated DC Voltage, $T_C = 125^\circ\text{C}$ ) | $I_R$  |         | 0.1<br>20            |                      | mA   |
| Typical Junction Capacitance<br>(Reverse Voltage of 4 volts & $f=1$ MHz)   | $C_P$  |         | 150                  |                      | pF   |

| DIM | MILLIMETERS |      |
|-----|-------------|------|
|     | MIN         | MAX  |
| A   | 5.00        | 5.60 |
| B   | 25.40       | ---  |
| C   | 8.50        | 9.50 |
| D   | 1.20        | 1.30 |

CASE---  
Transfer molded plastic

POLARITY---  
Cathode indicated polarity band

FIG-1 FORWARD CURRENT DERATING CURVE

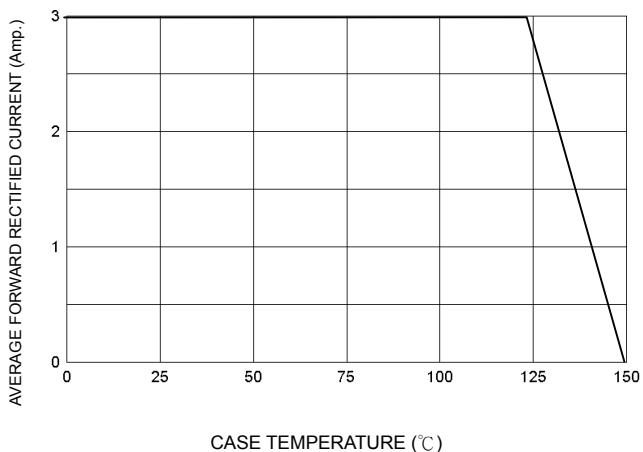


FIG-2 TYPICAL FORWARD CHARACTERISTICS

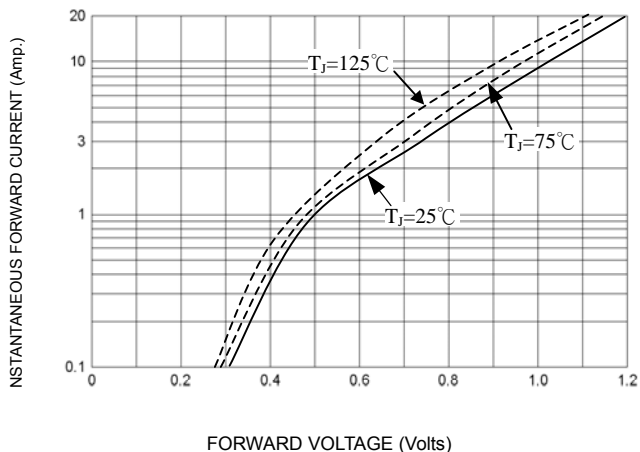


FIG-3 TYPICAL REVERSE CHARACTERISTICS

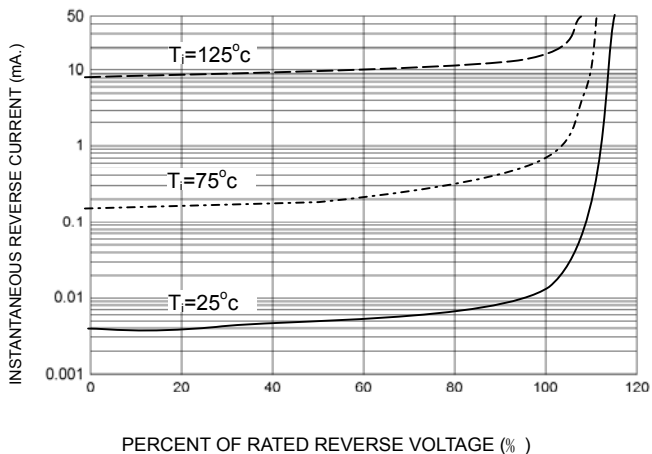


FIG-4 TYPICAL JUNCTION CAPACITANCE

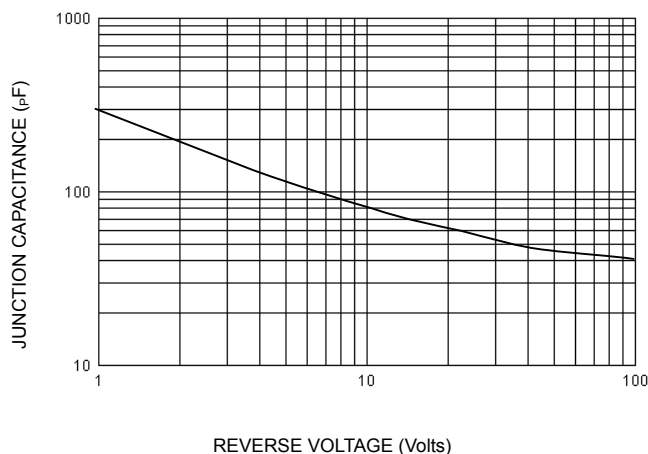


FIG-5 PEAK FORWARD SURGE CURRENT

