

S1AL - S1ML

1.0 AMP. Surface Mount Rectifiers Sub SMA

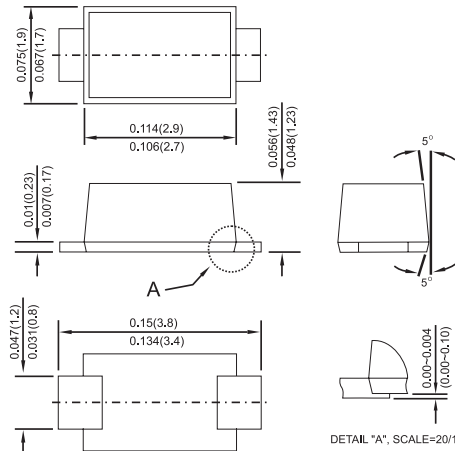


Features

- ✧ For surface mounted application
- ✧ Glass passivated junction chip.
- ✧ Low-Profile Package
- ✧ Ideal for automated placement
- ✧ Low power loss, high efficiency
- ✧ High temperature soldering:
260°C / 10 seconds at terminals

Mechanical Data

- ✧ Case: Sub SMA plastic case
- ✧ Terminal : Pure tin plated, lead free.
- ✧ Polarity: Color band denotes cathode
- ✧ Packaging: 12mm tape per EIA STD RS-481
- ✧ Weight: approx. 15mg
- ✧ Marking code refer to Note 3.



Dimensions in inches and (millimeters)

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%

Type Number	Symbo l	S1AL	S1BL	S1DL	S1GL	S1JL	S1KL	S1ML	Units	
Maximum Recurrent 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	
Marking Code (Note 3)		1ALYM	1BLYM	1DLYM	1GLYM	1JLYM	1KLYM	1MLYM		
Maximum Average Forward Rectified Current @ $T_L = 110^\circ\text{C}$ @ $T_{tp} = 75^\circ\text{C}$ 20ms Square pulse	$I_{(AV)}$	1.0						1.5		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30								A
Maximum Instantaneous Forward Voltage @ 1.0A	V_F	1.1								V
Maximum DC Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$	I_R	5						50		uA uA
Typical ERSM @ $L=120\text{mH}$, $T_a=150^\circ\text{C}$	E_{RSM}	7								mJ
Typical Junction Capacitance (Note 1)	C_j	9								pF
Maximum Reverse Recovery Time(Note 4)	T_{rr}	1.8								uS
Typical Thermal Resistance (Note 2)	$R_{\theta JL}$ $R_{\theta JA}$	25 85				30 85			$^\circ\text{C} / \text{W}$	
Operating Temperature Range	T_J	-55 to +150								$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150								$^\circ\text{C}$

- Notes:
1. Measured at 1 MHz and Applied $V_R=4.0$ Volts.
 2. Measured on P.C. Board with 0.2" x 0.2" (5.0mm x 5.0mm) Copper Pad Areas.
 3. 1ALYM: 1=1A, A=50V, L-Low Profile, Y-Year Code, M-Month Code
 4. Reverse Recovery Time Condition: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $IRR=0.25\text{A}$.

RATINGS AND CHARACTERISTIC CURVES (S1AL THRU S1ML)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

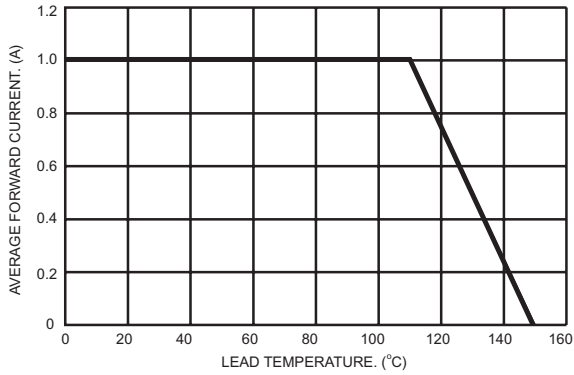


FIG.2- TYPICAL REVERSE CHARACTERISTICS

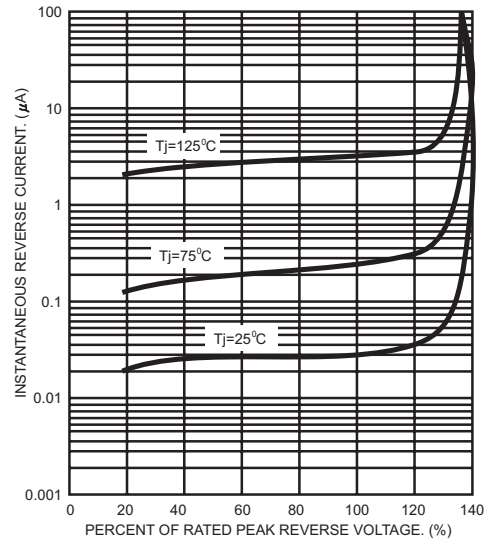


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

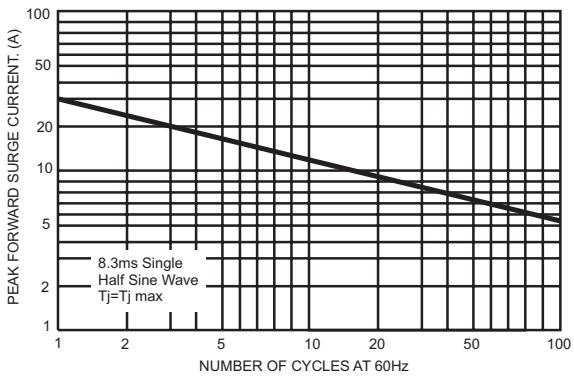


FIG.5- TYPICAL FORWARD CHARACTERISTICS

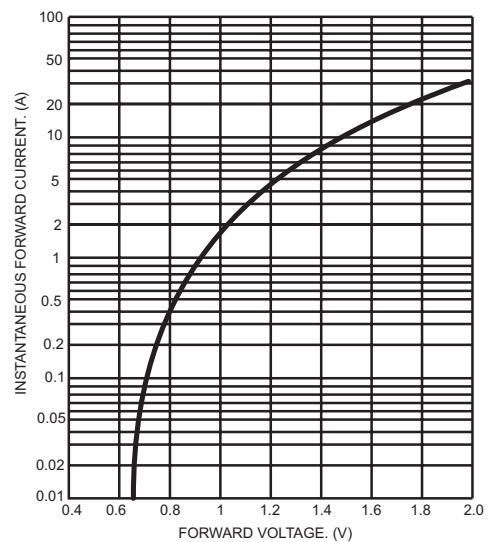


FIG.4- TYPICAL JUNCTION CAPACITANCE

