

High Efficient Surface Mount Rectifiers

FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Low profile package
- Low power loss, high efficiency
- Fast switching for 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



MECHANICAL DATA

Case: Sub SMA

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - green compound (halogen-free)

Base P/N with prefix "H" on packing code - AEC-Q101 qualified

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

with prefix "H" on packing code meet JESD 201 class 2 whisker test

Polarity: Indicated by cathode band

Weight: 0.019 g (approximately)

Sub SMA

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)										
PARAMETER	SYMBOL	HS 1AL	HS 1BL	HS 1DL	HS 1FL	HS 1GL	HS 1JL	HS 1KL	HS 1ML	UNIT
Marking code		HAL	HBL	HDL	HFL	HGL	HJL	HKL	HML	
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	300	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	35	70	140	210	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	50	100	200	300	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	0.95				1.3	1.7			V
Maximum reverse current @ rated VR T _J =25 °C T _J =125 °C	I _R	5 150								μA
Typical junction capacitance (Note 2)	C _j	20				15			pF	
Maximum reverse recovery time (Note 3)	T _{rr}	50				75			ns	
Typical thermal resistance	R _{θJA}	100								°C/W
Operating junction temperature range	T _J	- 55 to +150								°C
Storage temperature range	T _{STG}	- 55 to +150								°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.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
HS1xL (Note 1)	Prefix "H"	RU	Suffix "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 (HS1AL) to 1000V (HS1ML)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
HS1JL RU	HS1JL		RU		
HS1JL RUG	HS1JL		RU	G	Green compound
HS1JLHRU	HS1JL	H	RU		AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

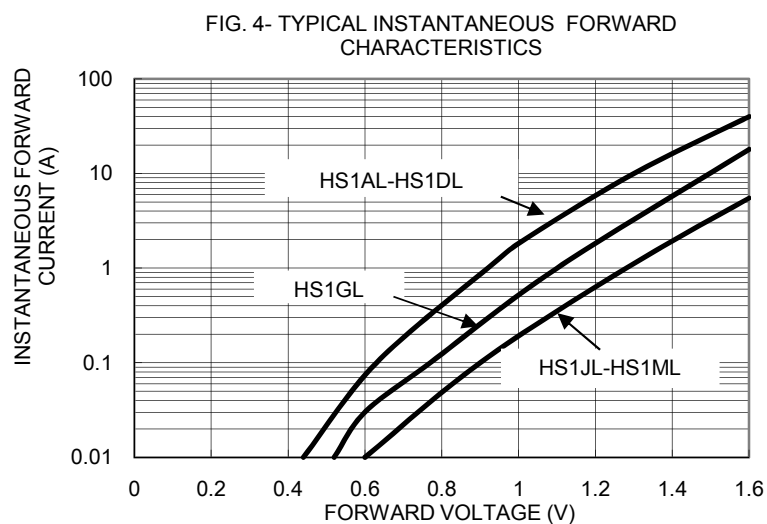
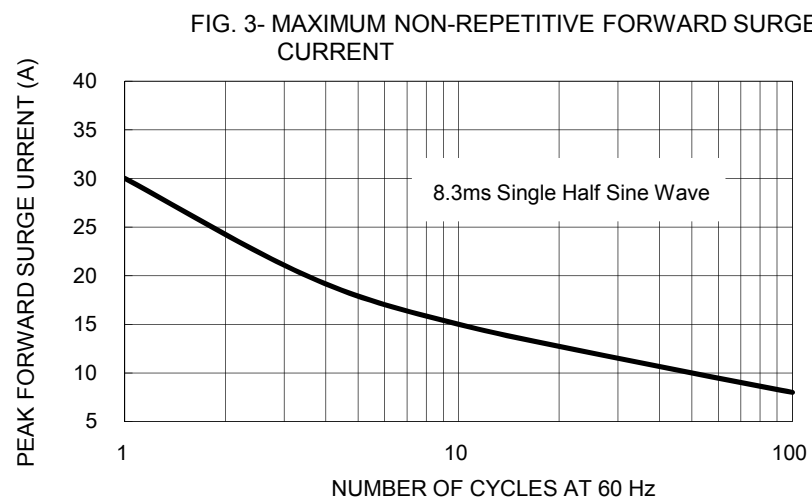
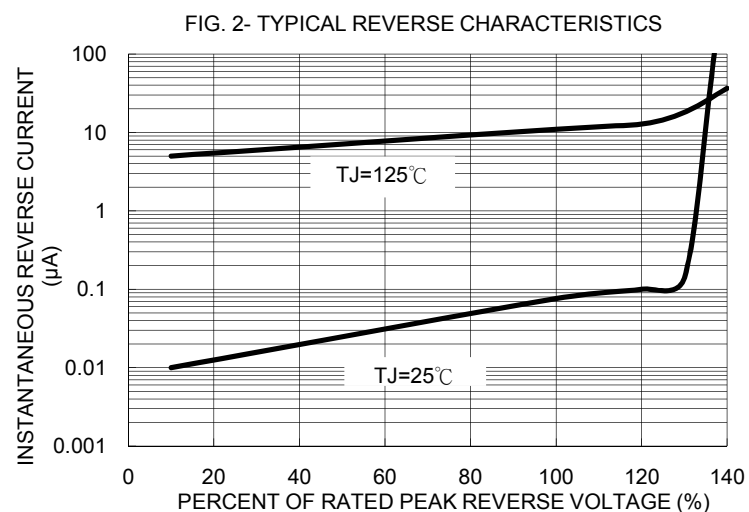
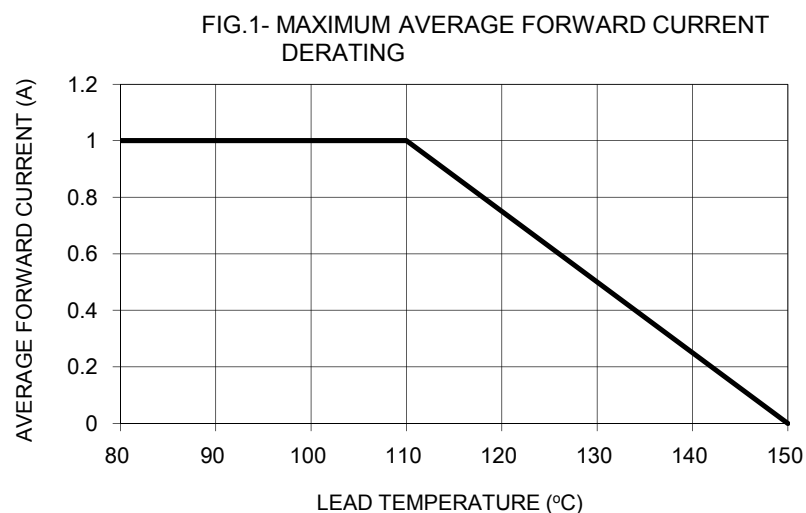


FIG. 5- TYPICAL JUNCTION CAPACITANCE

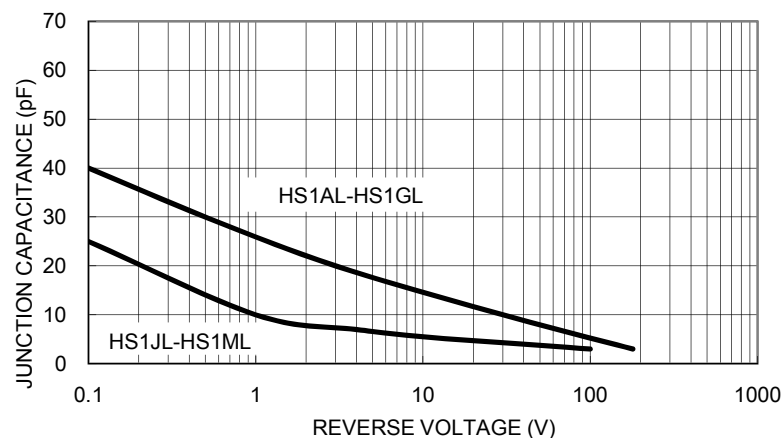
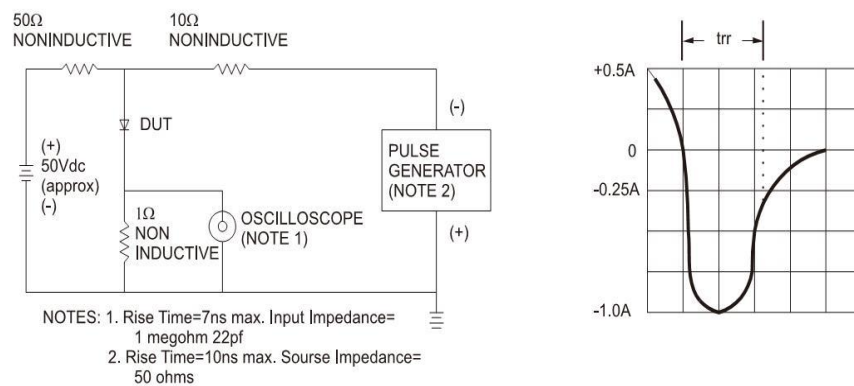
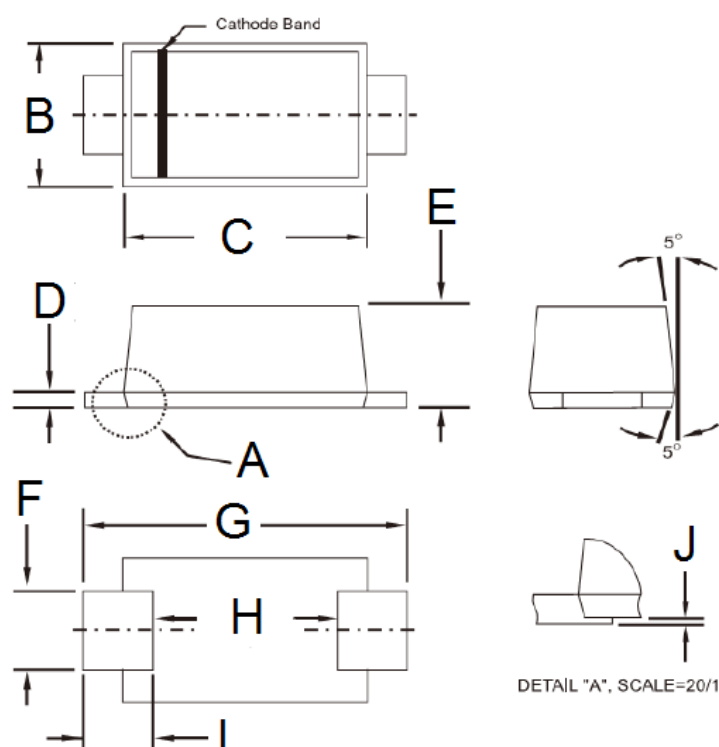


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

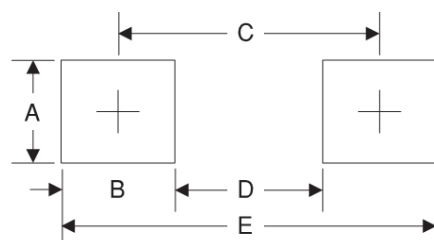


PACKAGE OUTLINE DIMENSIONS



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



Symbol	Unit (mm)	Unit (inch)
A	1.4	0.055
B	1.2	0.047
C	3.1	0.122
D	1.9	0.075
E	4.3	0.169

MARKING DIAGRAM



P/N = Marking Code
G = Green Compound
YW = Date Code
F = Factory Code

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 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:

[HS1AL R2G](#) [HS1AL R3G](#) [HS1AL RQG](#) [HS1BL R2G](#) [HS1BL R3G](#) [HS1BL RQG](#) [HS1DL R2G](#) [HS1DL R3G](#)
[HS1DL RQG](#) [HS1FL R2G](#) [HS1FL R3G](#) [HS1FL RQG](#) [HS1GL R2G](#) [HS1GL R3G](#) [HS1GL RQG](#) [HS1JL R2G](#) [HS1JL](#)
[R3G](#) [HS1JL RQG](#) [HS1KL R2G](#) [HS1KL R3G](#) [HS1KL RQG](#) [HS1ML R2G](#) [HS1ML R3G](#) [HS1ML RQG](#) [HS1DLHR3G](#)
[HS1BLHRQG](#) [HS1JLHRQG](#) [HS1BLHR3G](#) [HS1FLHR2G](#) [HS1MLHR3G](#) [HS1BLHR2G](#) [HS1KLHR3G](#) [HS1DLHRQG](#)
[HS1FLHR3G](#) [HS1ALHR3G](#) [HS1KLHRQG](#) [HS1ALHR2G](#) [HS1GLHRQG](#) [HS1JLHR3G](#) [HS1KLHR2G](#) [HS1GLHR2G](#)
[HS1JLHR2G](#) [HS1ALHRQG](#) [HS1GLHR3G](#) [HS1MLHR2G](#) [HS1MLHRQG](#) [HS1FLHRQG](#) [HS1DLHR2G](#) [HS1JL RVG](#)
[HS1KL RUG](#) [HS1KL RVG](#) [HS1KLHRVG](#) [HS1ML RVG](#) [HS1MLHRVG](#) [HS1FL RVG](#) [HS1FLHRVG](#) [HS1GL RVG](#)
[HS1GLHRVG](#) [HS1AL RVG](#) [HS1ALHRVG](#) [HS1BL RVG](#) [HS1BLHRVG](#) [HS1DL RVG](#) [HS1DLHRVG](#) [HS1AL](#) [HS1BL](#)
[HS1DL](#) [HS1FL](#) [HS1GL](#) [HS1JL](#) [HS1KL](#) [HS1ML](#) [HS1ALH](#) [HS1BLH](#) [HS1DLH](#) [HS1FLH](#) [HS1GLH](#) [HS1JLH](#)
[HS1KLH](#) [HS1MLH](#)