

## 1A, 50V - 1000V Surface Mount Rectifier

### **FEATURES**

- Glass passivated junction chip
- Ideal for automated placement
- Low-Profile Package
- Low power loss, high efficiency
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition







### Sub SMA

#### **MECHANICAL DATA**

Case: Sub SMA

Molding compound, UL flammability classification rating 94V-0

Part No. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free) **Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test **Polarity:** Indicated by cathode band **Weight:** 0.019 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)									
PARAMETER	SYMBOL	S1AL	S1BL	S1DL	S1GL	S1JL	S1KL	S1ML	UNIT
Marking code		1AL	1BL	1DL	1GL	1JL	1KL	1ML	
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 rectified current	I <sub>F(AV)</sub>	1				Α			
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	30			Α				
Maximum instantaneous forward voltage (Note 1)  @ 1 A	V <sub>F</sub>	1.1					V		
Maximum reverse current @ rated $V_R$ $T_J$ =25°C $T_J$ =125°C	I <sub>R</sub>	5 50			μΑ				
Typical junction capacitance (Note 2)	CJ	9					pF		
Typical reverse recovery time (Note 3)	t <sub>rr</sub>	1.8					μs		
Typical thermal resistance	$R_{ hetaJL} \ R_{ hetaJA}$	25 30 85 85				°C/W			
Operating junction temperature range	T <sub>J</sub>	- 55 to +175				°C			
Storage temperature range	T <sub>STG</sub>	- 55 to +175				°C			

Note 1: Pulse test with PW=300µs, 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

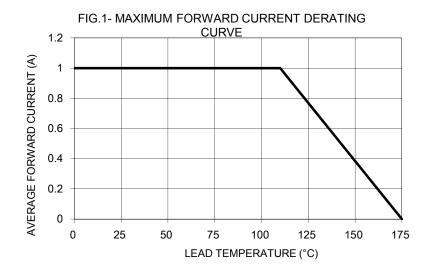


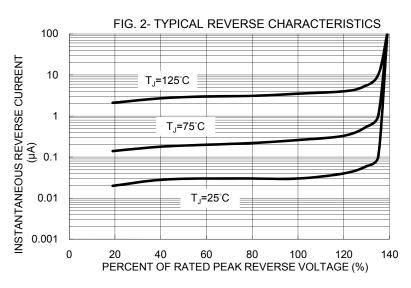
ORDERING INFORMATION						
PART NO.	PART NO.	PACKING CODE	PACKING CODE	PACKAGE	PACKING	
	SUFFIX		SUFFIX			
		RU		Sub SMA	1,800 / 7" Plastic reel (8mm tape)	
		RV		Sub SMA	3,000 / 7" Plastic reel (8mm tape)	
		RT		Sub SMA	7,500 / 13" Paper reel (8mm tape)	
		MT	Sub SMA	7,500 / 13" Plastic reel (8mm tape)		
		RQ	G	Sub SMA	10,000 / 13" Paper reel (8mm tape)	
S1xL (Note 1)	Н	MQ		Sub SMA	10,000 / 13" Plastic reel (8mm tape)	
		R3		Sub SMA	1,800 / 7" Plastic reel (12mm tape)	
		RF		Sub SMA	3,000 / 7" Plastic reel (12mm tape)	
		R2		Sub SMA	7,500 / 13" Paper reel (12mm tape)	
		M2		Sub SMA	7,500 / 13" Plastic reel (12mm tape)	
		RH		Sub SMA	10,000 / 13" Paper reel (12mm tape)	
		MH		Sub SMA	10,000 / 13" Plastic reel (12mm tape)	

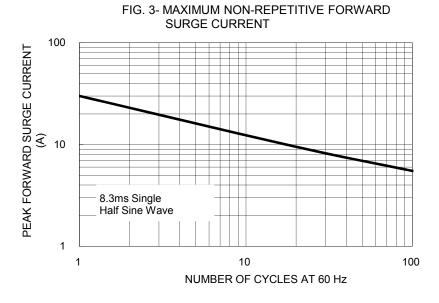
Note 1: "x" defines voltage from 50V (S1AL) to 1000V (S1ML)

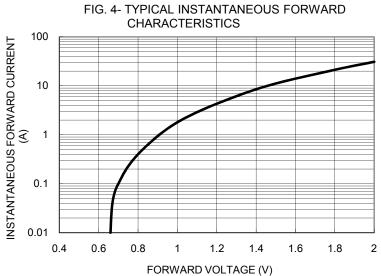
EXAMPLE					
PREFERRED PART NO.	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
S1MLHRUG	S1ML	Н	RU	G	AEC-Q101 qualified Green compound

### RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub>=25°C unless otherwise noted)





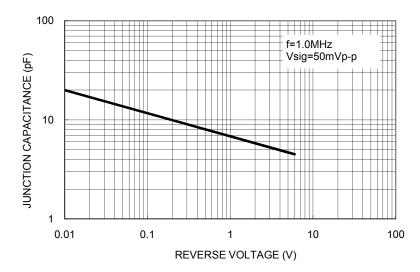




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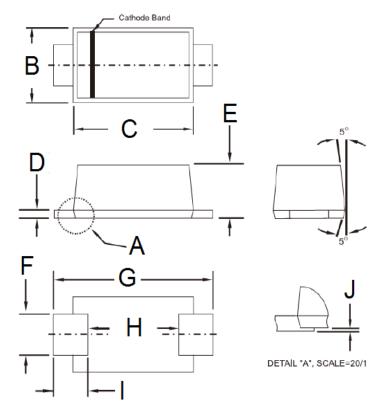


FIG. 5- TYPICAL JUNCTION CAPACITANCE



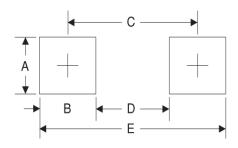
# PACKAGE OUTLINE DIMENSIONS

### Sub SMA



DIM.	Unit	(mm)	Unit (inch)		
DIIVI.	Min	Max	Min	Max	
В	1.70	1.90	0.067	0.075	
С	2.70	2.90	0.106	0.114	
D	0.16	0.30	0.006	0.012	
Е	1.23	1.43	0.048	0.056	
F	0.80	1.20	0.031	0.047	
G	3.40	3.80	0.134	0.150	
Н	2.45	2.60	0.096	0.102	
I	0.35	0.85	0.014	0.033	
J	0.00	0.10	0.000	0.004	

## **SUGGESTED PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
Α	1.4	0.055
В	1.2	0.047
С	3.1	0.122
D	1.9	0.075
Е	4.3	0.169

### **MARKING DIAGRAM**



P/N = Marking Code

G = Green compound Code

ΥW = Date Code

= Factory Code

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