

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

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
$T_J \text{ MAX}$	175	°C
Package	SOD-123W	
Configuration	Single die	


**HALOGEN
FREE**

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⁾	SS1H4LWH	I _F = 1A, T _J = 25°C	V _F	-	0.65	V
	SS1H6LWH			-	0.70	V
	SS1H10LWH			-	0.80	V
	SS1H15LWH			-	0.85	V
	SS1H20LWH			-	0.85	V
Reverse current @ rated V _R ⁽²⁾		T _J = 25°C	I _R	-	0.5	μA
Reverse current @ rated V _R ⁽²⁾	SS1H4LWH	T _J = 125°C		-	0.3	mA
	SS1H6LWH			-	0.3	mA
	SS1H10LWH			-	0.2	mA
	SS1H15LWH			-	0.2	mA
	SS1H20LWH		-	0.1	mA	

Notes:

- Pulse test with $PW = 0.3\text{ms}$
- Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION

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

Notes:

- "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

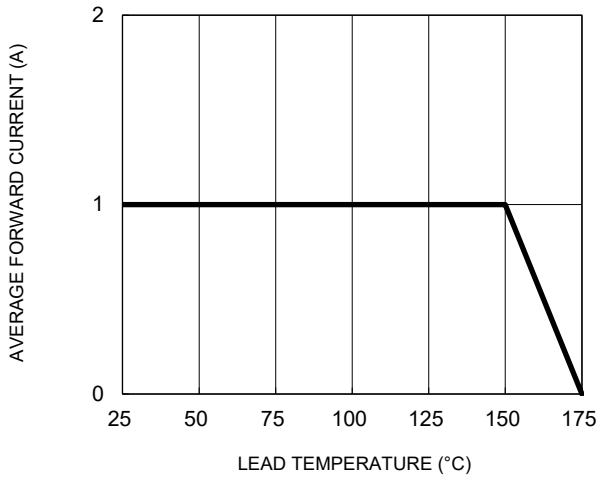


Fig.2 Typical Junction Capacitance

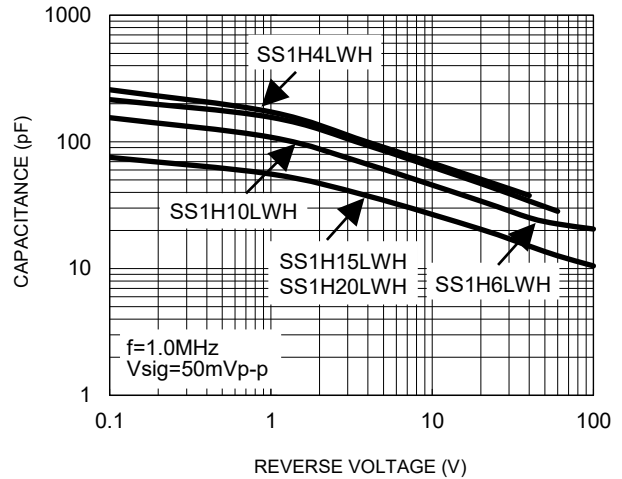


Fig.3 Typical Reverse Characteristics

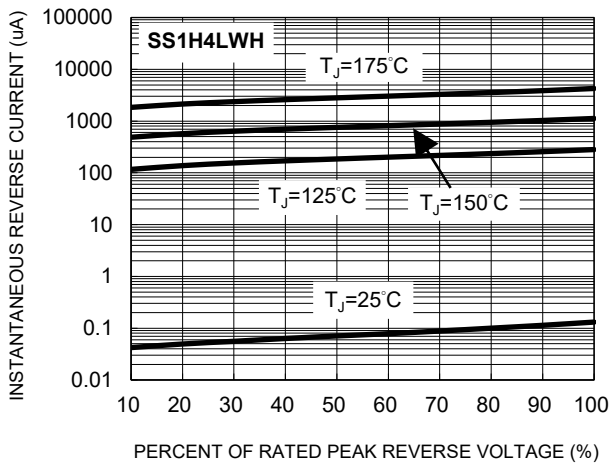


Fig.4 Typical Forward Characteristics

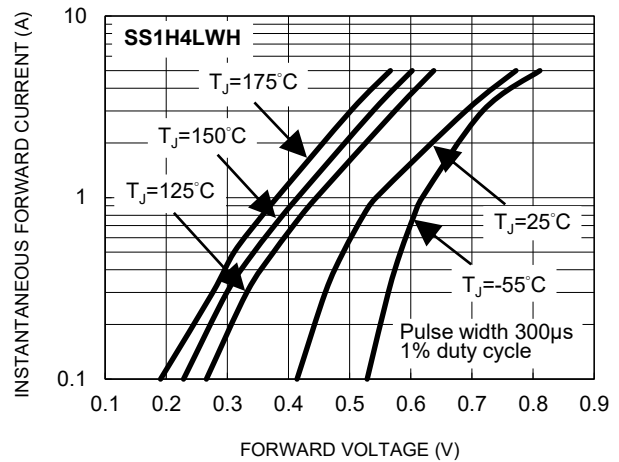


Fig.5 Typical Reverse Characteristics

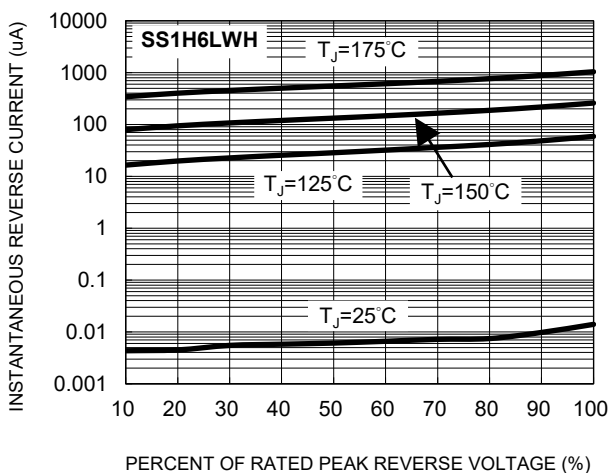
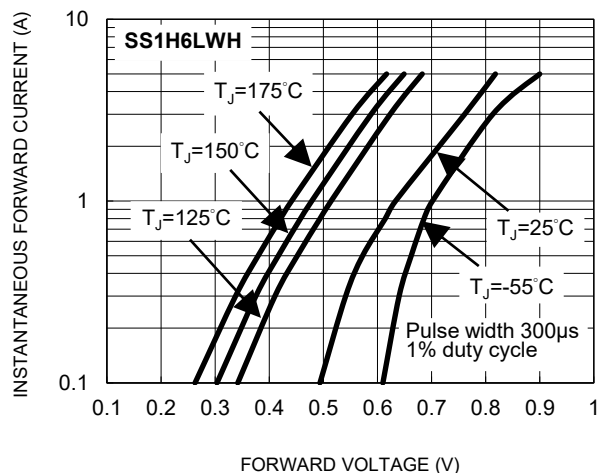


Fig.6 Typical Forward Characteristics



CHARACTERISTICS CURVES

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

Fig.7 Typical Reverse Characteristics

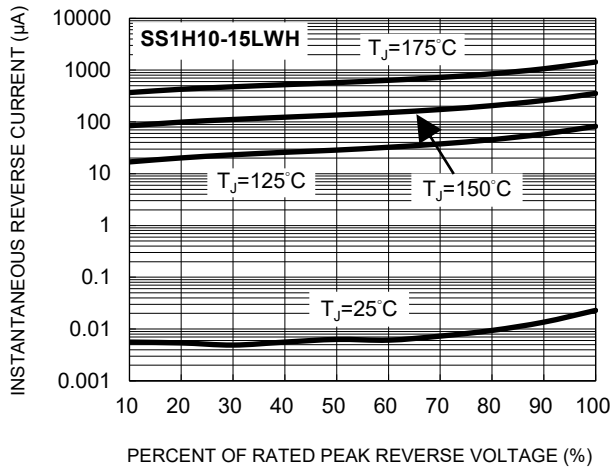


Fig.8 Typical Forward Characteristics

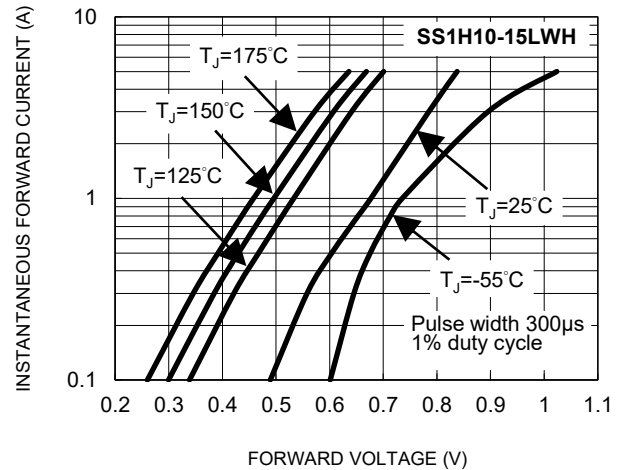


Fig.9 Typical Reverse Characteristics

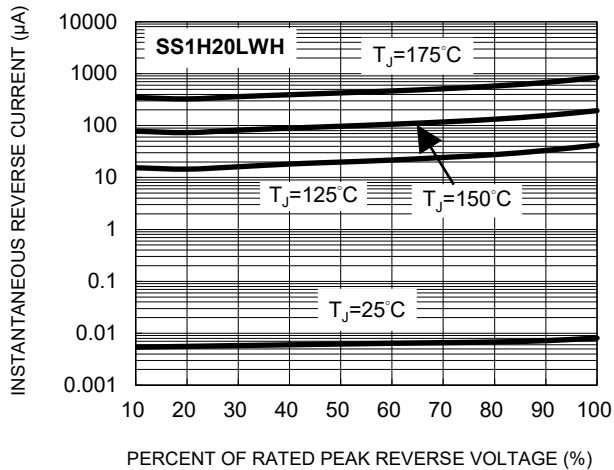


Fig.10 Typical Forward Characteristics

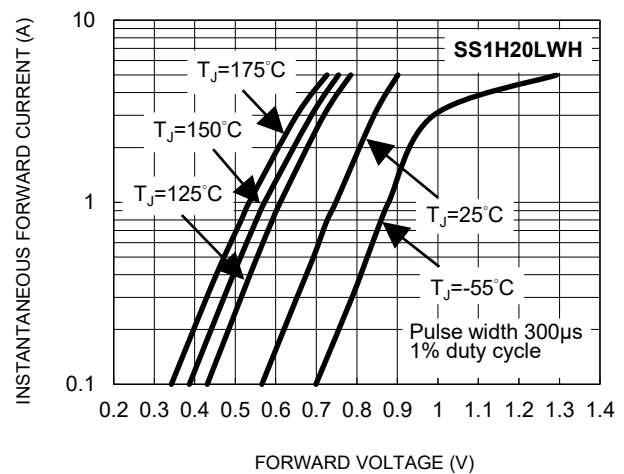
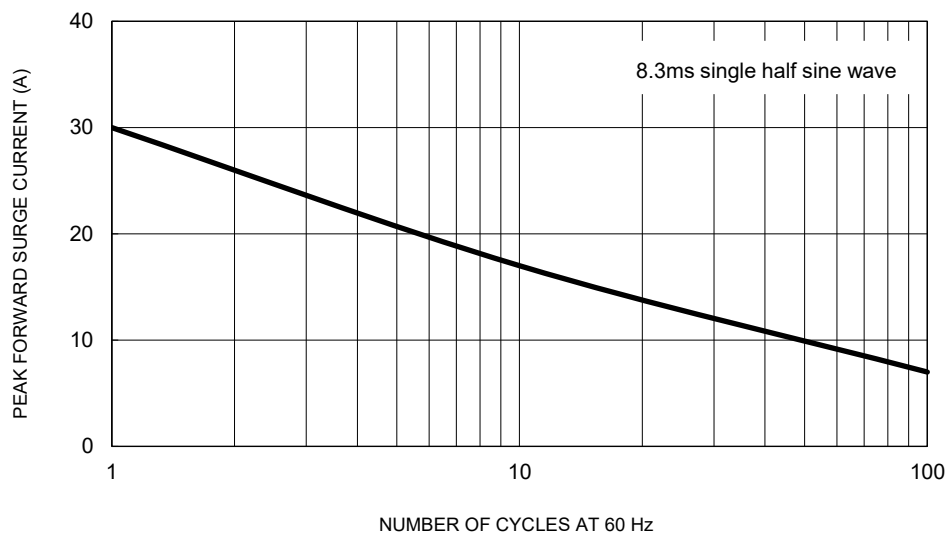
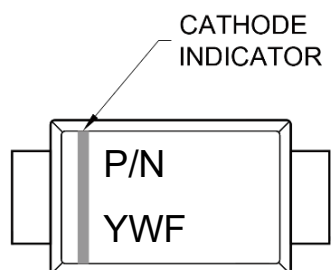
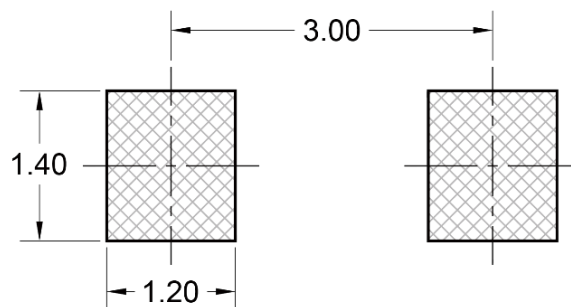
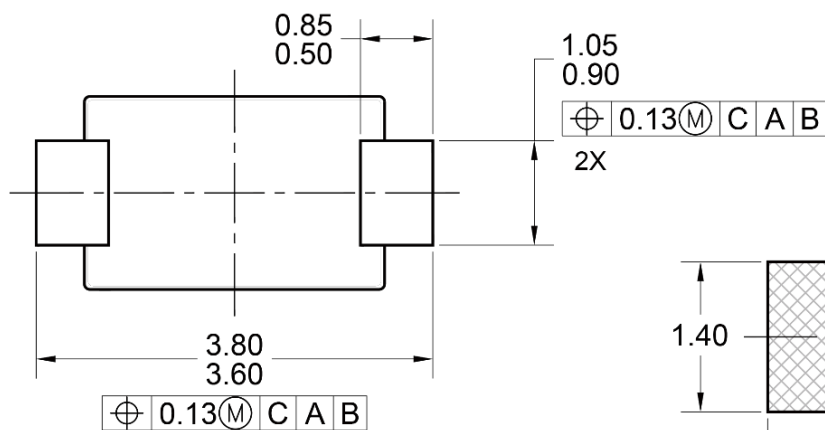
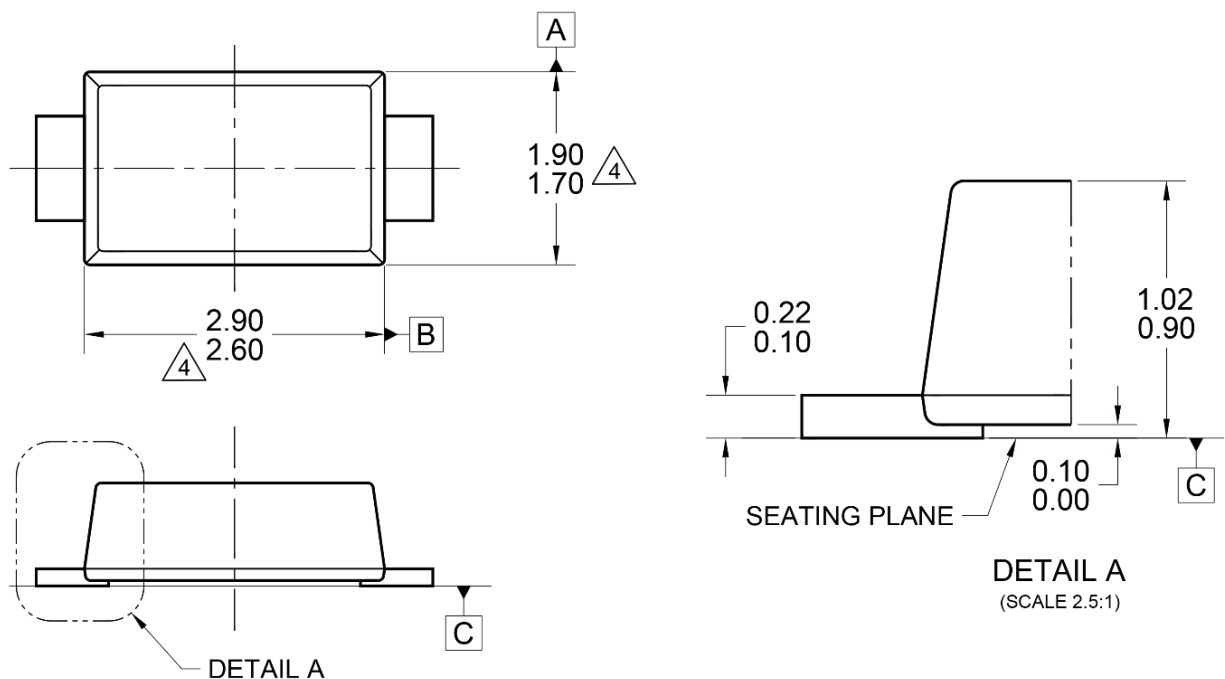


Fig.11 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

SOD-123W



MARKING DIAGRAM

P/N = MARKING CODE
YWF = DATE CODE
F = FACTORY CODE

NOTES: UNLESS OTHERWISE SPECIFIED

- ALL DIMENSIONS ARE IN MILLIMETERS.
- DIMENSIONING AND TOLERANCING PER ASME Y14.5M-2009.
- PACKAGE OUTLINE REFERENCE: JEDEC DO-219, VARIATION AB, ISSUE C.
- MODIFIED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH.
- DWG NO. REF: HQ2SD07-SOD123W-037 REV A.

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