1A, 40V - 150V Schottky Barrier Surface Mount Rectifier

FEATURES

- 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

- 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 - 150	V
I_{FSM}	30	A
$T_{J\ MAX}$	125, 150	°C
Package	SOD-123W	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

SOD-123W

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)						
PARAMETER	**SYMBOL**	**SS14LW**	**SS16LW**	**SS110LW**	**SS115LW**	**UNIT**
Marking code on the device		14LW	16LW	10LW	A5LW	
Repetitive peak reverse voltage	V_{RRM}	40	60	100	150	V
Reverse voltage, total rms value	$V_{R(RMS)}$	28	42	70	105	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 +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	$R_{\Theta JL}$	25	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	80	°C/W

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	SS14LW	I_F = 1A, T_J = 25°C	V_F	-	0.55	V
	SS16LW			-	0.70	V
	SS110LW			-	0.80	V
	SS115LW			-	0.95	V
Reverse current @ rated V_R[2]	SS14LW SS16LW	T_J = 25°C	I_R	-	100	μA
	SS110LW SS115LW			-	10	μA

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1]	PACKAGE	PACKING
SS1xLW	SOD-123W	10,000 / Tape & Reel

Notes:

1. “x” defines voltage from 40V(SS14LW) to 150V(SS115LW)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

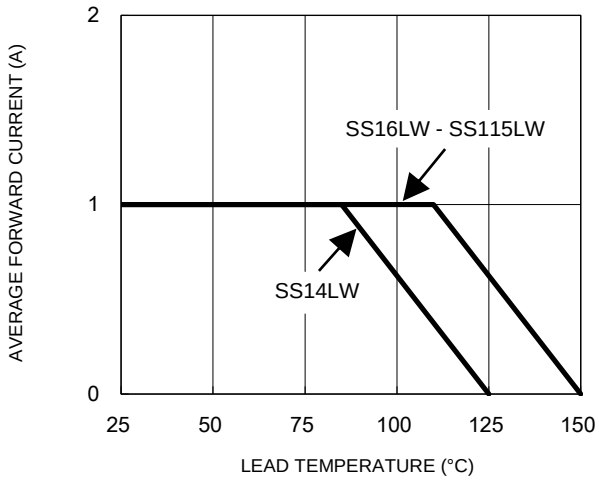


Fig.2 Typical Junction Capacitance

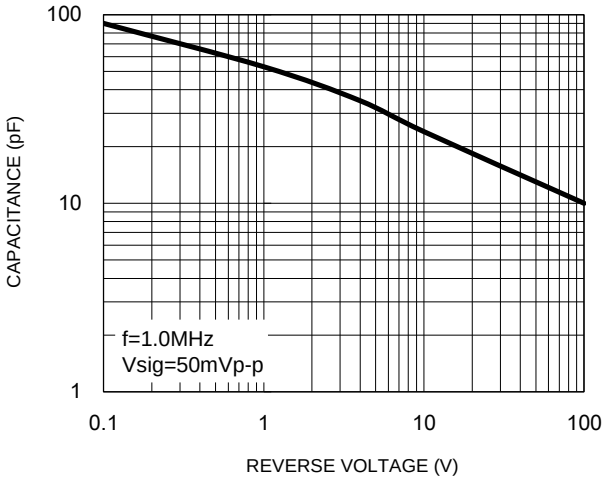


Fig.3 Typical Reverse Characteristics

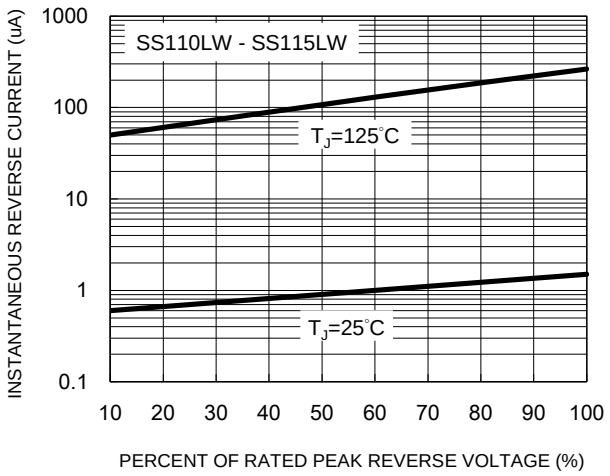


Fig.4 Typical Forward Characteristics

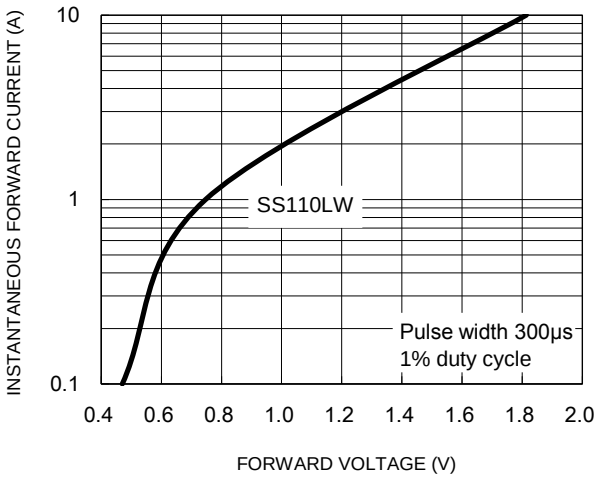
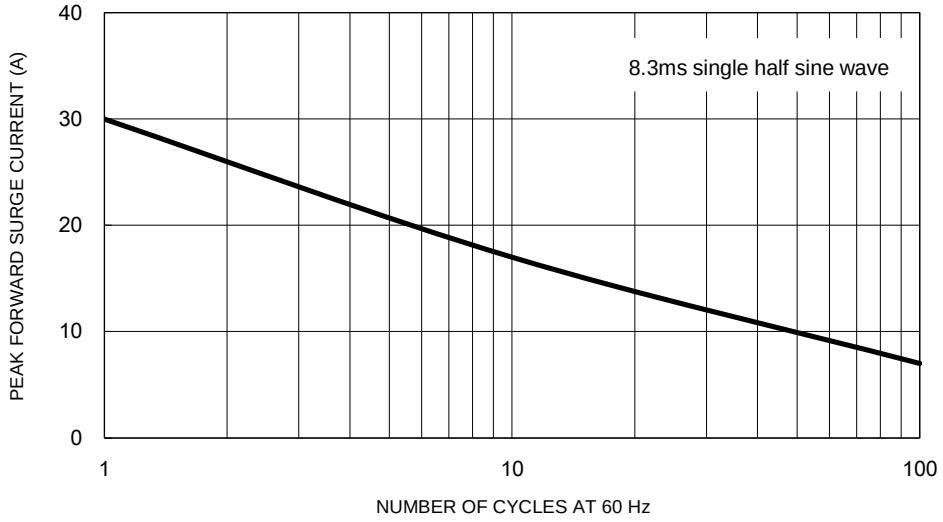
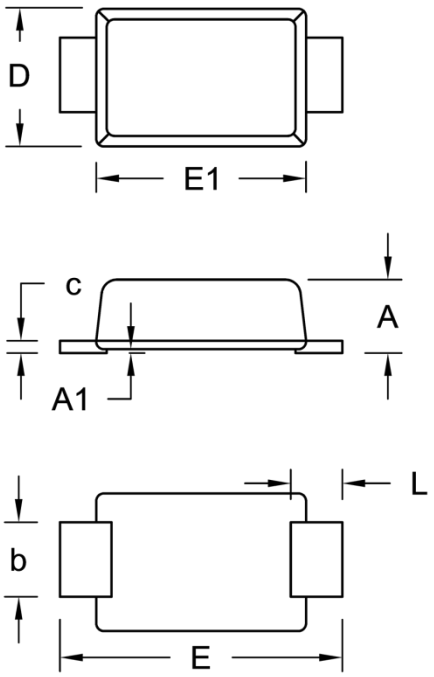


Fig.5 Maximum Non-Repetitive Forward Surge Current



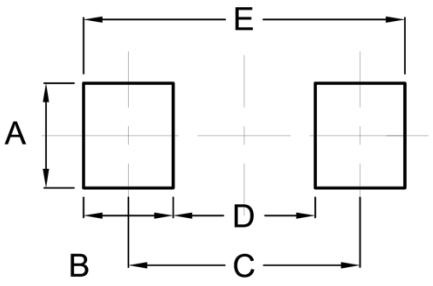
PACKAGE OUTLINE DIMENSIONS

SOD-123W



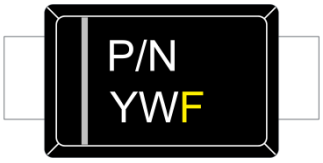
DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.90	1.02	0.035	0.040
A1	0.00	0.10	0.000	0.004
b	0.90	1.05	0.035	0.041
c	0.10	0.22	0.004	0.009
D	1.70	1.90	0.067	0.075
E	3.60	3.80	0.142	0.150
E1	2.60	2.90	0.102	0.114
L	0.50	0.85	0.020	0.033

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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