



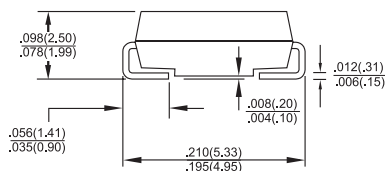
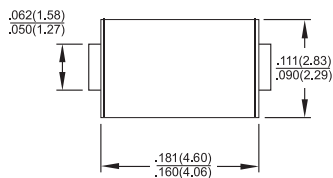
S1A - S1M

1.0 AMP. Surface Mount Rectifiers

SMA/DO-214AC

Features

- ✦ For surface mounted application
- ✦ Glass passivated junction chip.
- ✦ Low forward voltage drop
- ✦ High current capability
- ✦ Easy pick and place
- ✦ High surge current capability
- ✦ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ✦ High temperature soldering: 260°C / 10 seconds at terminals



Mechanical Data

- ✦ Case: Molded plastic
- ✦ Terminals: Pure tin plated, lead free.
- ✦ Polarity: Indicated by cathode band
- ✦ Packaging: 12mm tape per EIA STD RS-481
- ✦ Weight: 0.064 gram

Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number | Symbol | S1A | S1B | S1D | S1G | S1J | S1K | S1M | Units |
|--|------------------------------------|-------------|-----|-----|-----|-----|----------|------|--------------------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current @ $T_L = 110^\circ\text{C}$ | $I_{(AV)}$ | 1.0 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 30 | | | | | | | A |
| Maximum Instantaneous Forward Voltage @ 1.0A | V_F | 1.1 | | | | | | | V |
| Maximum DC Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$ | I_R | 1.0 50 | | | | | | | μA μA |
| Maximum Reverse Recovery Time (Note 1) | T_{rr} | 1.8 | | | | | | | μS |
| Typical Junction Capacitance (Note 2) | C_j | 12 | | | | | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JL}$ $R_{\theta JA}$ | 27 75 | | | | | 30 85 | | $^\circ\text{C/W}$ |
| Operating Temperature Range | T_J | -55 to +150 | | | | | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | | | | | | | $^\circ\text{C}$ |

- Notes:
1. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$
 2. Measured at 1 MHz and Applied $V_R = 4.0\text{ Volts}$
 3. Measured on P.C. Board with 0.2" x 0.2" (5.0mm x 5.0mm) Copper Pad Areas.

RATINGS AND CHARACTERISTIC CURVES (S1A THRU S1M)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

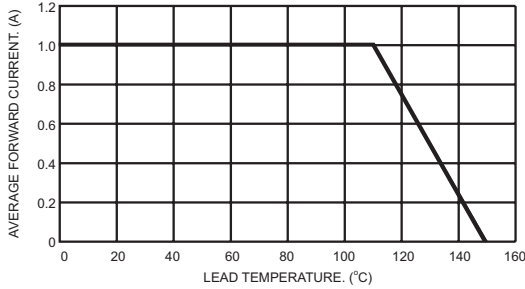


FIG.2- TYPICAL REVERSE CHARACTERISTICS

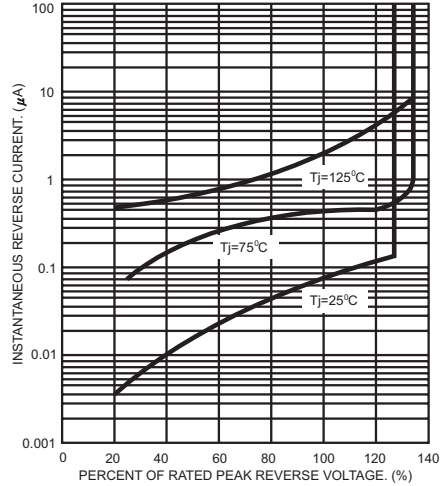


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

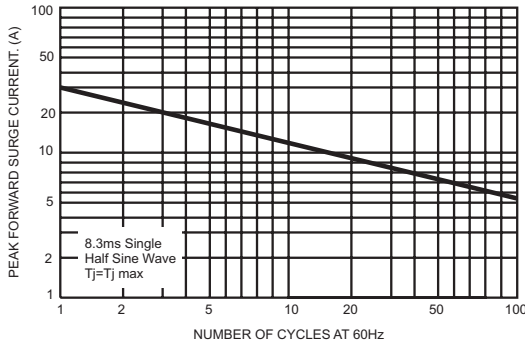


FIG.5- TYPICAL FORWARD CHARACTERISTICS

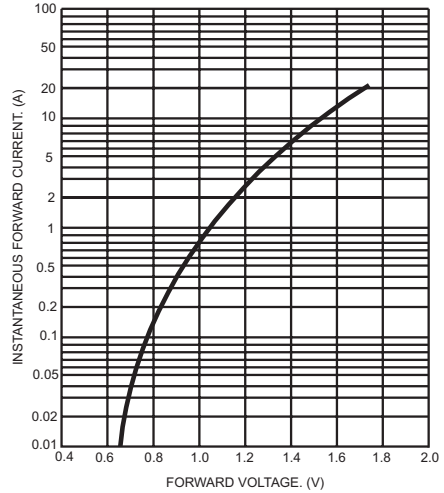


FIG.4- TYPICAL JUNCTION CAPACITANCE

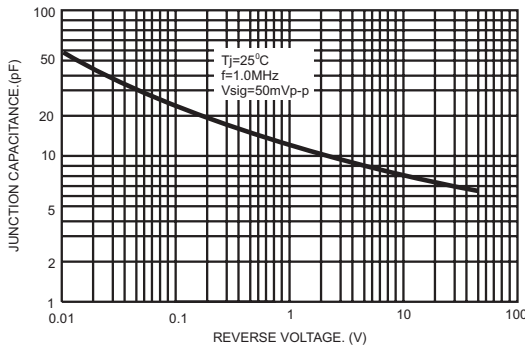


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

