Surface Mount Schottky Barrier Rectifier

FEATURES

- Ideal for automated placement
- Compact package size, profile <0.85mm
- High surge current capability
- Low power loss, high efficiency
- AEC-Q101 qualified and Halogen free only
- 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

SOD-123HE

Pb-Free

RoHS COMPLIANT

HALOGEN FREE

TYPICAL APPLICATIONS

The devices are designed for high frequency miniature switched mode power supplies such as adapters, lighting and on-board DC/DC converters.

MECHANICAL DATA

Case: SOD-123HE

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

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

Polarity: Indicated by cathode band

Weight: 21mg (approximately)

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

PARAMETER	SYMBOL	SS12LS	SS13LS	SS14LS	SS16LS	SS110LS	SS115LS	UNIT
Marking code		12LS	13LS	14LS	16LS	10LS	A5LS	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	60	100	150	V
Maximum RMS voltage	V_{RMS}	14	21	28	42	70	105	V
Maximum DC blocking voltage	V_{DC}	20	30	40	60	100	150	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 @ 0.5 A (Note 1)	V_F	-	-	0.51	0.58	0.70	0.75	V
@ 1.0 A		0.45	0.50	0.55	0.70	0.80	0.90	
Maximum reverse current @ rated VR T_J=25 °C	I_R	0.4				0.05		mA
T_J=125 °C		-				0.5		
Typical junction capacitance (Note 2)	C_J	80						pF
Typical thermal resistance	$R_{\theta JC}$ $R_{\theta JA}$	25 70						°C/W
Operating junction temperature range	T_J	- 55 to +125		- 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 Reverse Voltage of 4.0V DC

ORDERING INFORMATION					
PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
SS1xxLS (Note 1, 2)	Prefix "H"	RV	Suffix "G"	SOD-123HE	3,000 / 7" Reel
		RQ		SOD-123HE	10,000 / 13" Reel

Note 1: "xx" defines voltage from 20V (SS12LS) to 150V (SS115LS)

Note 2: Whole series with AEC-Q101 qualified and green compound (halogen-free)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
SS115LSHRVG	SS115LS	H	RV	G	AEC-Q101 qualified Green compound

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

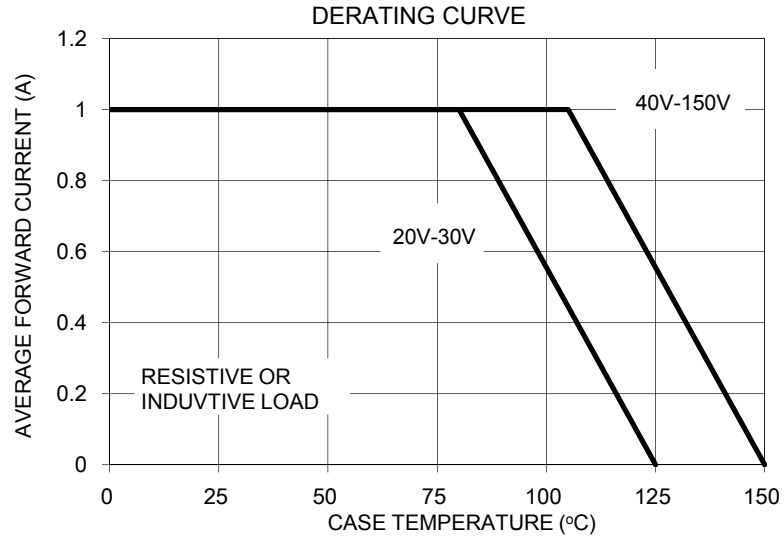


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

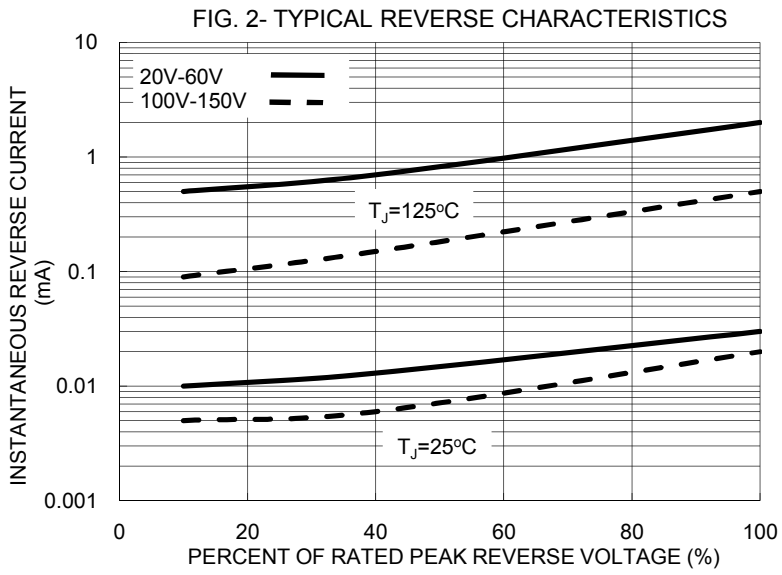


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

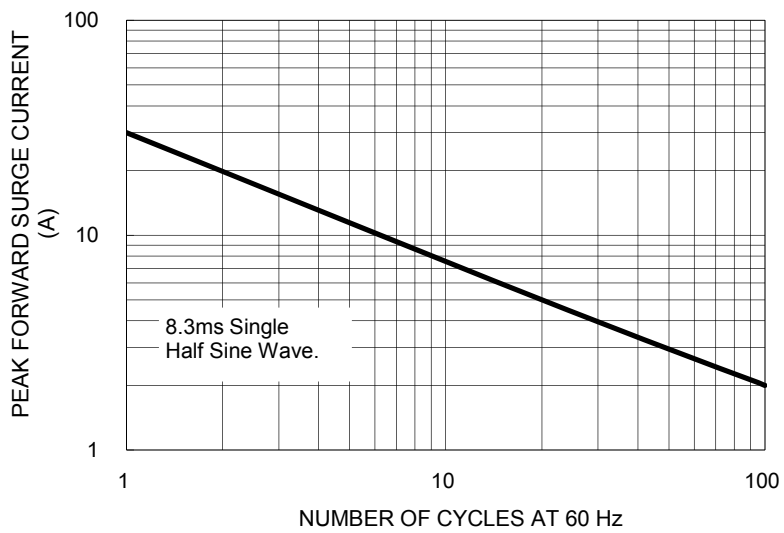


FIG. 4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

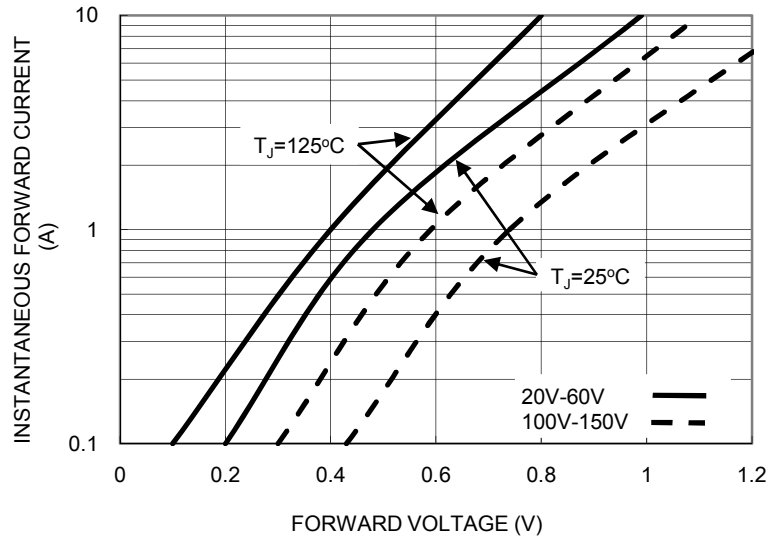
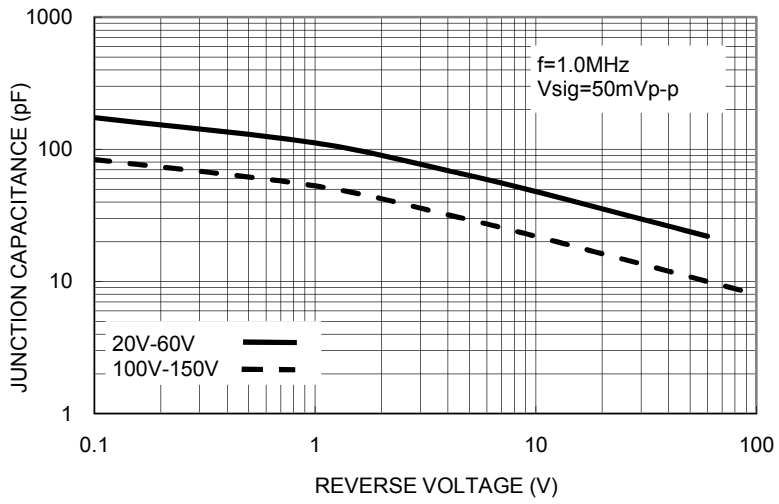
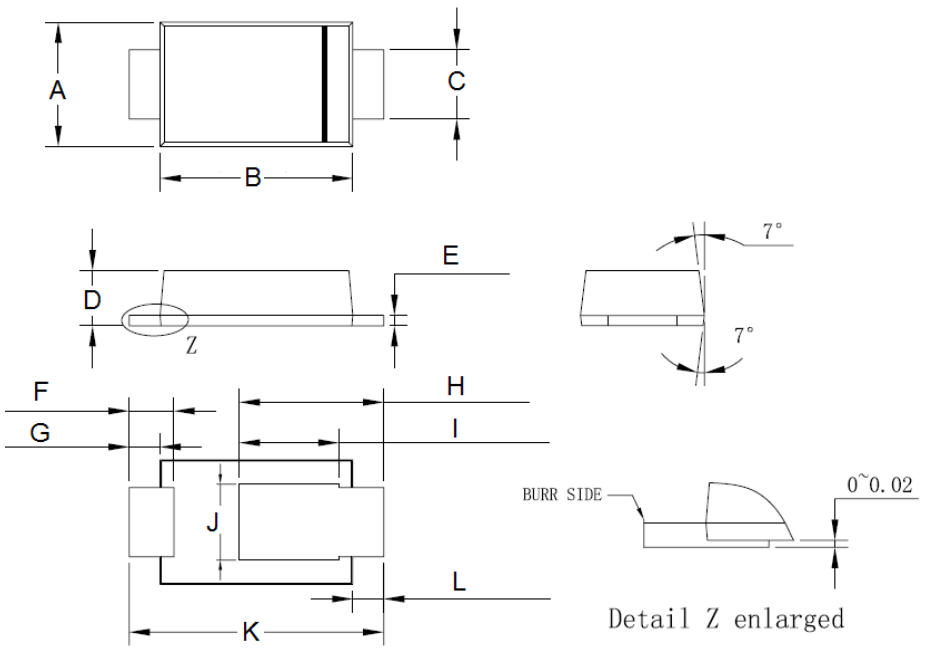


FIG. 5- TYPICAL JUNCTION CAPACITANCE



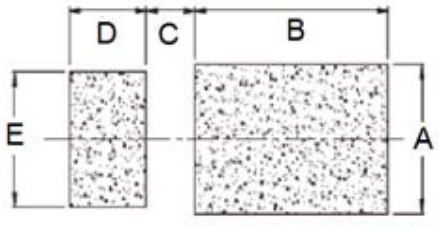
PACKAGE OUTLINE DIMENSIONS

SOD-123HE



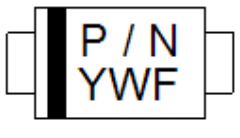
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.65	1.95	0.065	0.077
B	2.60	3.00	0.102	0.118
C	0.85	1.15	0.033	0.045
D	0.75	0.85	0.030	0.033
E	0.10	0.20	0.004	0.008
F	0.55	0.75	0.022	0.030
G	0.35	0.55	0.014	0.022
H	1.90	2.30	0.075	0.091
I	1.35	1.55	0.053	0.061
J	0.95	1.25	0.037	0.049
K	3.50	3.90	0.138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