

# S1A ~ S1M

## SURFACE MOUNT RECTIFIERS

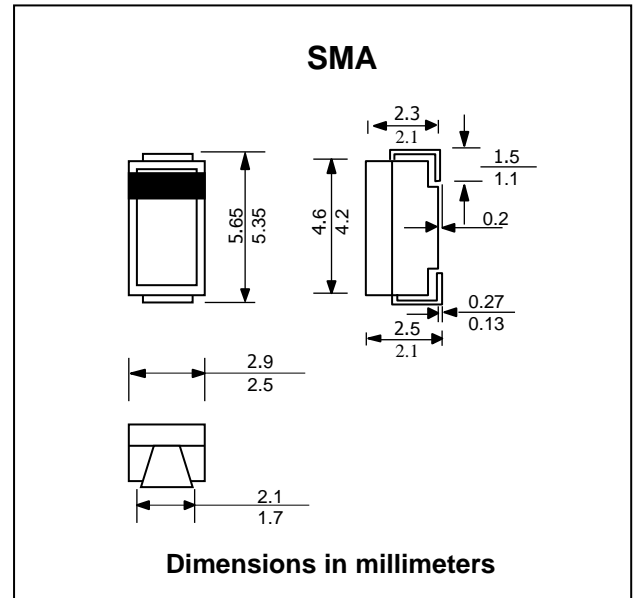
**PRV : 50 - 1000 Volts**  
**Io : 1.0 Ampere**

### 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%.

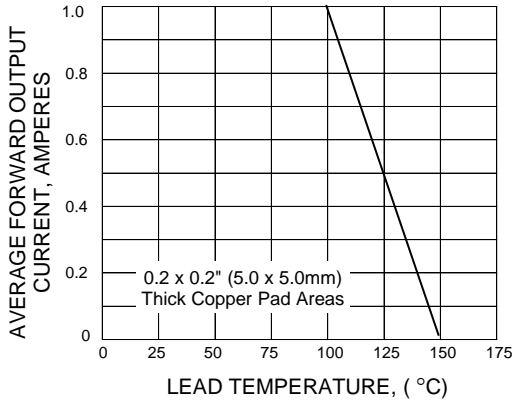
RATING	SYMBOL	S1A	S1B	S1D	S1G	S1J	S1K	S1M	UNIT
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum Average Forward Current (See fig. 1)	I <sub>F</sub>	1.0							A
Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30							A
Maximum Instantaneous Forward Voltage at I <sub>F</sub> = 1.0 A.	V <sub>F</sub>	1.1							V
Maximum DC Reverse Current at rated DC Blocking Voltage	Ta = 25 °C	1.0					5.0		μA
	Ta = 125 °C	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 :

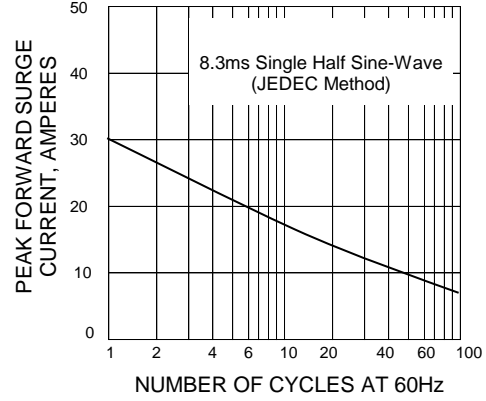
- (1) Reverse Recovery Test Conditions : I<sub>F</sub> = 0.5 A, I<sub>R</sub> = 1.0 A, I<sub>rr</sub> = 0.25 A.
- (2) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

**RATING AND CHARACTERISTIC CURVES ( S1A - S1M )**

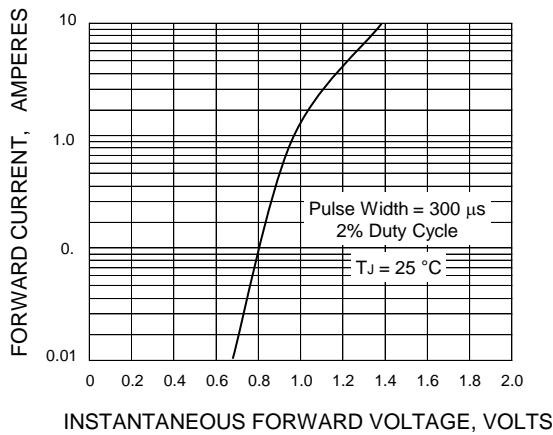
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



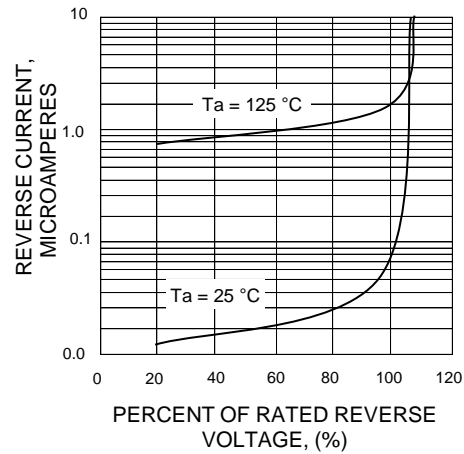
**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 – TYPICAL JUNCTION CAPACITANCE**

