

# S1AS ~ S1MS

**PRV : 50 - 1000 Volts**  
**Io : 1.0 Ampere**

## FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Pb / RoHS Free

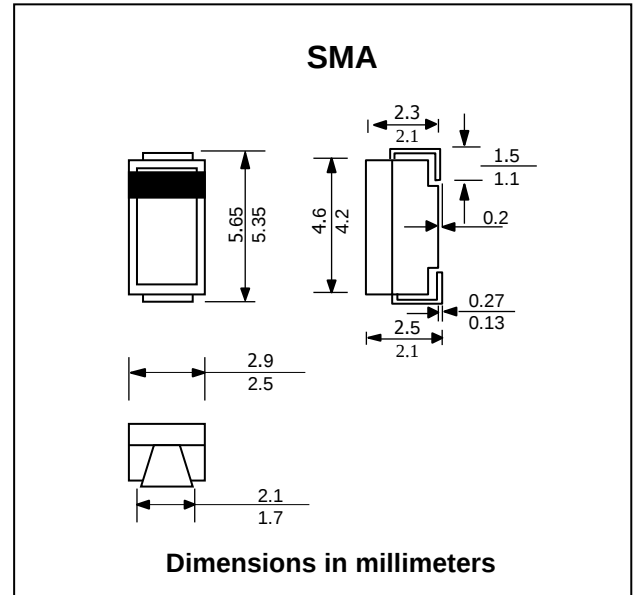
## MECHANICAL DATA :

- \* Case : SMA Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.060 gram (Approximately)

## 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%.

## SURFACE MOUNT RECTIFIERS



| RATING                                                                                                 | SYMBOL            | S1AS          | S1BS | S1DS | S1GS | S1JS | S1KS | S1MS | UNIT |
|--------------------------------------------------------------------------------------------------------|-------------------|---------------|------|------|------|------|------|------|------|
| Maximum Repetitive Peak Reverse Voltage                                                                | V <sub>RRM</sub>  | 50            | 100  | 200  | 400  | 600  | 800  | 1000 | V    |
| Maximum RMS Voltage                                                                                    | V <sub>RMS</sub>  | 35            | 70   | 140  | 280  | 420  | 560  | 700  | V    |
| Maximum DC Blocking Voltage                                                                            | V <sub>DC</sub>   | 50            | 100  | 200  | 400  | 600  | 800  | 1000 | V    |
| Maximum Average Forward Current (See fig. 1)                                                           | I <sub>F</sub>    | 1.0           |      |      |      |      |      |      | A    |
| Peak Forward Surge Current<br>8.3ms Single half sine wave Superimposed<br>on rated load (JEDEC Method) | I <sub>FSM</sub>  | 40            |      |      |      |      |      |      | A    |
| Maximum Instantaneous Forward Voltage at I <sub>F</sub> = 1.0 A.                                       | V <sub>F</sub>    | 1.1           |      |      |      |      |      |      | V    |
| Maximum DC Reverse Current      Ta = 25 °C<br>at rated DC Blocking Voltage      Ta = 125 °C            | I <sub>R</sub>    | 1.0           |      |      |      |      | 5.0  |      | μA   |
|                                                                                                        | I <sub>R(H)</sub> | 50            |      |      |      |      |      |      | μA   |
| Typical Reverse Recovery Time (Note 1)                                                                 | T <sub>rr</sub>   | 1.8           |      |      |      |      |      |      | μs   |
| Typical thermal resistance (Note 2)                                                                    | R <sub>θJA</sub>  | 75            |      |      |      |      | 85   |      | °C/W |
|                                                                                                        | R <sub>θJL</sub>  | 27            |      |      |      |      | 30   |      | °C/W |
| Typical Junction Capacitance at 4.0V, 1 MHz                                                            | C <sub>J</sub>    | 12            |      |      |      |      |      |      | pF   |
| Junction Temperature Range                                                                             | T <sub>J</sub>    | - 55 to + 150 |      |      |      |      |      |      | °C   |
| Storage Temperature Range                                                                              | T <sub>STG</sub>  | - 55 to + 150 |      |      |      |      |      |      | °C   |

### Notes :

- (1) Reverse Recovery Test Conditions :  $I_F = 0.5$  A,  $I_R = 1.0$  A,  $I_{rr} = 0.25$  A.
- (2) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

## RATING AND CHARACTERISTIC CURVES ( S1AS - S1MS )

FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

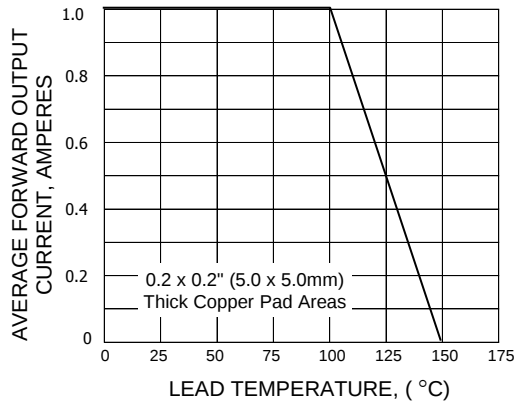


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

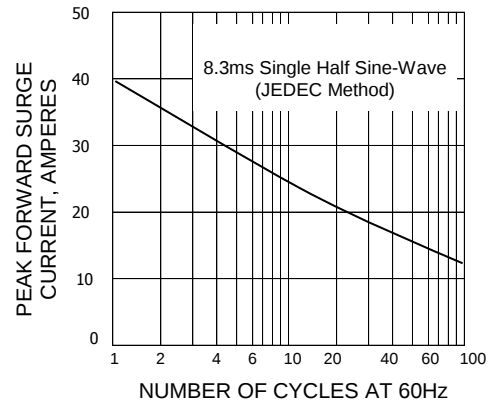


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

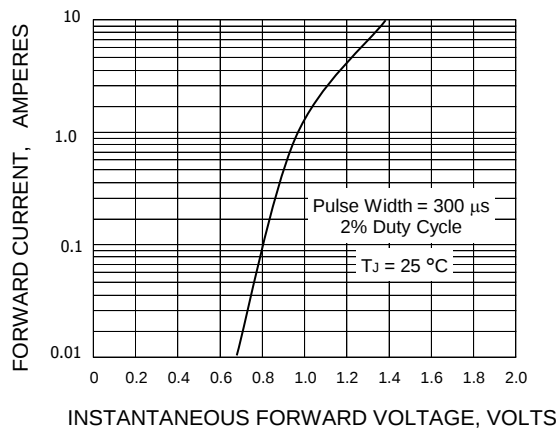


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

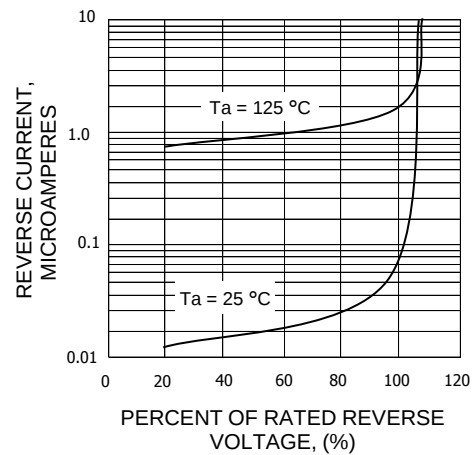


FIG. 5 – TYPICAL JUNCTION CAPACITANCE

