

# S1A ~ S1M

## SURFACE MOUNT RECTIFIERS

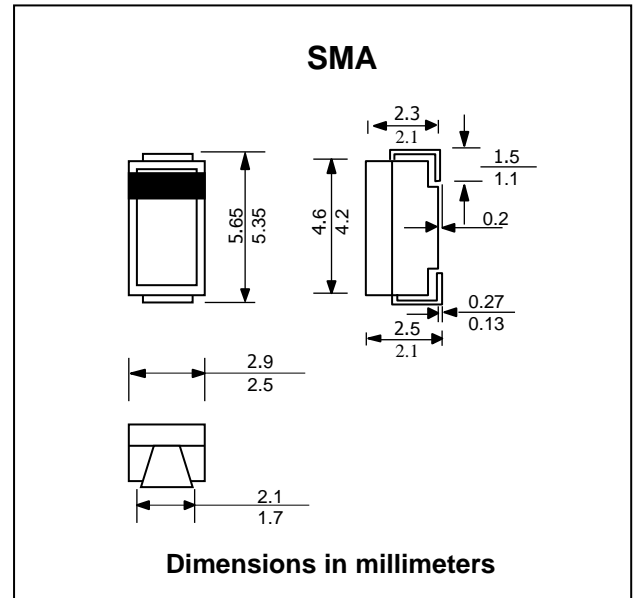
**PRV : 50 - 1000 Volts**  
**Io : 1.0 Ampere**

### 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	$V_{RRM}$	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 Current (See fig. 1)	$I_F$	1.0							A
Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	$I_{FSM}$	30							A
Maximum Instantaneous Forward Voltage at $I_F = 1.0$ A.	$V_F$	1.1							V
Maximum DC Reverse Current $T_a = 25$ °C	$I_R$	1.0					5.0		$\mu$ A
at rated DC Blocking Voltage $T_a = 125$ °C	$I_{R(H)}$	50							$\mu$ A
Typical Reverse Recovery Time (Note 1)	$T_{rr}$	1.8							$\mu$ s
Typical thermal resistance (Note 2)	$R_{\theta JA}$	75					85		°C/W
	$R_{\theta JL}$	27					30		°C/W
Typical Junction Capacitance at 4.0V, 1 MHz	$C_J$	12							pF
Junction Temperature Range	$T_J$	- 55 to + 150							°C
Storage Temperature Range	$T_{STG}$	- 55 to + 150							°C

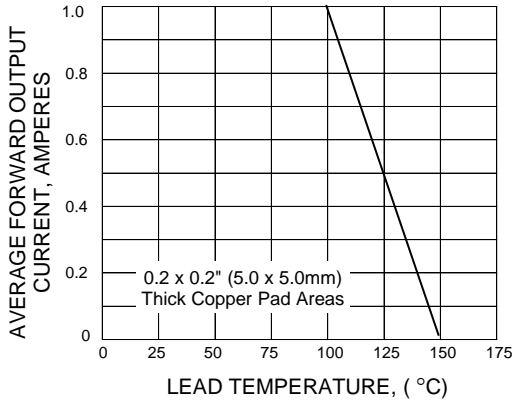
### Notes :

(1) Reverse Recovery Test Conditions :  $I_F = 0.5$  A,  $I_R = 1.0$  A,  $I_{rr} = 0.25$  A.

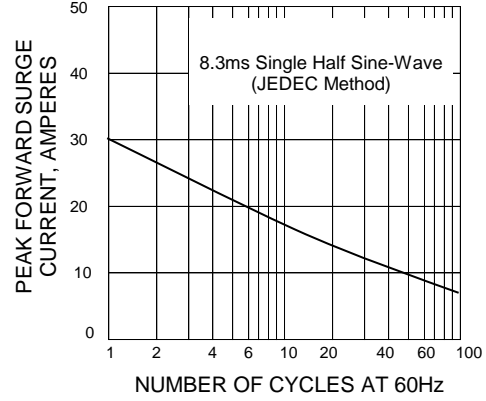
(2) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

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

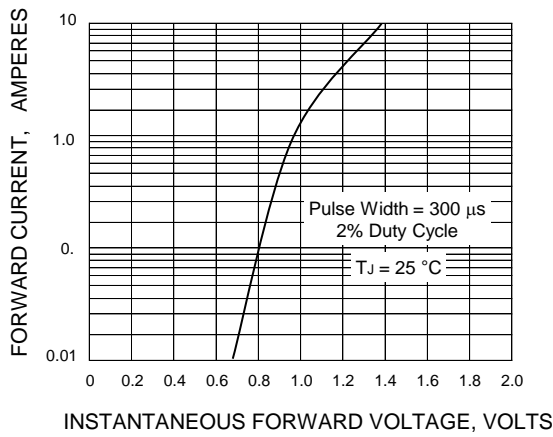
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



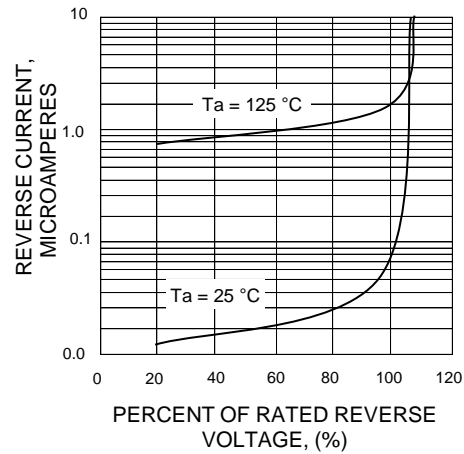
**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



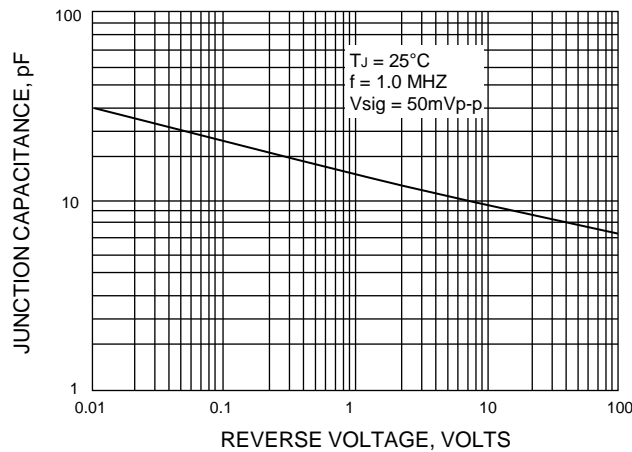
**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**



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