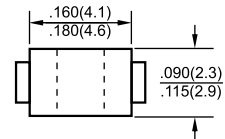
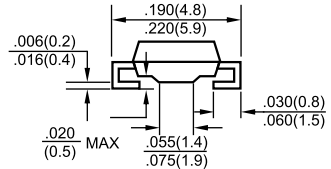
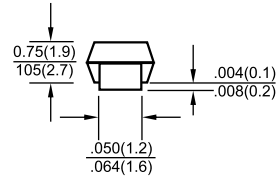




SMA/DO-214AC



Dimensions in inches and (millimeters)

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
- ✧ Polarity: Indicated by cathode band
- ✧ Packaging: 12mm tape
- ✧ Weight: 0.064 gram

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} | 40 | | | | | | 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 | | | | | | | μA |
| | | 50 | | | | | | | μA |
| Typical Reverse Recovery Time (Note 1) | T_{rr} | 1.5 | | | | | | | μs |
| Typical Junction Capacitance (Note 2) | C_j | 12 | | | | | | | pF |
| Non-Repetitive Peak Reverse Avalanche Energy at 25°C, $I_{AS}=1\text{A}$, $L=10\text{mH}$ | E_{AS} | 5 | | | | | | | mJ |
| Typical Thermal Resistance (Note 3) | $R_{\theta JL}$ | 27 | | | | | 30 | | $^\circ\text{C/W}$ |
| | $R_{\theta JA}$ | 75 | | | | | 85 | | |
| 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 $V_R=4.0$ 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

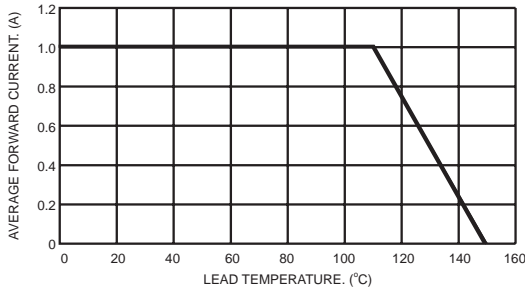


FIG.2- TYPICAL REVERSE CHARACTERISTICS

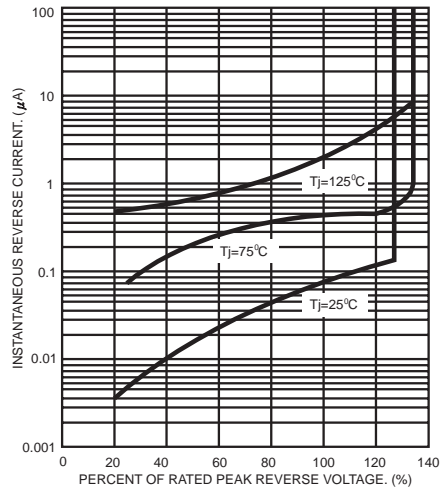


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

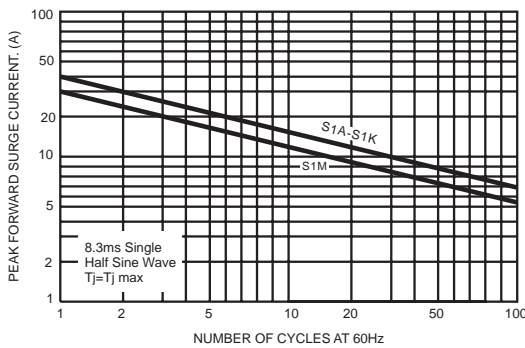


FIG.5- TYPICAL FORWARD CHARACTERISTICS

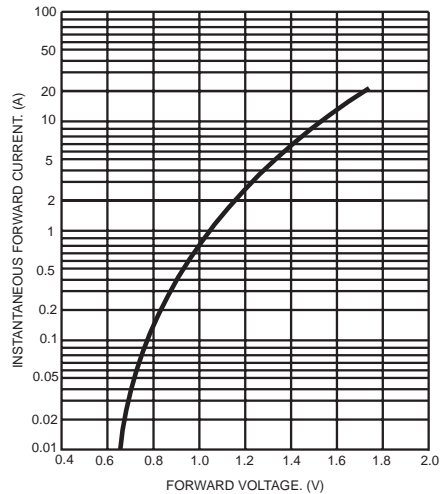


FIG.4- TYPICAL JUNCTION CAPACITANCE

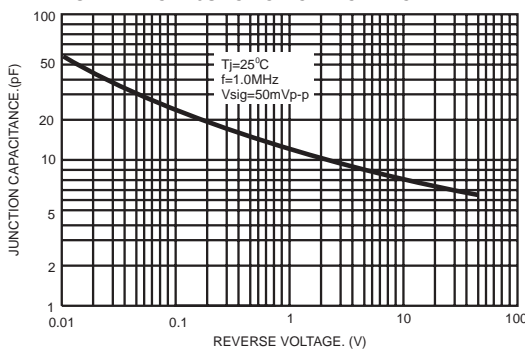


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

