1.2A, 600V - 1000V Surface Mount Rectifiers

FEATURES

- Ideal for automated placement
- Compact package size
- High surge current capability
- 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 definition



SOD-123HE

Pb-Free

RoHS COMPLIANT

HALOGEN FREE

MECHANICAL DATA

Case: SOD-123HE

Molding compound, UL flammability classification rating 94V-0

Moisture sensitivity level: 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: 0.022g (approximately)

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

PARAMETER	SYMBOL	S1JLS	S1KLS	S1MLS	UNIT
Marking code		1JLS	1KLS	1MLS	
Maximum repetitive peak reverse voltage	V_{RRM}	600	800	1000	V
Maximum RMS voltage	V_{RMS}	420	560	700	V
Maximum DC blocking voltage	V_{DC}	600	800	1000	V
Maximum average forward rectified current	$I_{F(AV)}$	1.2			A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	50			A
Maximum instantaneous forward voltage (Note 1) @ 1.2 A	V_F	1.3			V
Maximum reverse current @ rated V_R T_J=25°C T_J=125°C	I_R	5 150			μA
Typical thermal resistance	$R_{\theta JC}$ $R_{\theta JA}$	26 74			°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

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
S1xLS (Note 1,2)	H	RV	G	SOD-123HE	3,000 / 7" Reel
		RQ		SOD-123HE	10,000 / 13" Reel

Note 1: "x" defines voltage from 600V (S1JLS) to 1000V (S1MLS)

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

EXAMPLE					
PREFERRED PART NO.	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
S1MLSHRVG	S1MLS	H	RV	G	AEC-Q101 qualified Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

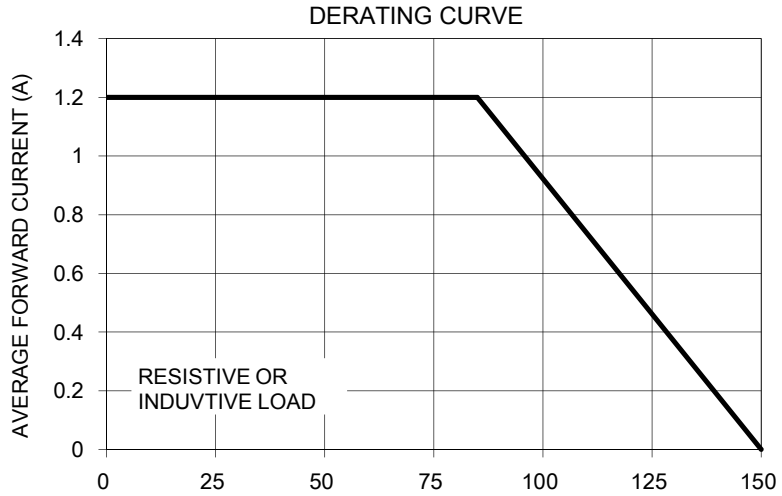


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

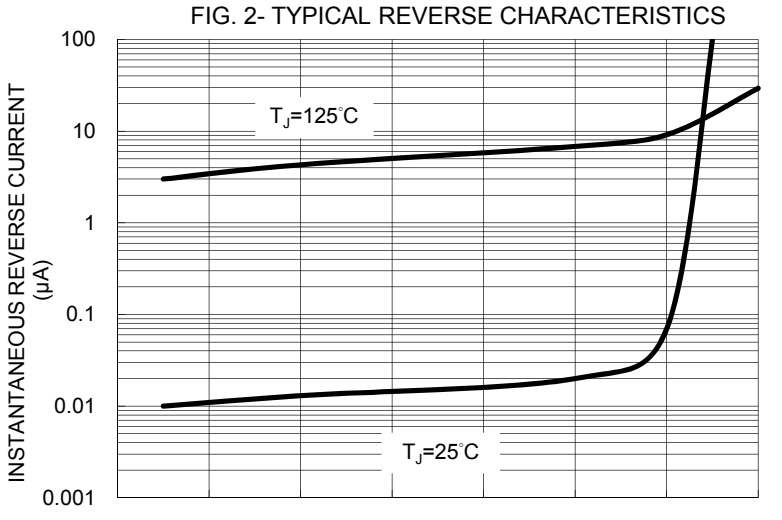


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

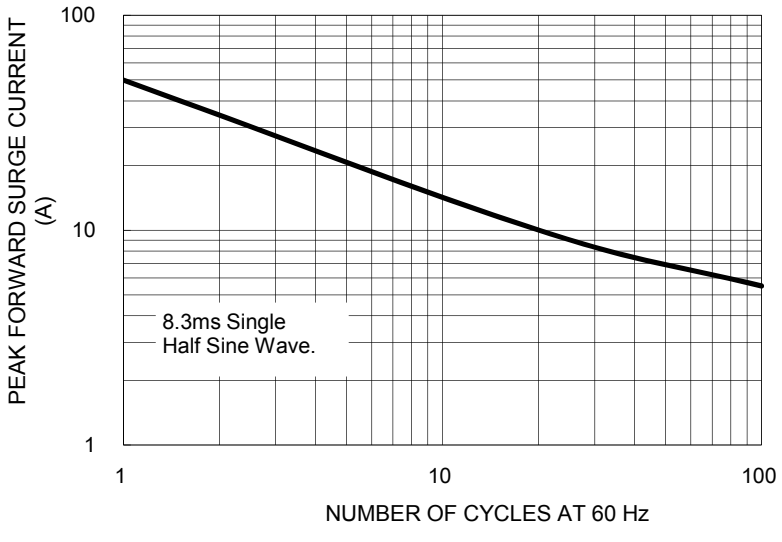


FIG. 4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

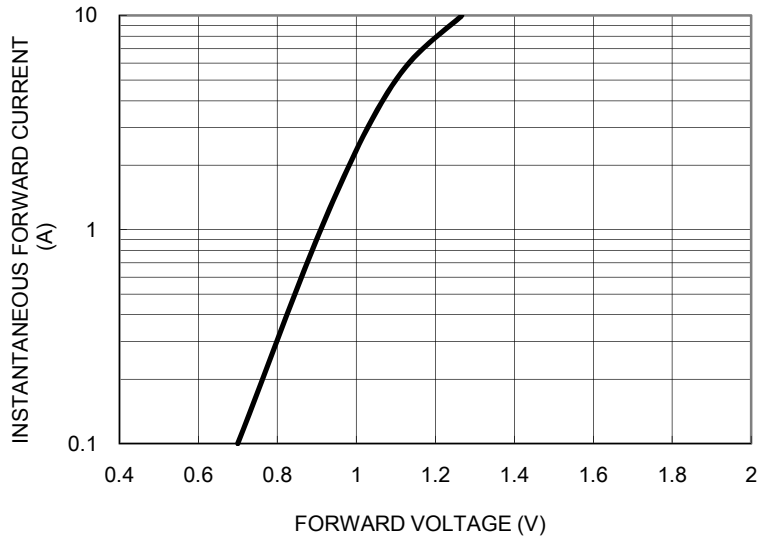
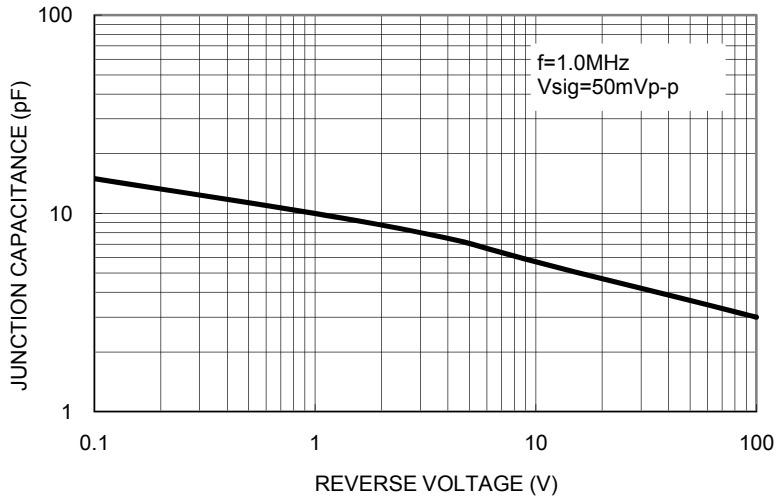
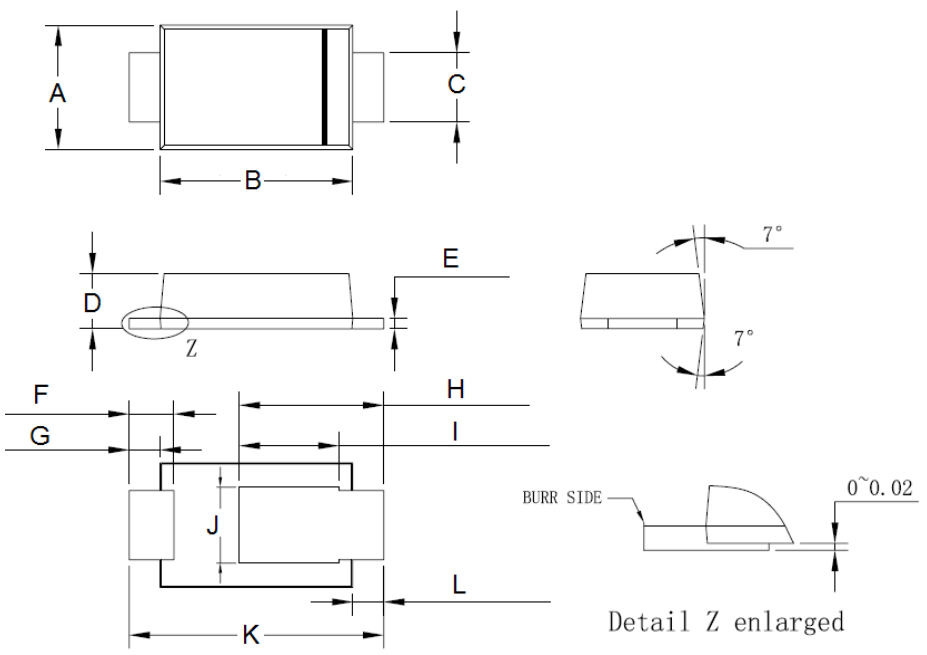


FIG. 5- TYPICAL JUNCTION CAPACITANCE



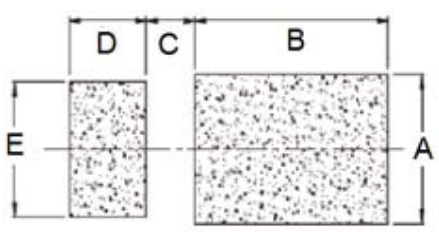
PACKAGE OUTLINE DIMENSIONS

SOD-123HE



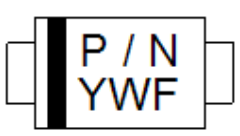
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.65	1.95	0.065	0.077
B	2.60	3.00	0.102	0.118
C	0.85	1.15	0.033	0.045
D	0.75	0.85	0.030	0.033
E	0.10	0.20	0.004	0.008
F	0.55	0.75	0.022	0.030
G	0.35	0.55	0.014	0.022
H	1.90	2.30	0.075	0.091
I	1.35	1.55	0.053	0.061
J	0.95	1.25	0.037	0.049
K	3.50	3.90	0.138	0.154
L	0.35	0.55	0.014	0.022

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.40	0.055
B	2.40	0.094
C	0.70	0.028
D	0.90	0.035
E	1.40	0.055

MARKING DIAGRAM



P/N = Marking Code
YW = Date Code
F = Factory Code

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