

3A, 40V - 200V Schottky Barrier Surface Mount Rectifier

FEATURES

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

APPLICATIONS

- Low voltage, high freq. inverter
- DC/DC converter
- Freewheeling diodes
- Reverse battery protection
- Car lighting

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	3	A
V_{RRM}	40 - 200	V
I_{FSM}	80	A
T_{JMAX}	125, 150	°C
Package	SOD-123W	
Configuration	Single die	


SOD-123W


ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)							
PARAMETER	SYMBOL	SS34 LWH	SS36 LWH	SS310 LWH	SS315 LWH	SS320 LWH	UNIT
Marking code on the device		34LW	36LW	30LW	3ALW	3BLW	
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	3					A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	80					A
Junction temperature	T_J	- 55 to +125	- 55 to +150				°C
Storage temperature	T_{STG}	- 55 to +125	- 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	$R_{\theta JA}$	75	°C/W

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 3\text{A}, T_J = 25^\circ\text{C}$	V_F	-	0.55	V
			-	0.70	V
			-	0.85	V
			-	0.95	V
Reverse current @ rated V_R ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	200	μA
			-	20	μA
			-	10	μA
			-		

Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION

ORDERING CODE ⁽¹⁾	PACKAGE	PACKING
SS3xLWH	SOD-123W	10,000 / Tape & Reel

Notes:

1. "x" defines voltage from 40V(SS34LWH) to 200V(SS320LWH)

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

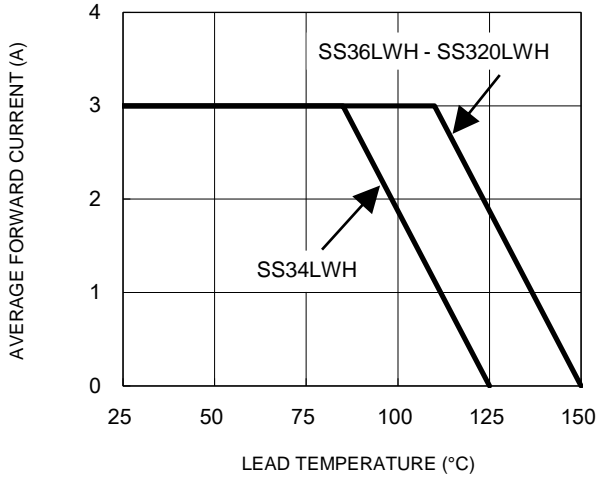


Fig.2 Typical Junction Capacitance

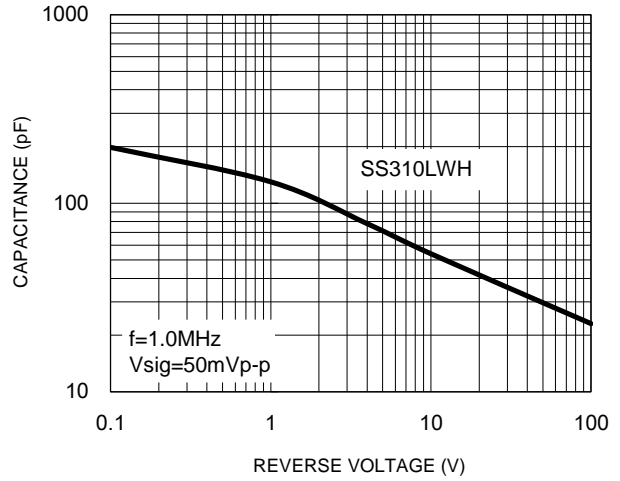


Fig.3 Typical Reverse Characteristics

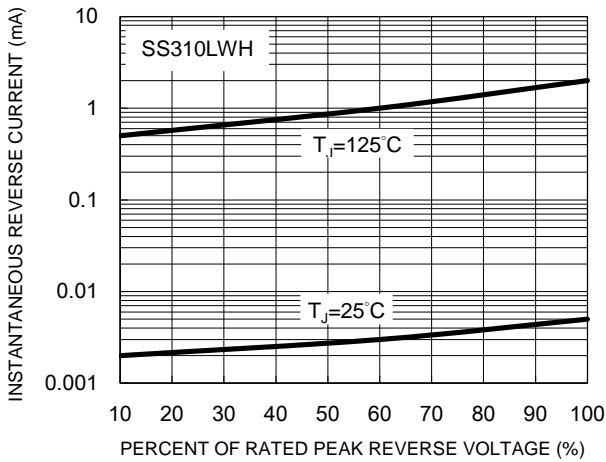


Fig.4 Typical Forward Characteristics

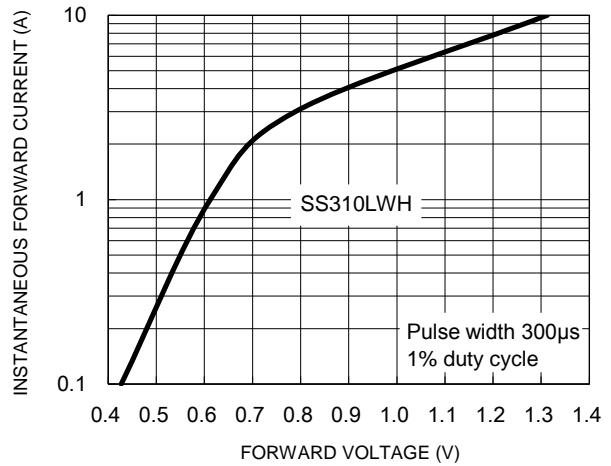
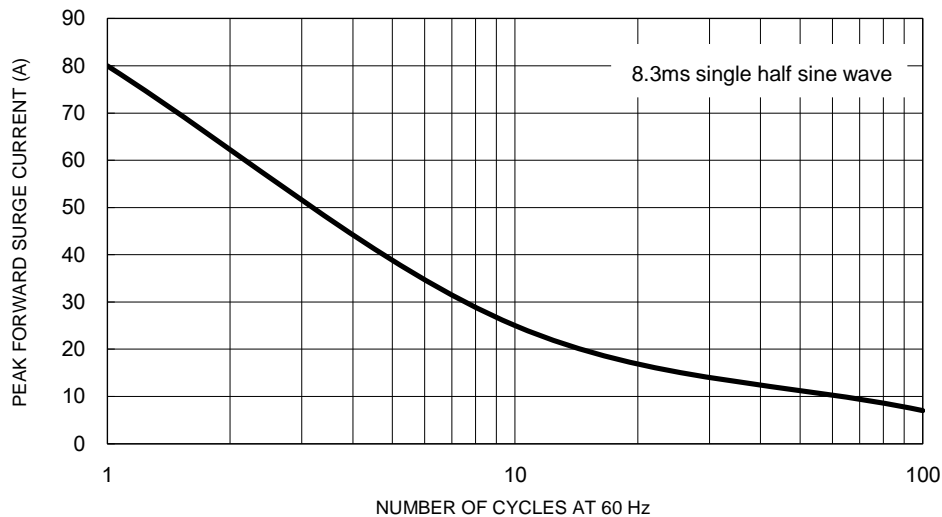
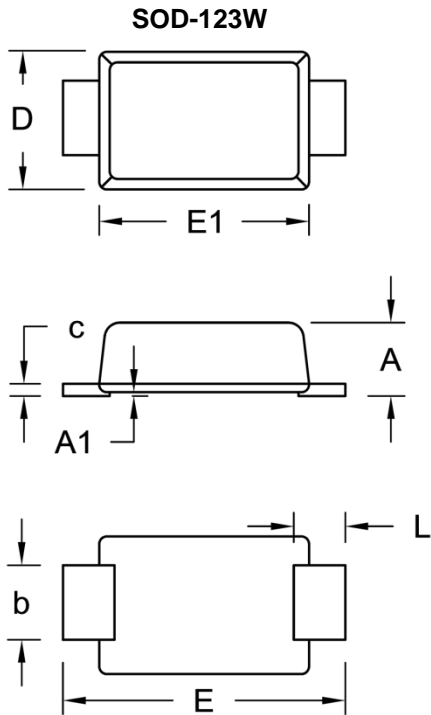


Fig.5 Maximum Non-Repetitive Forward Surge Current

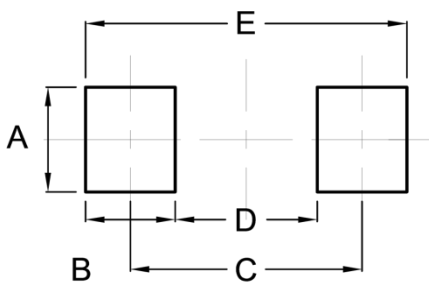


PACKAGE OUTLINE DIMENSIONS



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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