

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

FEATURES

- AEC-Q101 qualified
- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Monitor
- DC/DC converters
- TV

MECHANICAL DATA

- Case: SOD-123W
- 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: 0.016g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	1	A
V_{RRM}	40 - 200	V
I_{FSM}	30	A
$T_{J MAX}$	175	°C
Package	SOD-123W	
Configuration	Single die	


SOD-123W


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

PARAMETER	SYMBOL	SS1H 4LWH	SS1H 6LWH	SS1H 10LWH	SS1H 15LWH	SS1H 20LWH	UNIT
Marking code on the device		1H4LW	1H6LW	1H10LW	1H15LW	1H20LW	
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 +175			°C
Storage temperature	T_{STG}			- 55 to +175			°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	25	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	80	°C/W

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT	
Forward voltage ⁽¹⁾	$I_F = 1\text{A}, T_J = 25^\circ\text{C}$	V_F	-	0.65	V	
			-	0.70	V	
			-	0.80	V	
			-	0.85	V	
			-	0.85	V	
Reverse current @ rated V_R ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	0.5	μA	
Reverse current @ rated V_R ⁽²⁾	$T_J = 125^\circ\text{C}$		-	0.3	mA	
			-	0.2	mA	
			-	0.1	mA	
			-	0.1	mA	

Notes:

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

ORDERING INFORMATION

ORDERING CODE ⁽¹⁾	PACKAGE	PACKING
SS1HxLWH	SOD-123W	10,000 / Tape & Reel

Notes:

1. "x" defines voltage from 40V(SS1H4LWH) to 200V(SS1H20LWH)

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

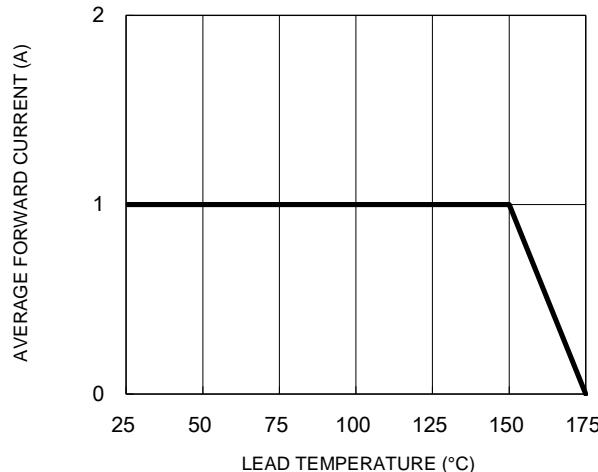


Fig.2 Typical Junction Capacitance

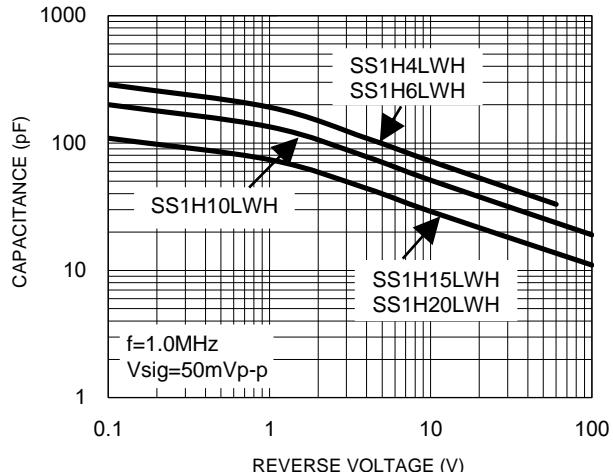


Fig.3 Typical Reverse Characteristics

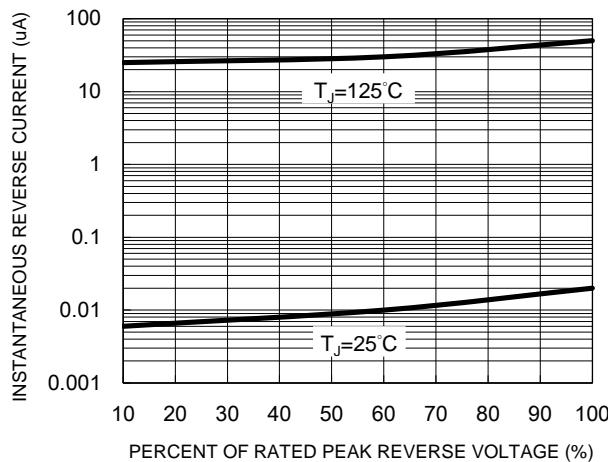


Fig.4 Typical Forward Characteristics

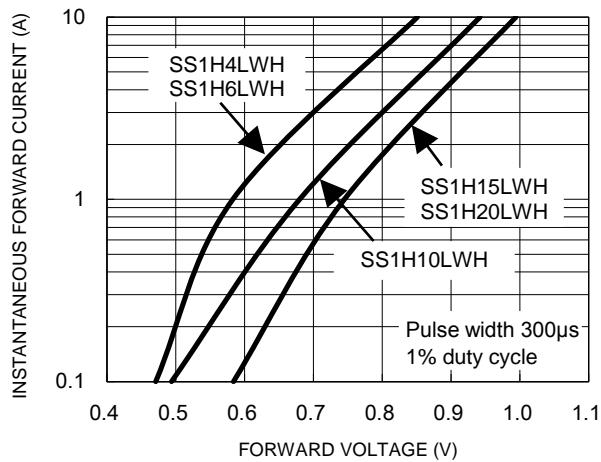
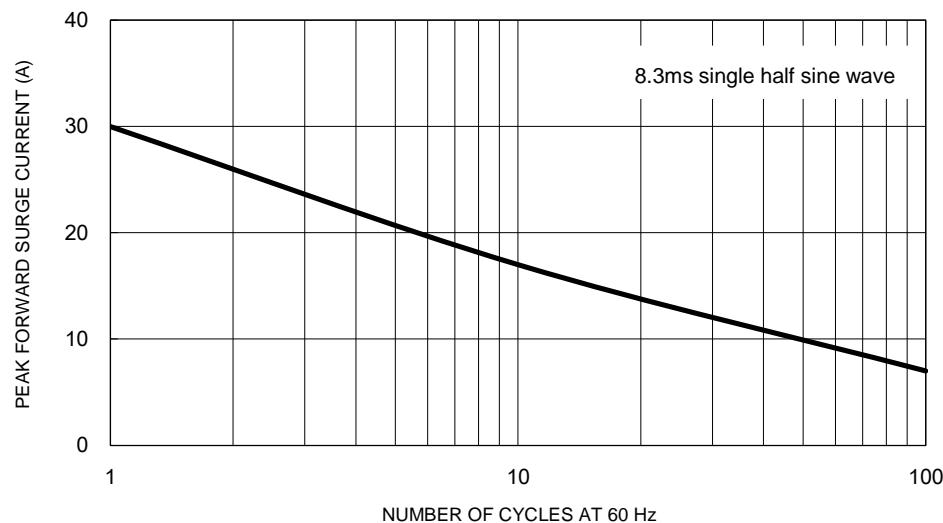
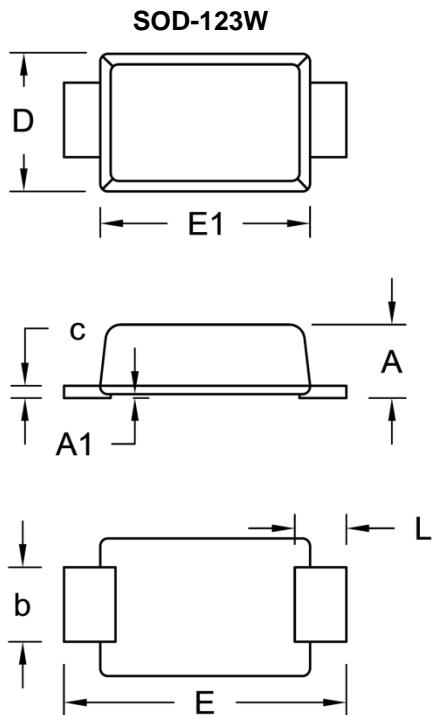
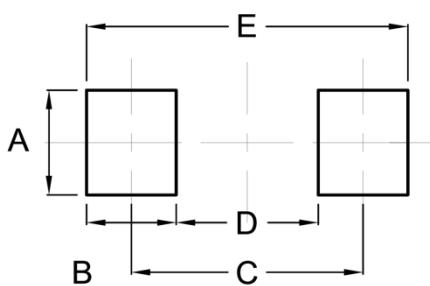


Fig.5 Maximum Non-Repetitive Forward Surge Current

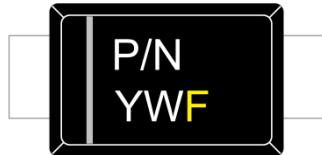


PACKAGE OUTLINE DIMENSIONS


DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.90	1.02	0.035	0.040
A1	0.00	0.10	0.000	0.004
b	0.90	1.05	0.035	0.041
c	0.10	0.22	0.004	0.009
D	1.70	1.90	0.067	0.075
E	3.60	3.80	0.142	0.150
E1	2.60	2.90	0.102	0.114
L	0.50	0.85	0.020	0.033

SUGGESTED PAD LAYOUT


Symbol	Unit (mm)	Unit (inch)
A	1.40	0.055
B	1.20	0.047
C	3.10	0.122
D	1.90	0.075
E	4.30	0.169

MARKING DIAGRAM


P/N = Marking Code

YW = Date Code

F = Factory Code

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