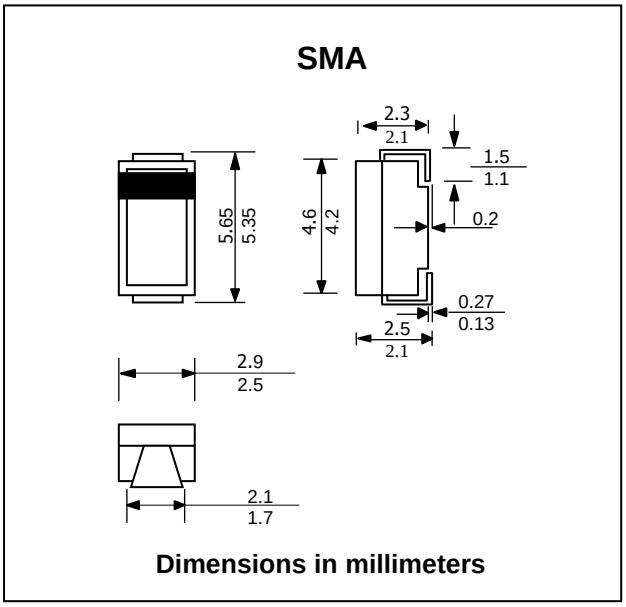
S1A ~ S1M

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 Ta = 25 °C	I_R	1.0					5.0		µA
at rated DC Blocking Voltage Ta = 125 °C	$I_{R(H)}$	50							µA
Typical Reverse Recovery Time (Note 1)	Trr	1.8							µs
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, Irr = 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

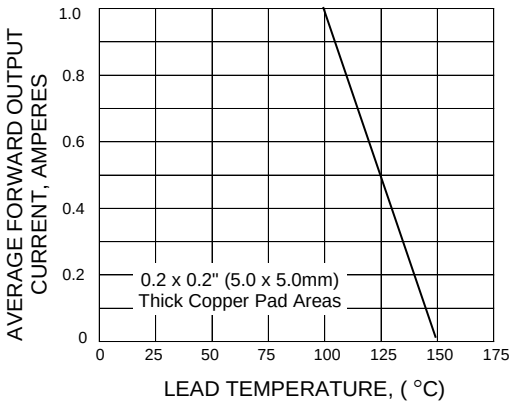


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

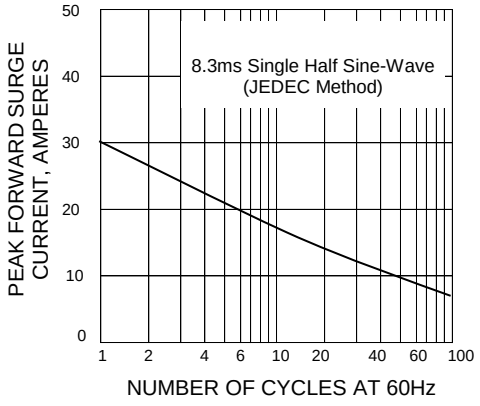


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

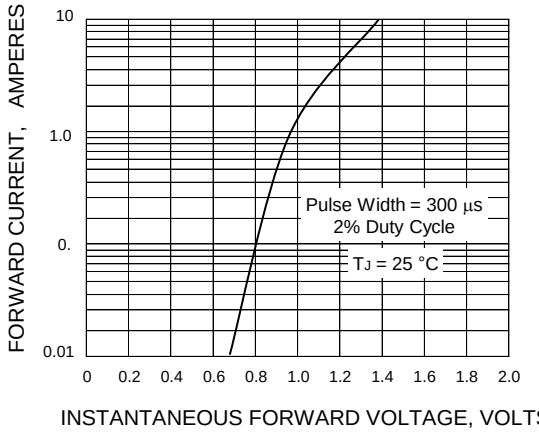


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

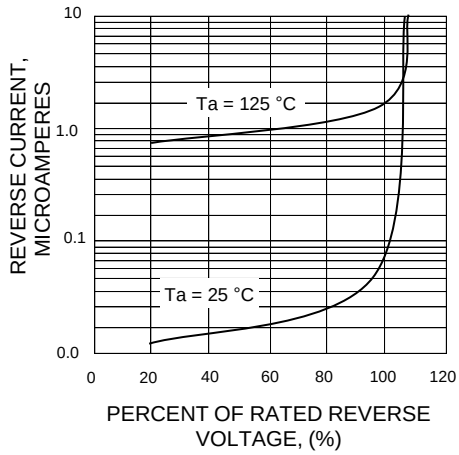


FIG. 5 – TYPICAL JUNCTION CAPACITANCE

