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

FEATURES

- Ideal for automated placement
- Compact package size, profile <0.85mm
- Ultra low leakage current
- High surge current capability
- Low power loss, high efficiency
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

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.

MECHANICAL DATA

- Case: SOD-123HE
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.021g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	1	A
V_{RRM}	40 - 200	V
I_{FSM}	30	A
$T_{J\ MAX}$	150	°C
Package	SOD-123HE	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

SOD-123HE

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	SS1H4 LS	SS1H6 LS	SS1H10 LS	SS1H15 LS	SS1H20 LS	UNIT
Marking code on the device		1H4LS	1H6LS	1H10LS	1H15LS	1H20LS	
Repetitive peak reverse voltage	V_{RRM}	40	60	100	150	200	V
Reverse voltage, total rms value	$V_{R(RMS)}$	28	42	70	105	140	V
Forward current	I_F	1					A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30					A
Junction temperature	T_J	- 55 to +150					°C
Storage temperature	T_{STG}	- 55 to +150					°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	20	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	72	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	SS1H4LS	I_F = 1A, T_J = 25°C	V_F	-	0.65	V
	SS1H6LS			-	0.70	V
	SS1H10LS			-	0.80	V
	SS1H15LS SS1H20LS			-	0.85	V
Reverse current @ rated V_R[2]	SS1H4LS SS1H6LS	T_J = 25°C	I_R	-	1.0	μA
		T_J = 125°C		-	0.3	mA
	SS1H10LS SS1H15LS	T_J = 25°C		-	1.0	μA
		T_J = 125°C		-	0.2	mA
	SS1H20LS	T_J = 25°C		-	1.0	μA
		T_J = 125°C		-	0.1	mA

Notes:

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

ORDERING INFORMATION

ORDERING CODE[1]	PACKAGE	PACKING
SS1HxLS	SOD-123HE	10,000 / Tape & Reel

Notes:

1. “x” defines voltage from 40V(SS1H4LS) to 200V(SS1H20LS)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

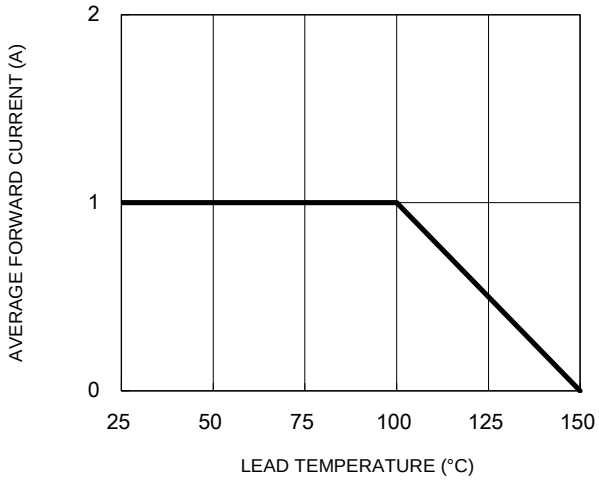


Fig.2 Typical Junction Capacitance

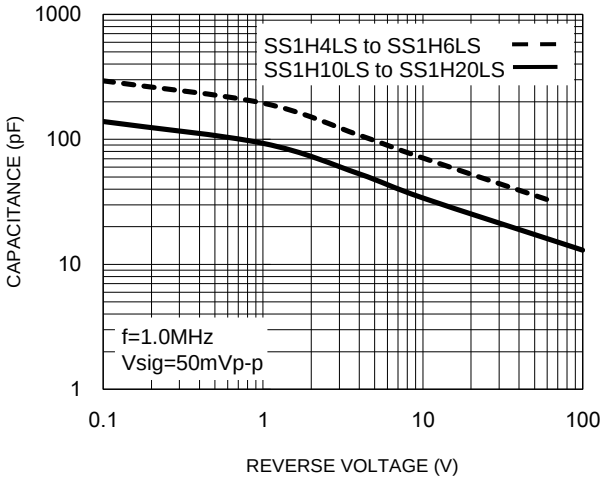


Fig.3 Typical Reverse Characteristics

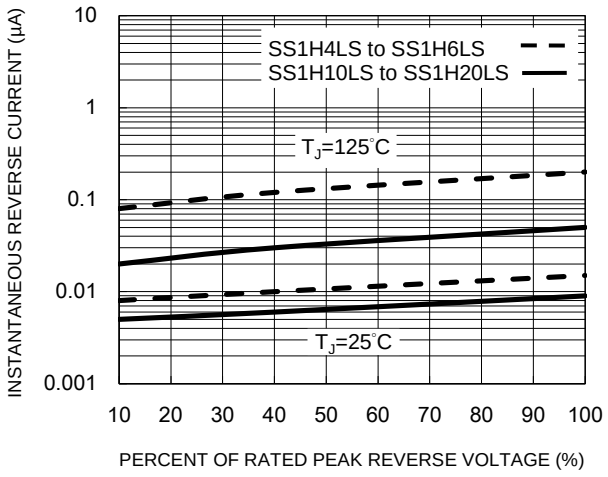


Fig.4 Typical Forward Characteristics

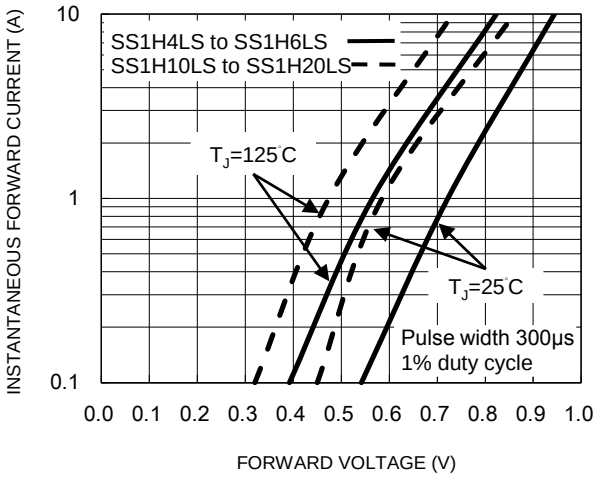
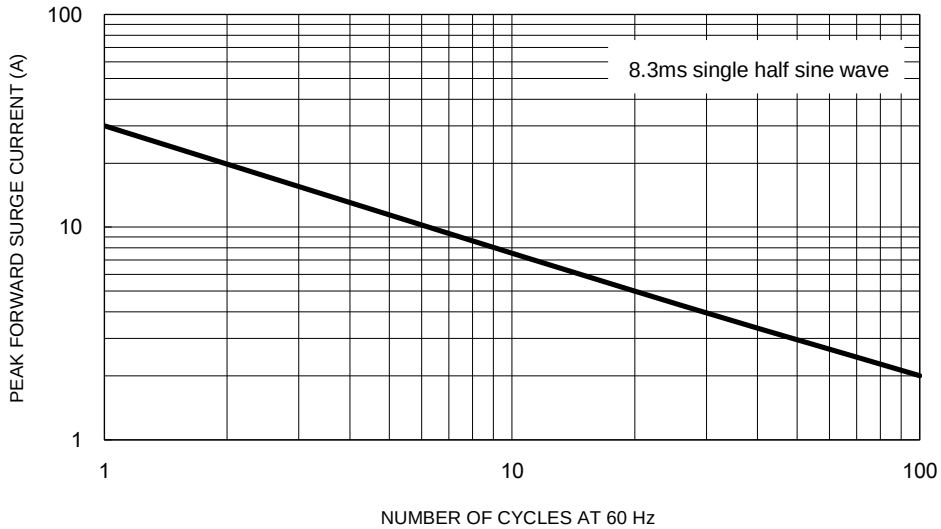
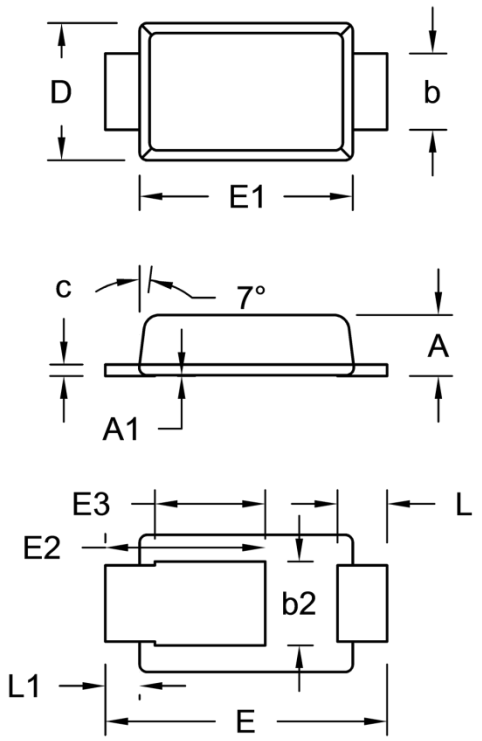


Fig.5 Maximum Non-Repetitive Forward Surge Current



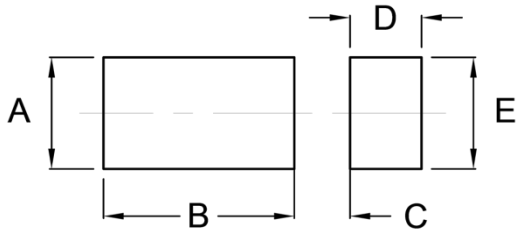
PACKAGE OUTLINE DIMENSIONS

SOD-123HE



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.75	0.85	0.030	0.033
A1	0.00	0.02	0.000	0.001
b	0.85	1.15	0.033	0.045
b2	0.95	1.25	0.037	0.049
c	0.10	0.20	0.004	0.008
D	1.65	1.95	0.065	0.077
E	3.50	3.90	0.138	0.154
E1	2.60	3.00	0.102	0.118
E2	1.90	2.30	0.075	0.091
E3	1.35	1.55	0.053	0.061
L	0.55	0.75	0.022	0.030
L1	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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