

1A, 40V - 200V Surface Mount Schottky Barrier Rectifiers

FEATURES

- Ideal for automated placement
- Compact package size, profile <0.85mm
- Ultra low leakage current
- 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


SOD-123HE

TYPICAL APPLICATIONS

The devices are designed for high frequency miniature switched mode power supplies. Its excellent high switching and ultra low leakage current are ideal solution for the polarity protection, especially for rail to rail protection in automotive application.

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: 21mg (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)							
PARAMETER	SYMBOL	SS1H4LS	SS1H6LS	SS1H10LS	SS1H15LS	SS1H20LS	UNIT
Marking code		1H4LS	1H6LS	1H10LS	1H15LS	1H20LS	V
Maximum repetitive peak reverse voltage	V _{RRM}	40	60	100	150	200	V
Maximum RMS voltage	V _{RMS}	28	42	70	105	140	V
Maximum DC blocking voltage	V _{DC}	40	60	100	150	200	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 @1.0A (Note 1)	V _F	0.65	0.70	0.80	0.85		V
Maximum reverse current @ rated V _R	I _R	1					μA
		0.3		0.2		0.1	mA
Typical thermal resistance	R _{θJL}	20					°C/W
	R _{θJA}	72					
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
SS1HxxLS (Note 1, 2)	H	RV	G	SOD-123HE	3,000 / 7" Reel
		RQ		SOD-123HE	10,000 / 13" Reel

Note 1: "xx" defines voltage from 40V (SS1H4LS) to 200V (SS1H20LS)

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

EXAMPLE

PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
SS1H20LSHRVG	SS1H20LS	H	RV	G	AEC-Q101 qualified Green compound

RATINGS AND CHARACTERISTICS CURVES

($T_A=25^{\circ}\text{C}$ unless otherwise noted)

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

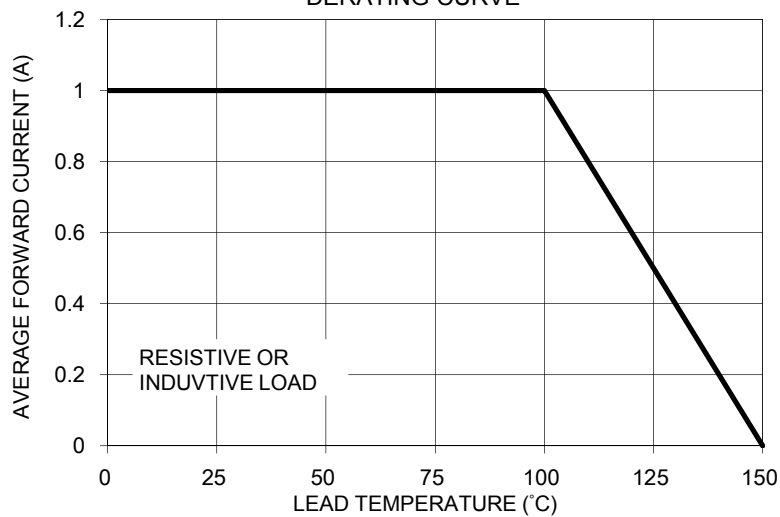


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

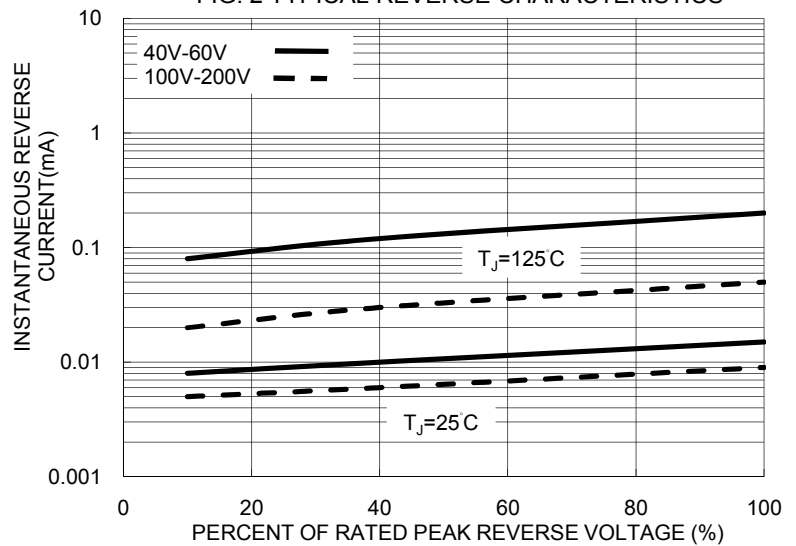


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



FIG. 4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

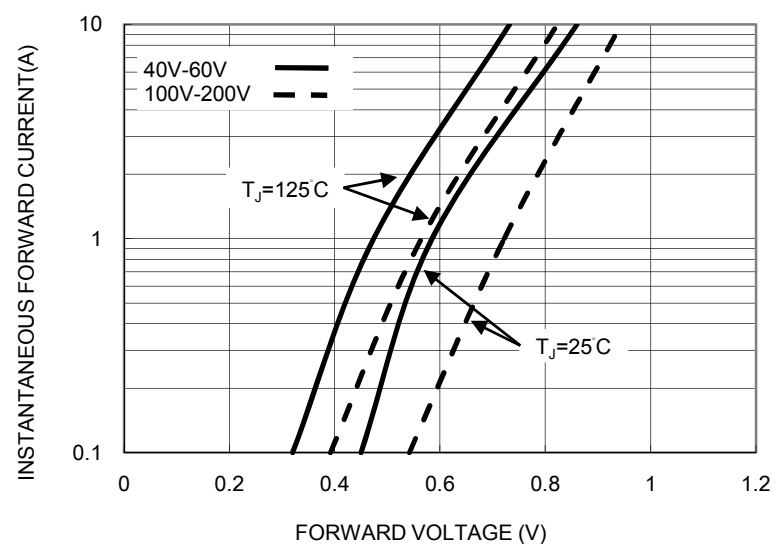
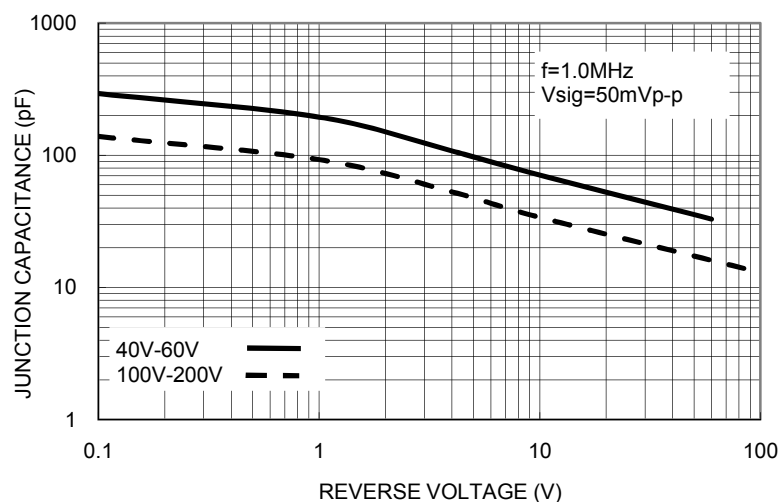
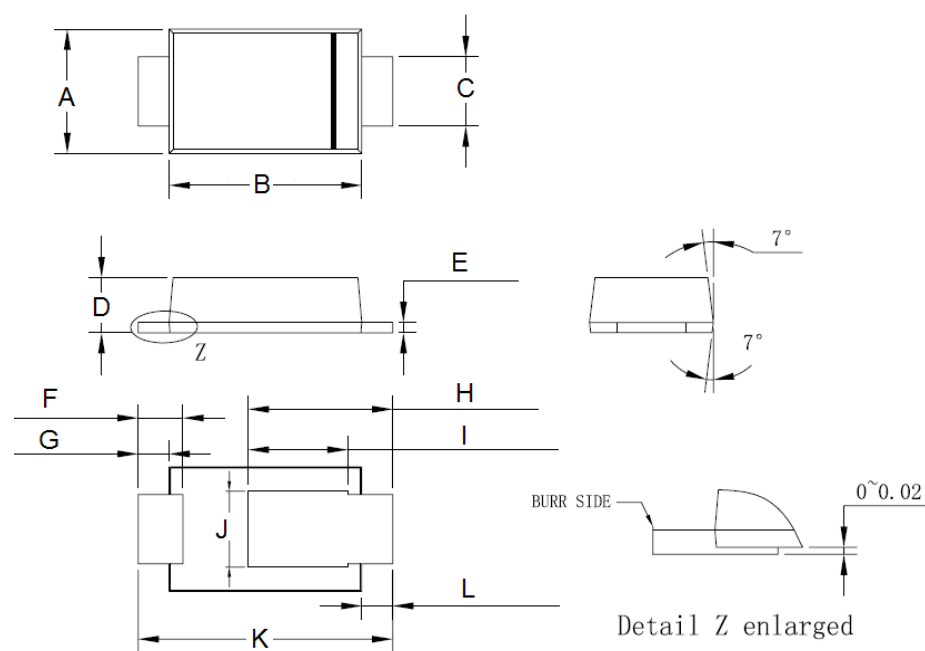


FIG. 5 TYPICAL JUNCTION CAPACITANCE



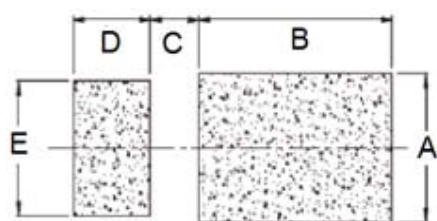
PACKAGE OUTLINE DIMENSIONS

SOD-123HE



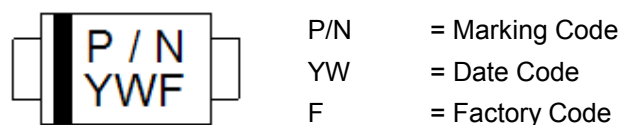
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.65	1.95	0.065	0.077
B	2.60	3.00	0.102	0.118
C	0.85	1.15	0.033	0.045
D	0.75	0.85	0.030	0.033
E	0.10	0.20	0.004	0.008
F	0.55	0.75	0.022	0.030
G	0.35	0.55	0.014	0.022
H	1.90	2.30	0.075	0.091
I	1.35	1.55	0.053	0.061
J	0.95	1.25	0.037	0.049
K	3.50	3.90	0.138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



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