



SS1A THRU SS1M

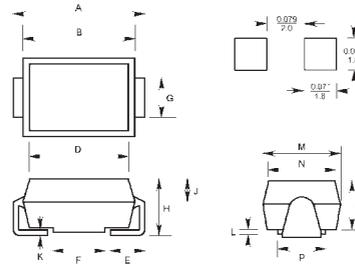
SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 1000 Volts
Forward Current - 1.0 Ampere

Features

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Superfast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability classification 94V-0
- High temperature soldering:
260°C/10 seconds at terminals

SMA



Mechanical Data

- **Case:** SMA Molded plastic
- **Terminals:** Solder plated solderable per MIL-STD-750, method 2026
- **Polarity:** Indicated by cathode band
- **Weight:** 0.004 ounce, 0.11 gram

| DIM | DIMENSIONS | | | | Note |
|-----|------------|-------|------|------|------|
| | Inches | | mm | | |
| | Min. | Max. | Min. | Max. | |
| A | 0.216 | 0.226 | 5.48 | 5.74 | |
| B | 0.176 | 0.182 | 4.48 | 4.63 | |
| C | 0.094 | 0.100 | 2.40 | 2.55 | |
| D | 0.170 | 0.176 | 4.33 | 4.48 | |
| E | 0.039 | 0.055 | 1.00 | 1.40 | |
| F | 0.060 | 0.081 | 2.03 | 2.07 | |
| G | 0.068 | 0.083 | 1.72 | 2.10 | |
| H | 0.112 | 0.118 | 2.85 | 3.00 | |
| J | 0.057 | - | 1.44 | - | |
| K | - | 0.018 | - | 0.45 | |
| L | 0.016 | - | 0.40 | - | |
| M | 0.109 | 0.115 | 2.77 | 2.93 | |
| N | 0.105 | 0.107 | 2.67 | 2.73 | |
| P | 0.078 | 0.081 | 2.00 | 2.05 | |

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%.

| | Symbols | SS1A | SS1B | SS1C | SS1D | SS1E | SS1G | SS1J | SS1K | SS1M | Units |
|---|-----------------|--------------|------|------|------|------|------|------|------|-------|--------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | 1000 | Volts |
| Maximum average forward rectified current at $T_A=100^\circ\text{C}$ | $I_{(AV)}$ | 1.0 | | | | | | | | | Amp |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method) | I_{FSM} | 30.0 | | | | | | | | | Amps |
| Maximum instantaneous forward voltage at 1.0A | V_F | 0.95 | | | 1.25 | | 1.40 | | | Volts | |
| Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$ | I_R | 5.0 500.0 | | | | | | | | | μA |
| Maximum reverse recovery time (Note 1) | T_{rr} | 35.0 | | | | | | | | | nS |
| Typical junction capacitance (Note 2) | C_J | 10.0 | | | | | | | | | μF |
| Typical thermal resistance (Note 3) | $R_{\theta JL}$ | 35.0 | | | | | | | | | $^\circ\text{C/W}$ |
| Operating and storage temperature range | T_J, T_{STG} | -50 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 1.0MHz and applied reverse voltage of 4.0 volts
- (3) 8mm^2 (0.013mm thick) land areas

RATINGS AND CHARACTERISTIC CURVES

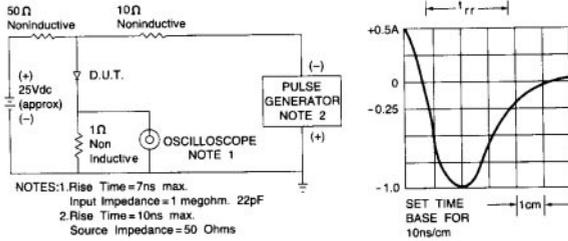


Fig. 1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM ES1A THRU ES1G

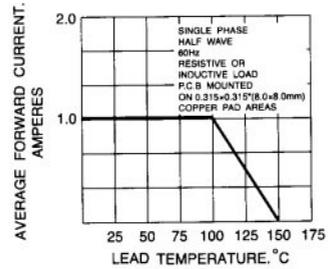


Fig. 2 - MAXIMUM AVERAGE FORWARD CURRENT RATING

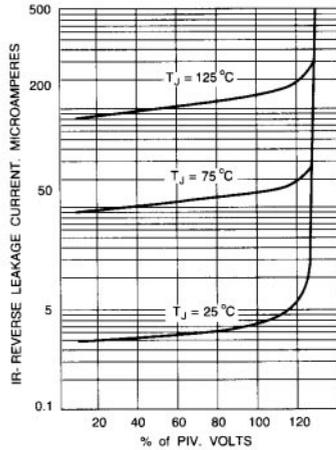


Fig. 3 - TYPICAL REVERSE CHARACTERISTICS

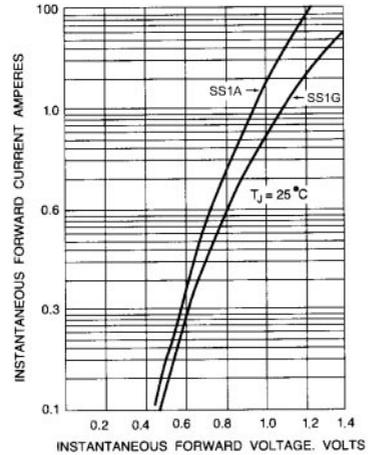


Fig. 4 - TYPICAL JUNCTION CAPACITANCE

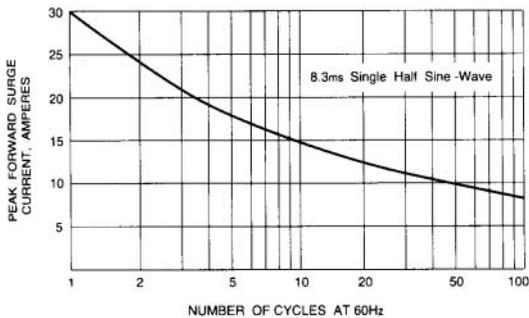


Fig. 5 - MAXIMUM NON-REPETITIVE SURGE CURRENT

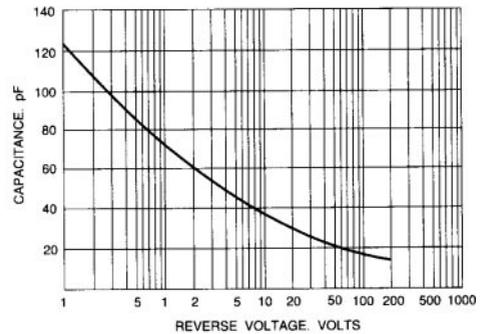


Fig. 6 - TYPICAL JUNCTION CAPACITANCE