1A, 200V - 1000V High Efficient Surface Mount Rectifiers

FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Low profile package
- Low power loss, high efficiency
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



SOD-123W

Pb-Free

RoHS COMPLIANT

HALOGEN FREE

MECHANICAL DATA

Case: SOD-123W
Molding compound: UL flammability classification rating 94V-0
Moisture sensitivity level (MSL): level 1, per J-STD-020
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: 0.016 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)							
PARAMETER	SYMBOL	HS1DLW	HS1GLW	HS1JLW	HS1KLW	HS1MLW	UNIT
Marking code		HDLW	HGLW	HJLW	HKLW	HMLW	
Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	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	1.0	1.3	1.7			V
Maximum reverse current @ rated V_R T_J=25°C	I_R	1					μA
Maximum reverse current @ rated V_R T_J=125°C	I_R	150					μA
Maximum reverse recovery time (Note 2)	t_{rr}	50		75			ns
Typical junction capacitance (Note 3)	C_J	16			7		pF
Typical thermal resistance	$R_{\theta JL}$ $R_{\theta JA}$	25 80					°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: Test conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
Note 3: Measured at 1 MHz and applied reverse voltage of 4.0V DC.

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
HS1xLW (Note 1, 2)	H	RV	G	SOD-123W	3,000 / 7" Plastic reel
		RQ			10,000 / 13" Paper reel

Note 1: "x" defines voltage from 200V (HS1DLW) to 1000V (HS1MLW)

Note 2: Whole series with green compound (halogen-free)

EXAMPLE					
EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
HS1JLWHRVG	HS1JLW	H	RV	G	AEC-Q101 qualified Green compound

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

FIG.1 FORWARD CURRENT DERATING CURVE

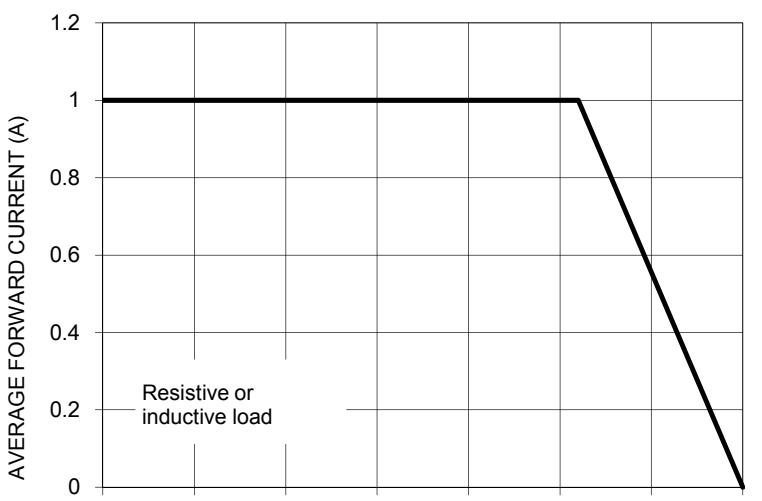


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

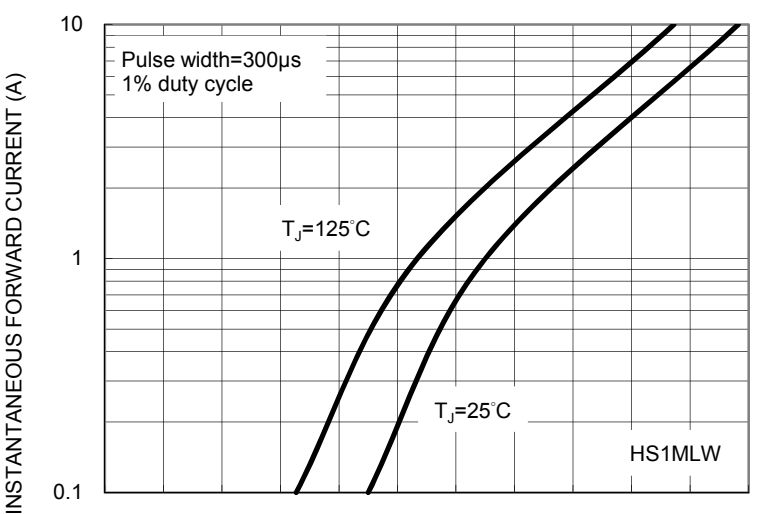


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

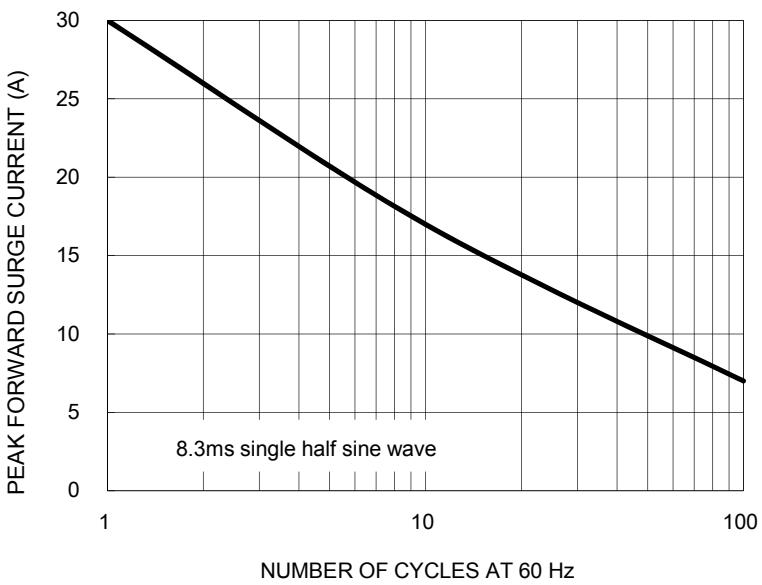


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

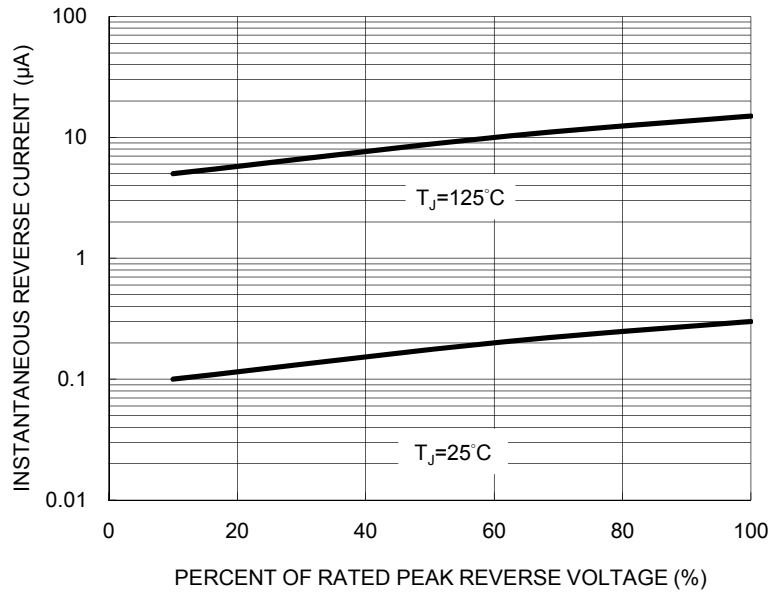
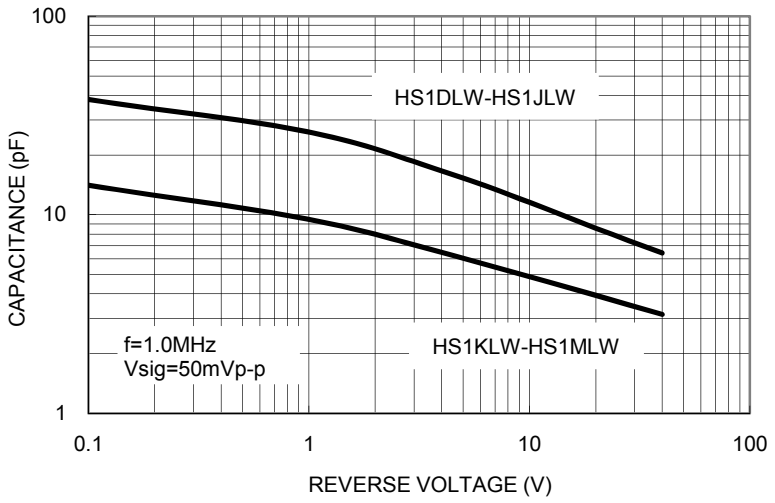
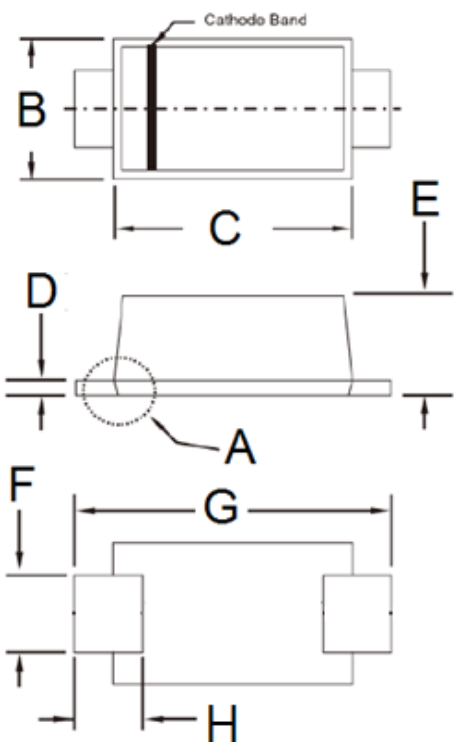


FIG. 5 TYPICAL JUNCTION CAPACITANCE



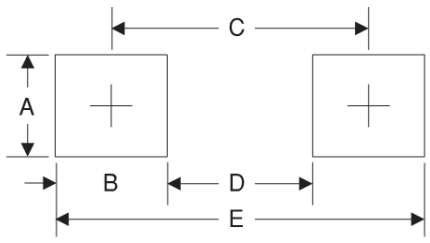
PACKAGE OUTLINE DIMENSIONS

SOD-123W



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
B	1.70	1.90	0.067	0.075
C	2.60	2.90	0.102	0.114
D	0.10	0.22	0.004	0.009
E	0.90	1.02	0.035	0.040
F	0.90	1.05	0.035	0.041
G	3.60	3.80	0.142	0.150
H	0.50	0.85	0.020	0.033
I	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 Code
YW = Date Code
F = Factory Code

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