



### S1A THRU S1M

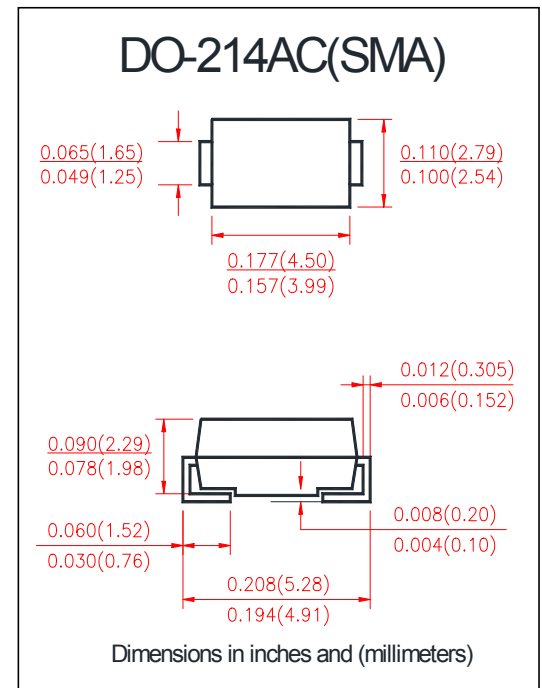
**VOLTAGE RANGE**
**50 to 1000 Volts**
**CURRENT**
**1.0 Ampere**

### Features

- For surface mounted applications
- Glass passivated junction
- Low profile package
- Built-in strain relief, ideal for automated placement
- Plastic package has underwrites laboratory flammability
- Classification 94V-0
- High temperature soldering guaranteed:
- 250°C/10 second at terminals

### Mechanical Data

- Case: JEDED SMA (DO-214AC) molded plastic
- Terminals: Plated axial lead solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Mounting position: Any
- Weight: 0.002 ounce, 0.064 grams
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### 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%

| TYPE NUMBER   | SYMBOLS             | S1A         | S1B | S1D | S1G | S1J | S1K | S1M  | UNITS        |         |
|---|---------------------|-------------|-----|-----|-----|-----|-----|------|--------------|---------|
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$           | 50          | 100 | 200 | 400 | 600 | 800 | 1000 | Volts        |         |
| Maximum RMS Voltage   | $V_{RMS}$           | 35          | 70  | 140 | 280 | 420 | 560 | 700  | Volts        |         |
| Maximum DC Blocking Voltage   | $V_{DC}$            | 50          | 100 | 200 | 400 | 600 | 800 | 1000 | Volts        |         |
| Maximum Average Forward Rectified Current (see Fig.1)   | $I_{(AV)}$          | 1.0         |     |     |     |     |     |      | Amp          |         |
| Peak Forward Surge Current<br>8.3mS single half sine wave superimposed on rated load (JEDEC method) | $I_{FSM}$           | 30          |     |     |     |     |     |      | Amps         |         |
| Maximum Instantaneous Forward Voltage at 1.0A   | $V_F$               | 1.1         |     |     |     |     |     |      | Volts        |         |
| Maximum DC Reverse Current at Rated DC Blocking Voltage at  | $T_A = 25^\circ C$  | $I_R$       |     |     |     |     |     |      | 5.0          | $\mu A$ |
|   | $T_A = 125^\circ C$ |             |     |     |     |     |     |      | 50           |         |
| Typical Junction Capacitance (NOTE 1)   | $C_J$               | 15          |     |     |     |     |     |      | pF           |         |
| Typical Thermal Resistance (NOTE 2)   | $R_{\theta JA}$     | 50          |     |     |     |     |     |      | $^\circ C/W$ |         |
|   | $R_{\theta JL}$     | 90          |     |     |     |     |     |      |              |         |
| Operating and Storage Temperature Range   | $T_J, T_{STG}$      | -55 to +150 |     |     |     |     |     |      | $^\circ C$   |         |

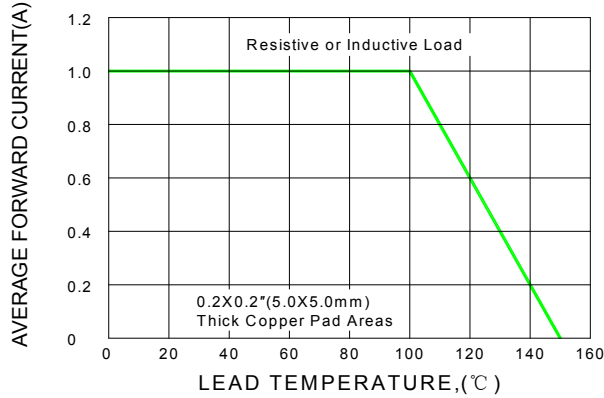
#### Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
2. Thermal resistance from Junction to ambient and from junction to lead mounted on 0.2×0.2" (5.0 × 5.0mm) copper pad areas.

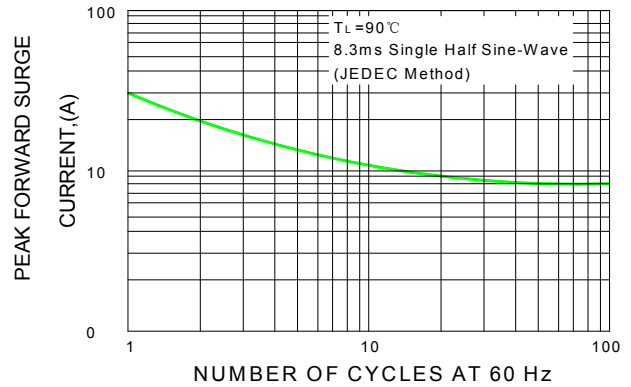


## Ratings and Characteristic Curves (TA=25°C unless otherwise noted)

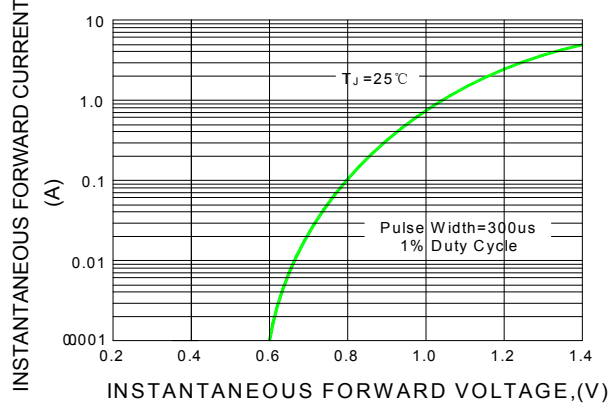
F1G.1-FORWARD CURRENT DERATING CURVE



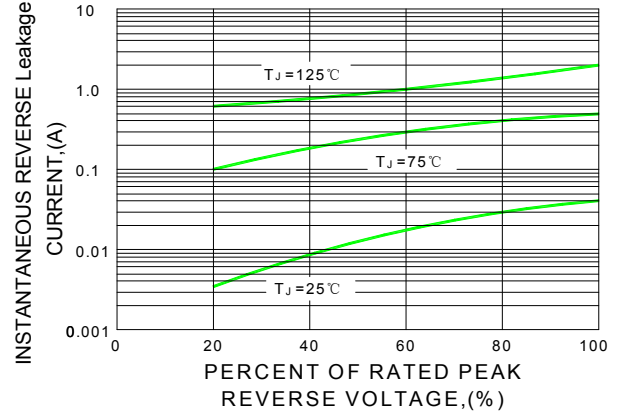
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



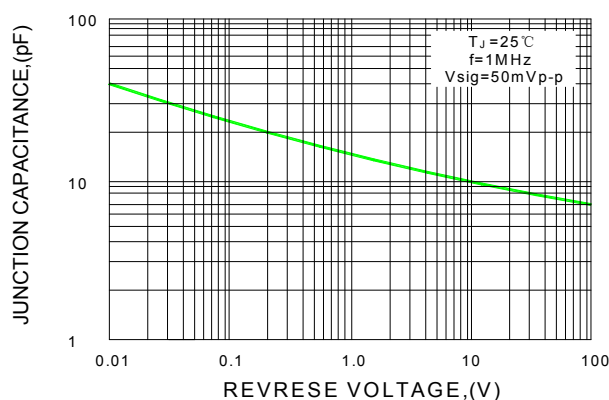
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.5-TYPICAL JUNCTION CAPACITANCE



F1G.6-TRANSIENT THERMAL IMPEDANCE

