

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 _A =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 _{F(AV)}	1							A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	30							A
Maximum instantaneous forward voltage (Note 1) @ 1 A	V _F	1.1							V
Maximum reverse current @ rated V _R T _J =25°C T _J =125°C	I _R	5 50							μA
Typical junction capacitance (Note 2)	C _J	9							pF
Typical reverse recovery time (Note 3)	t _{rr}	1.8							μs
Typical thermal resistance	R _{θJL} R _{θJA}	25 85					30 85		°C/W
Operating junction temperature range	T _J	- 55 to +175							°C
Storage temperature range	T _{STG}	- 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. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
S1xL (Note 1)	H	RU	G	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		Sub SMA	10,000 / 13" Paper reel (8mm tape)
		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	H	RU	G	AEC-Q101 qualified Green compound

RATINGS AND CHARACTERISTICS CURVES (T_A=25°C unless otherwise noted)

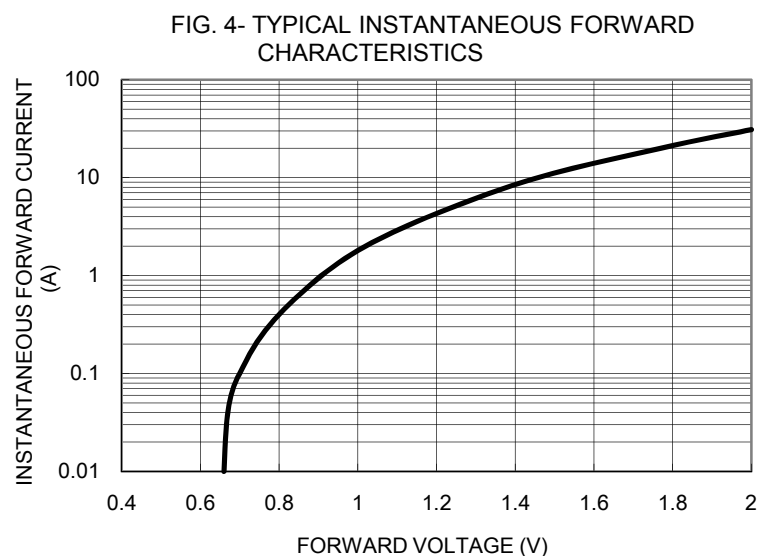
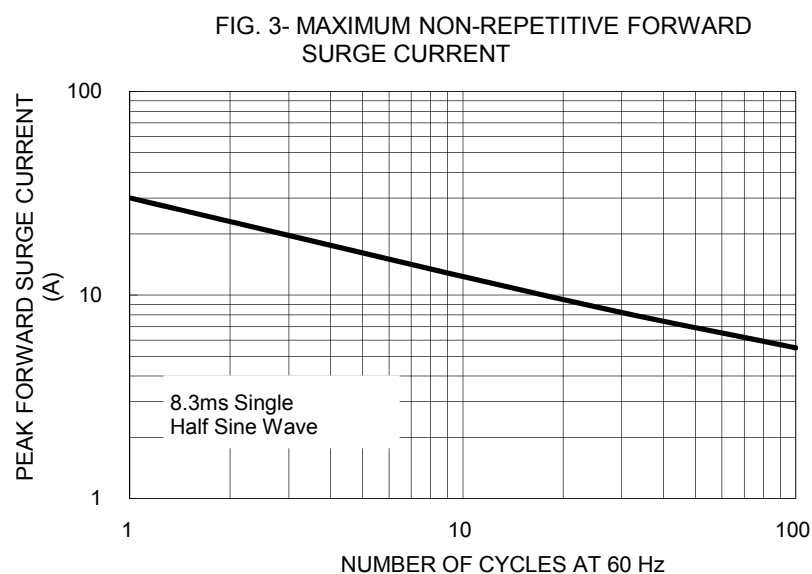
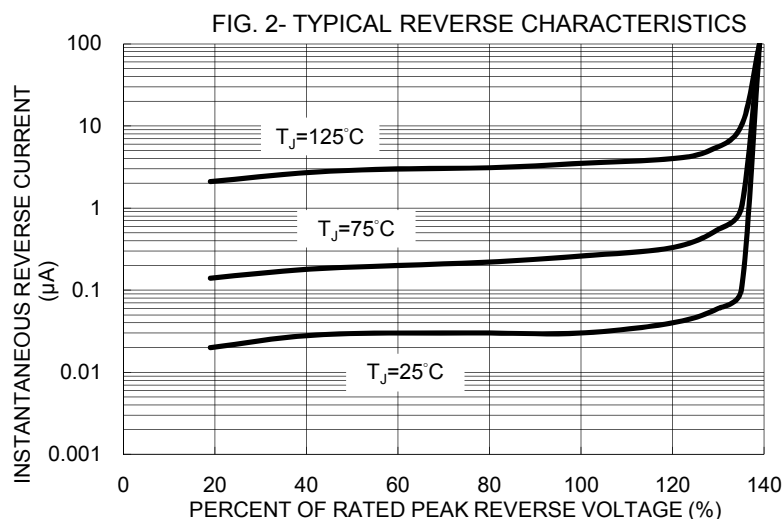
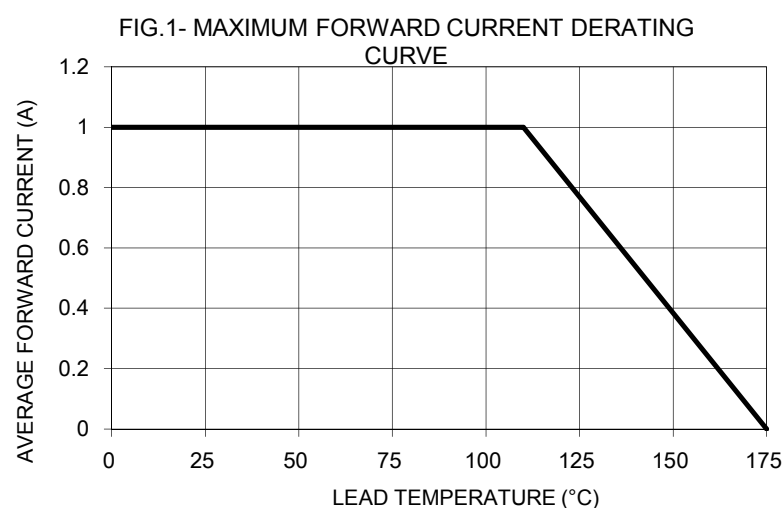
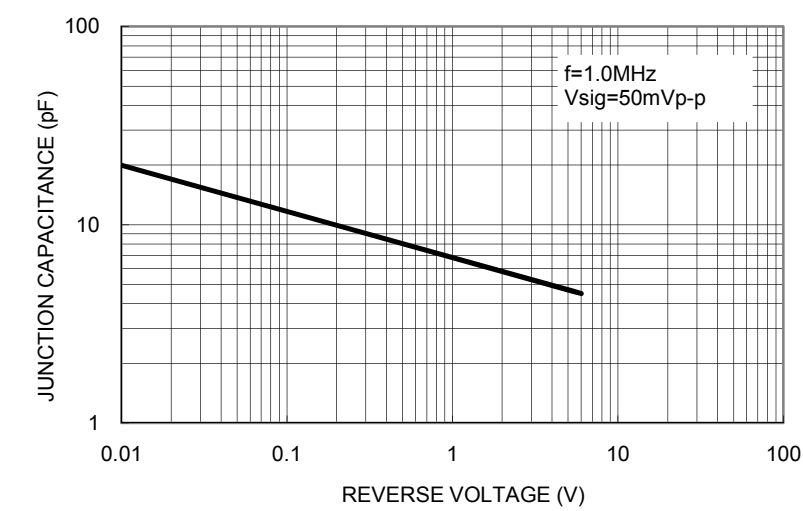
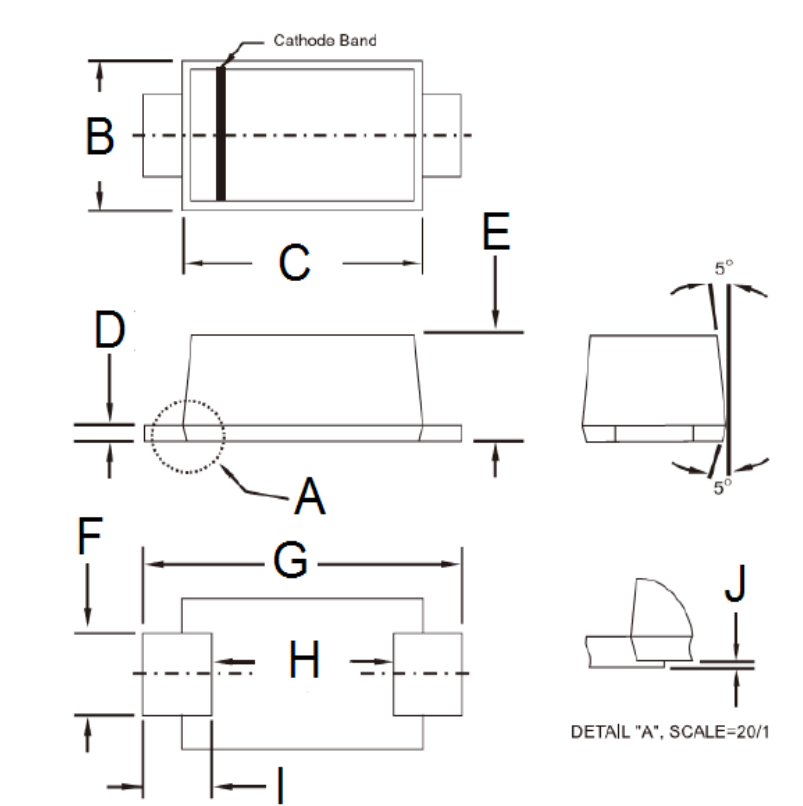


FIG. 5- TYPICAL JUNCTION CAPACITANCE

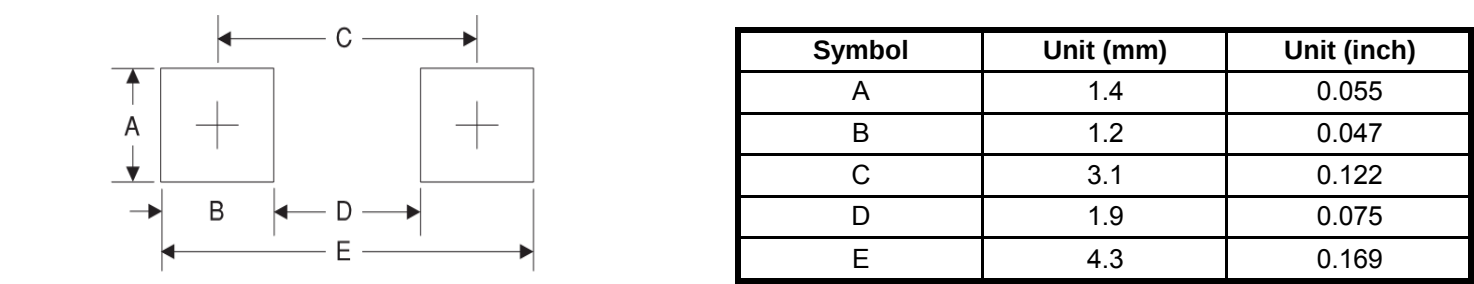


PACKAGE OUTLINE DIMENSIONS
Sub SMA

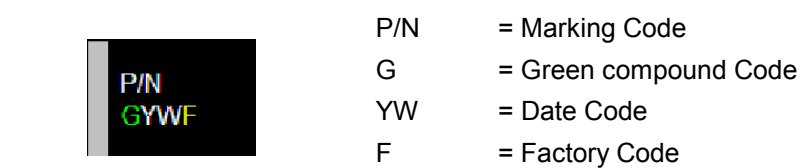


DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
B	1.70	1.90	0.067	0.075
C	2.70	2.90	0.106	0.114
D	0.16	0.30	0.006	0.012
E	1.23	1.43	0.048	0.056
F	0.80	1.20	0.031	0.047
G	3.40	3.80	0.134	0.150
H	2.45	2.60	0.096	0.102
I	0.35	0.85	0.014	0.033
J	0.00	0.10	0.000	0.004

SUGGESTED PAD LAYOUT



MARKING DIAGRAM



Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Taiwan Semiconductor:

[S1AL](#) [S1BL](#) [S1DL](#) [S1GL](#) [S1JL](#) [S1KL](#) [S1ML](#) [S1AL R2](#) [S1BL R2](#) [S1KL R2](#) [S1DL R2](#) [S1GL R2](#) [S1DL RQG](#)
[S1JL R3](#) [S1ALHR2G](#) [S1DL R2G](#) [S1GLHR3](#) [S1GLHR3G](#) [S1JL R3G](#) [S1ALHR3G](#) [S1JLHR2](#) [S1ALHRQ](#) [S1AL R2G](#)
[S1DL R3G](#) [S1AL RQ](#) [S1JLHR2G](#) [S1JLHR3](#) [S1JL R2G](#) [S1BLHR2G](#) [S1BL RQ](#) [S1AL R3](#) [S1JLHR3G](#) [S1GLHR2](#)
[S1GLHRQG](#) [S1DLHR3G](#) [S1GLHR2G](#) [S1JLHRQG](#) [S1DLHRQG](#) [S1DL R3](#) [S1BLHR3](#) [S1BL RQG](#) [S1GL RQ](#) [S1GL](#)
[R2G](#) [S1JL RQG](#) [S1BL R3G](#) [S1DLHRQ](#) [S1JL RQ](#) [S1GL RQG](#) [S1DL RQ](#) [S1BLHRQG](#) [S1GL R3G](#) [S1AL RQG](#)
[S1AL R3G](#) [S1ALHRQG](#) [S1DLHR2G](#) [S1KL RQ](#) [S1ML R3](#) [S1ML R2G](#) [S1MLHR2G](#) [S1MLHR2](#) [S1KLHR2](#)
[S1MLHR3G](#) [S1KLHR3G](#) [S1KL RQG](#) [S1ML RQ](#) [S1MLHRQG](#) [S1KLHRQG](#) [S1KLHR2G](#) [S1ML R3G](#) [S1KL R2G](#)
[S1ML RQG](#) [S1BL R2G](#) [S1KL R3G](#) [S1BLHR3G](#) [S1BLHRQ](#) [S1ML R2](#) [S1BL R3](#) [S1GL R3](#) [S1JL R2](#) [S1KL R3](#)
[S1AL RVG](#) [S1ALHRTG](#) [S1ALHRVG](#) [S1DL RTG](#) [S1DL RUG](#) [S1DL RVG](#) [S1DLHRTG](#) [S1DLHRUG](#) [S1DLHRVG](#)
[S1JLHRTG](#) [S1JLHRUG](#) [S1JLHRVG](#) [S1GL RUG](#) [S1GLHRUG](#) [S1JL M2G](#) [S1JL RTG](#) [S1JL RUG](#) [S1JL RVG](#)
[S1MLHRUG](#) [S1MLHRVG](#)