



# S1AL - S1ML

## 1.0AMP Surface Mount Rectifiers

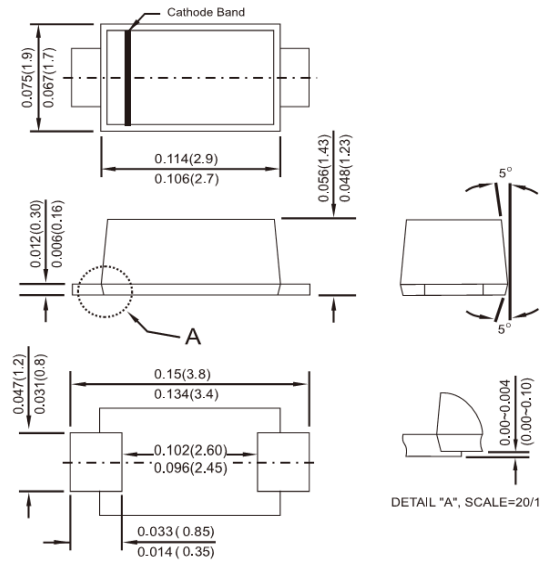
### Sub SMA

### Features

- ✧ UL Recognized File # E-326243
- ✧ 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
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode
- ✧ Qualified as per AEC-Q101

### Mechanical Data

- ✧ Case: Sub SMA plastic case
- ✧ Terminal: Pure tin plated, lead free
- ✧ Polarity: Color band denotes cathode
- ✧ Packaging: 8mm / 12mm tape per EIA STD RS-481
- ✧ Weight: 0.0196 grams
- ✧ Marking code refer to below specified



### Dimensions in inches and (millimeters)

### Marking Diagram



- 1XL = Specific Device Code
- G = Green Compound
- Y = Year
- M = Work Month

### 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	Symbol	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
Maximum Average Forward Rectified Current @ $T_L=110^\circ C$ @ $T_{tp}=75^\circ C$ 20ms Square pulse	$I_{F(AV)}$	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 (Note 1) @ 1 A	$V_F$	1.1						V	
Maximum DC Reverse Current at @ $T_A=25^\circ C$ Rated DC Blocking Voltage @ $T_A=125^\circ C$	$I_R$	5 50						uA	
Typical Junction Capacitance (Note 2)	$C_j$	9						pF	
Typical Reverse Recovery Time (Note 3)	$T_{rr}$	1.8						uS	
Typical Thermal Resistance (Note 4)	$R_{\theta JL}$ $R_{\theta JA}$	25 85				30 85		$^\circ C/W$	
Operating Temperature Range	$T_J$	- 55 to + 175						$^\circ C$	
Storage Temperature Range	$T_{STG}$	- 55 to + 175						$^\circ C$	

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Measured at 1 MHz and Applied VR=4.0 Volts.

Note 3: Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$

Note 4: Measured on P.C. Board with 0.2" x 0.2" (5.0mm x 5.0mm) Copper Pad Areas.

## RATINGS AND CHARACTERISTIC CURVES (S1AL THRU S1ML)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

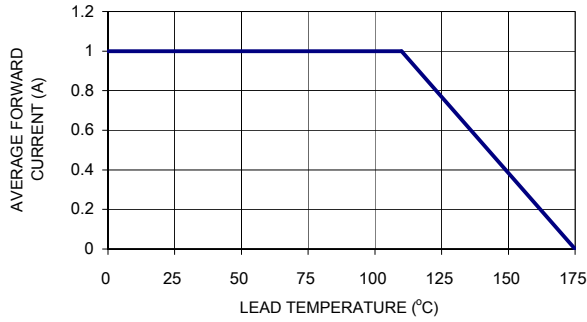


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

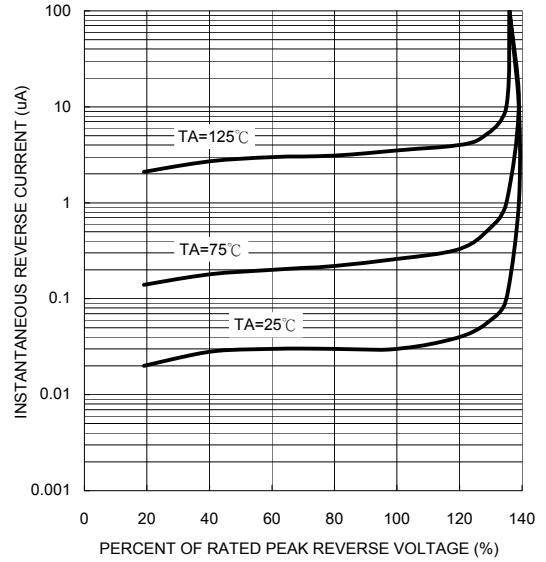


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

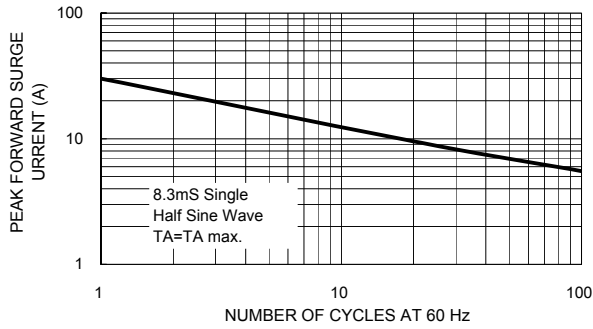


FIG. 5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

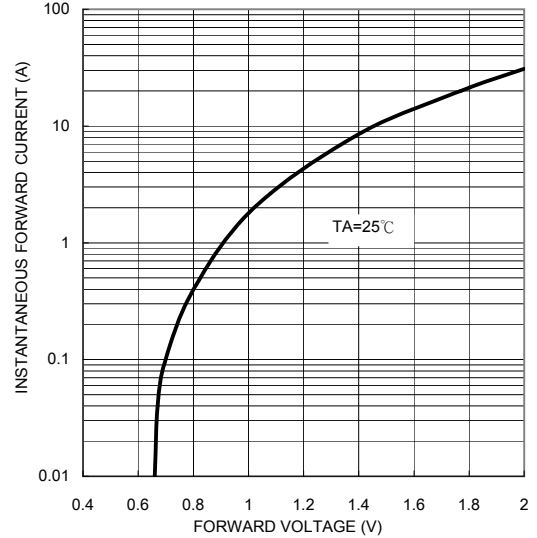


FIG. 4- TYPICAL JUNCTION CAPACITANCE

