

SR120-SR1A0

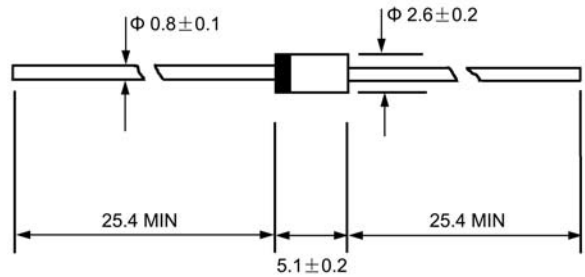
Schottky Barrier Rectifiers

VOLTAGE RANGE: 20 --- 100 V

CURRENT: 1.0A



DO - 41



Dimensions in millimeters

Features

- ◇ Metal-Semiconductor junction with guard ring
- ◇ Epitaxial construction
- ◇ Low forward voltage drop, low switching losses
- ◇ High surge capability
- ◇ For use in low voltage, high frequency inverters free wheeling, and polarity protection applications
- ◇ The plastic material carries U/L recognition 94V-0

Mechanical Data

- ◇ Case: JEDEC DO-41, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.012 ounces, 0.34 grams
- ◇ Mounting position: Any

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

| | | SR120 | SR130 | SR140 | SR150 | SR160 | SR180 | SR1A0 | UNITS |
|---|-----------------|-----------------|-------|-------|-----------------|-------|-------|-------|---------------------------|
| Maximum recurrent peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | V |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 56 | 70 | V |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | V |
| Maximum average forward rectified current 9.5mm lead length, (see fig.1) | $I_{F(AV)}$ | 1.0 | | | | | | | A |
| Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$ | I_{FSM} | 40.0 | | | | | | | A |
| Maximum instantaneous forward voltage @ 1.0A (Note 1) | V_F | 0.55 | | 0.7 | | 0.85 | | V | |
| Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$ | I_R | 0.5 10.0 | | | | | | | mA |
| Typical junction capacitance (Note2) | C_J | 110 | | | | | | | pF |
| Typical thermal resistance (Note3) | $R_{\theta JA}$ | 50 | | | | | | | $^\circ\text{C}/\text{W}$ |
| Operating junction temperature range | T_J | - 55 ---- + 125 | | | - 55 ---- + 150 | | | | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | - 55 ---- + 150 | | | | | | | $^\circ\text{C}$ |

NOTE: 1. Pulse test : 300 μs pulse width, 1% duty cycle.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance junction to ambient

Ratings AND Characteristic Curves

FIG.1 – FORWARD DERATING CURVE

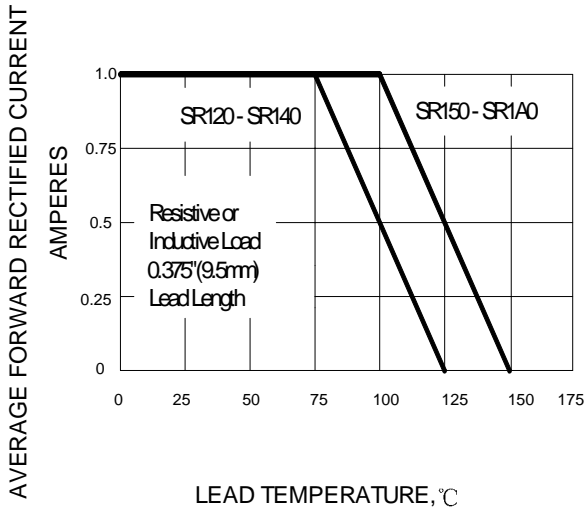


FIG.2 -- PEAK FORWARD SURGE CURRENT

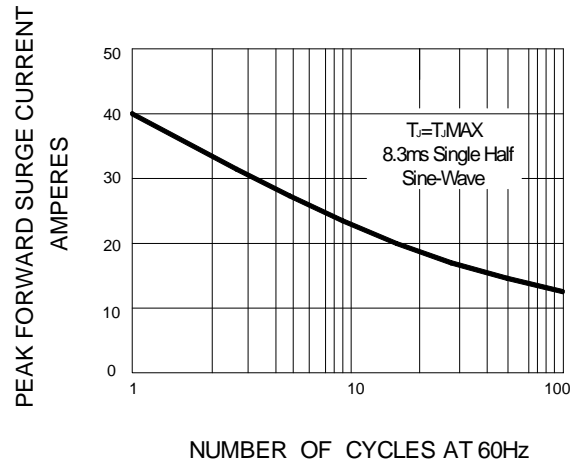


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

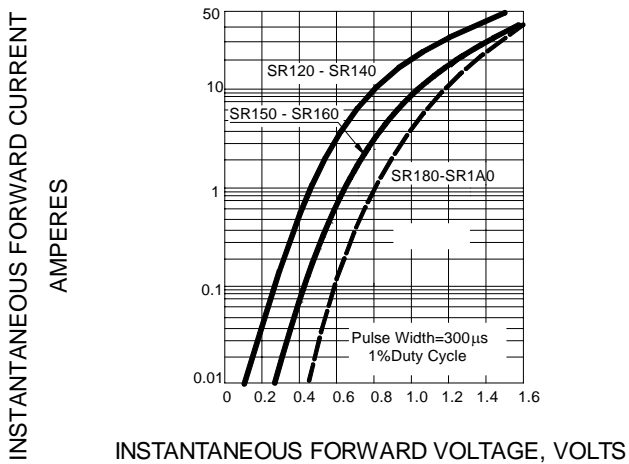


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

