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

FEATURES

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

Pb Pb-Free RoHS COMPLIANT HALOGEN FREE



SOD-123W



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)							
PARAMETER	**SYMBOL**	**SS1H 4LW**	**SS1H 6LW**	**SS1H 10LW**	**SS1H 15LW**	**SS1H 20LW**	**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°C unless otherwise noted)

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage(1)	SS1H4LW	I_F = 1A, T_J = 25°C	V_F	-	0.65	V
	SS1H6LW			-	0.70	V
	SS1H10LW			-	0.80	V
	SS1H15LW SS1H20LW			-	0.85	V
Reverse current @ rated V_R(2)		T_J = 25°C	I_R	-	0.5	μA
Reverse current @ rated V_R(2)	SS1H4LW SS1H6LW	T_J = 125°C		-	0.3	mA
	SS1H10LW SS1H15LW			-	0.2	mA
	SS1H20LW			-	0.1	mA

Notes:

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

ORDERING INFORMATION

ORDERING CODE(1)	PACKAGE	PACKING
SS1HxLW	SOD-123W	10,000 / Tape & Reel

Notes:

1. “x” defines voltage from 40V(SS1H4LW) to 200V(SS1H20LW)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

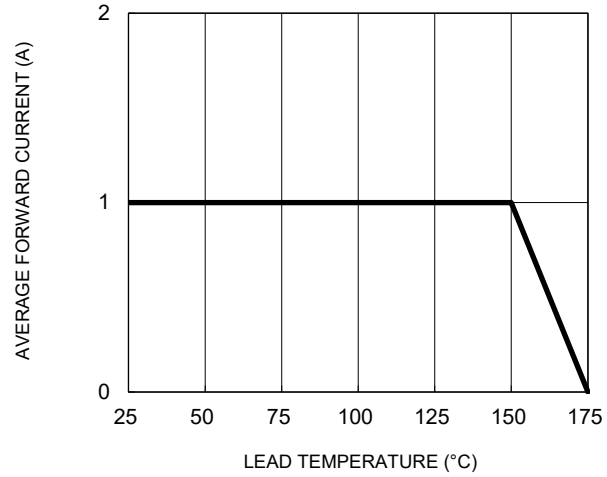


Fig.2 Typical Junction Capacitance

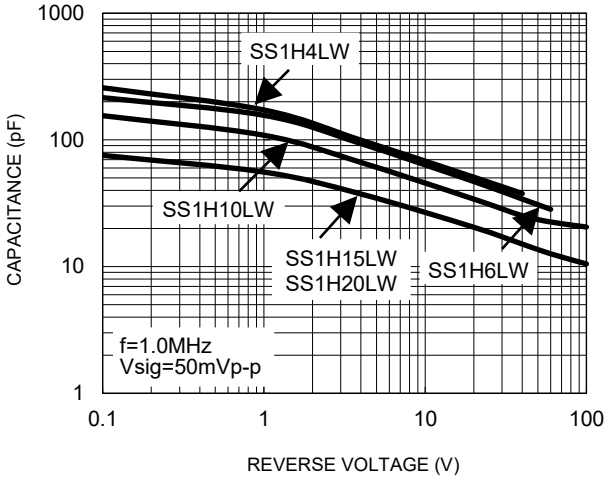


Fig.3 Typical Reverse Characteristics

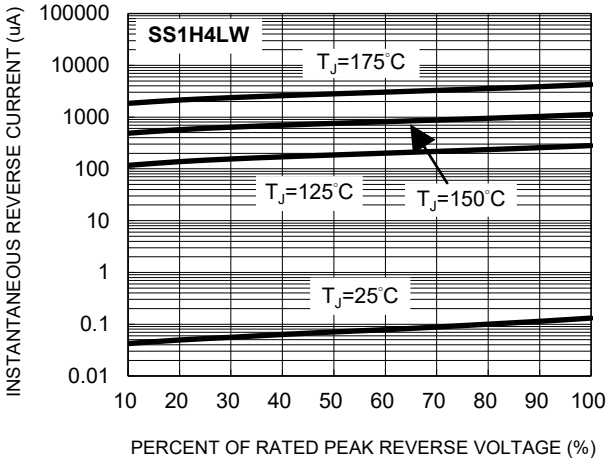


Fig.4 Typical Forward Characteristics

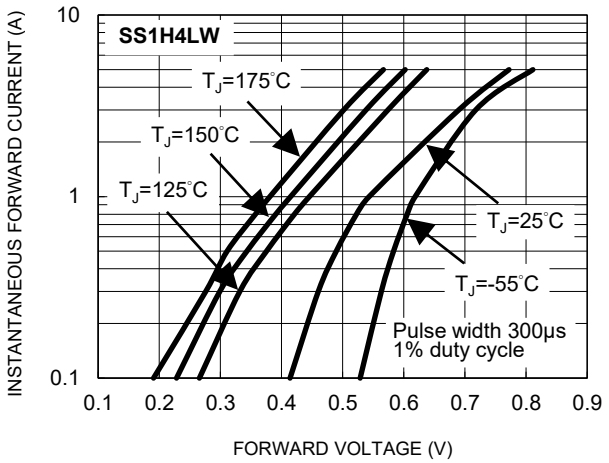


Fig.5 Typical Reverse Characteristics

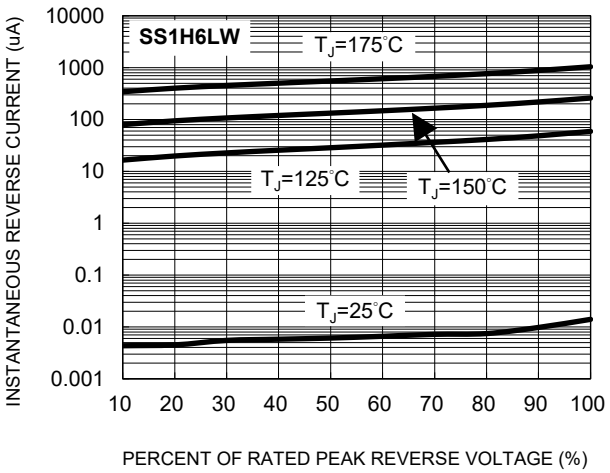
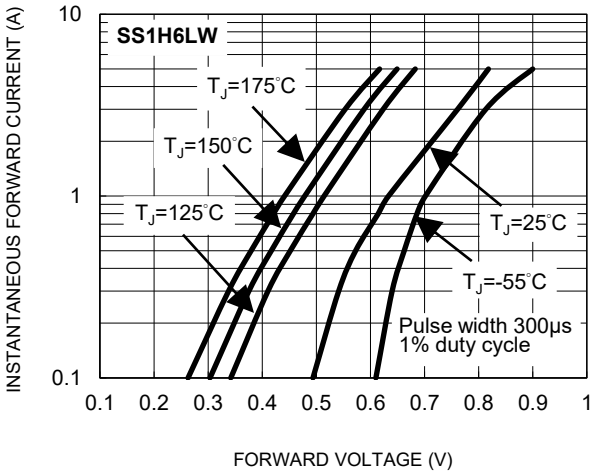


Fig.6 Typical Forward Characteristics



CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.7 Typical Reverse Characteristics

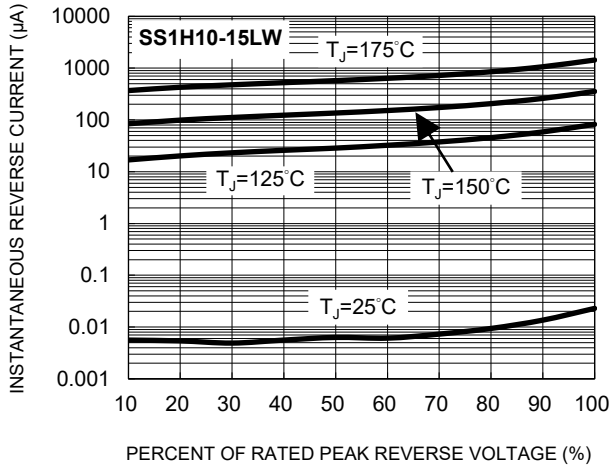


Fig.8 Typical Forward Characteristics

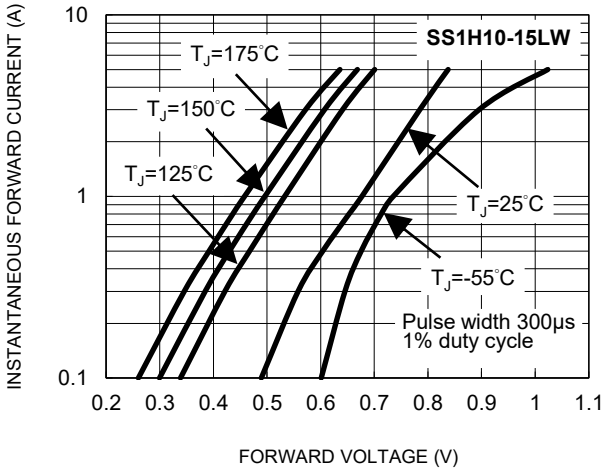


Fig.9 Typical Reverse Characteristics

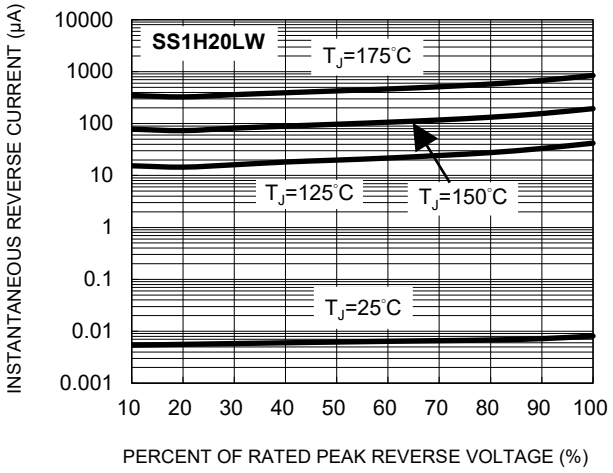


Fig.10 Typical Forward Characteristics

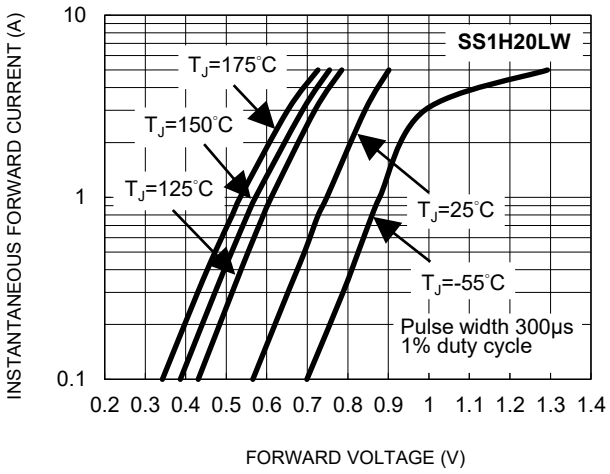
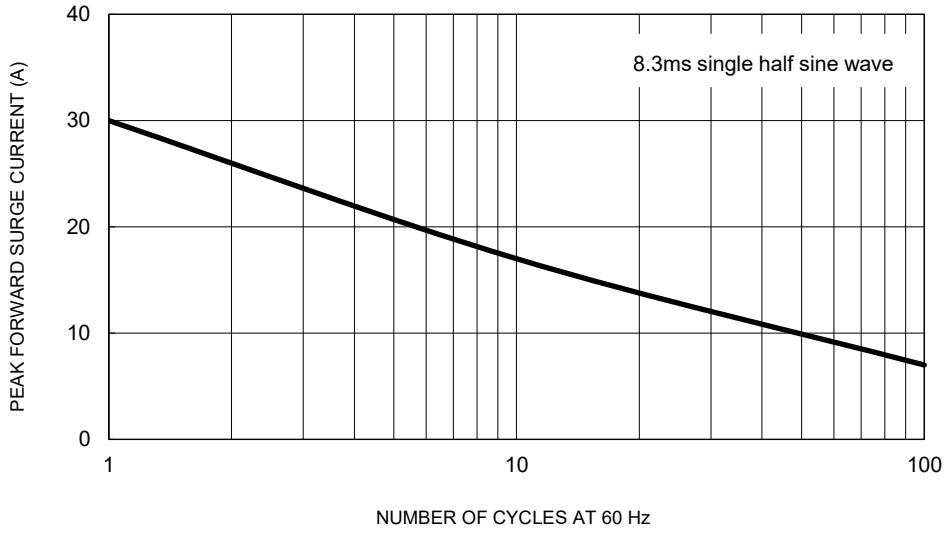
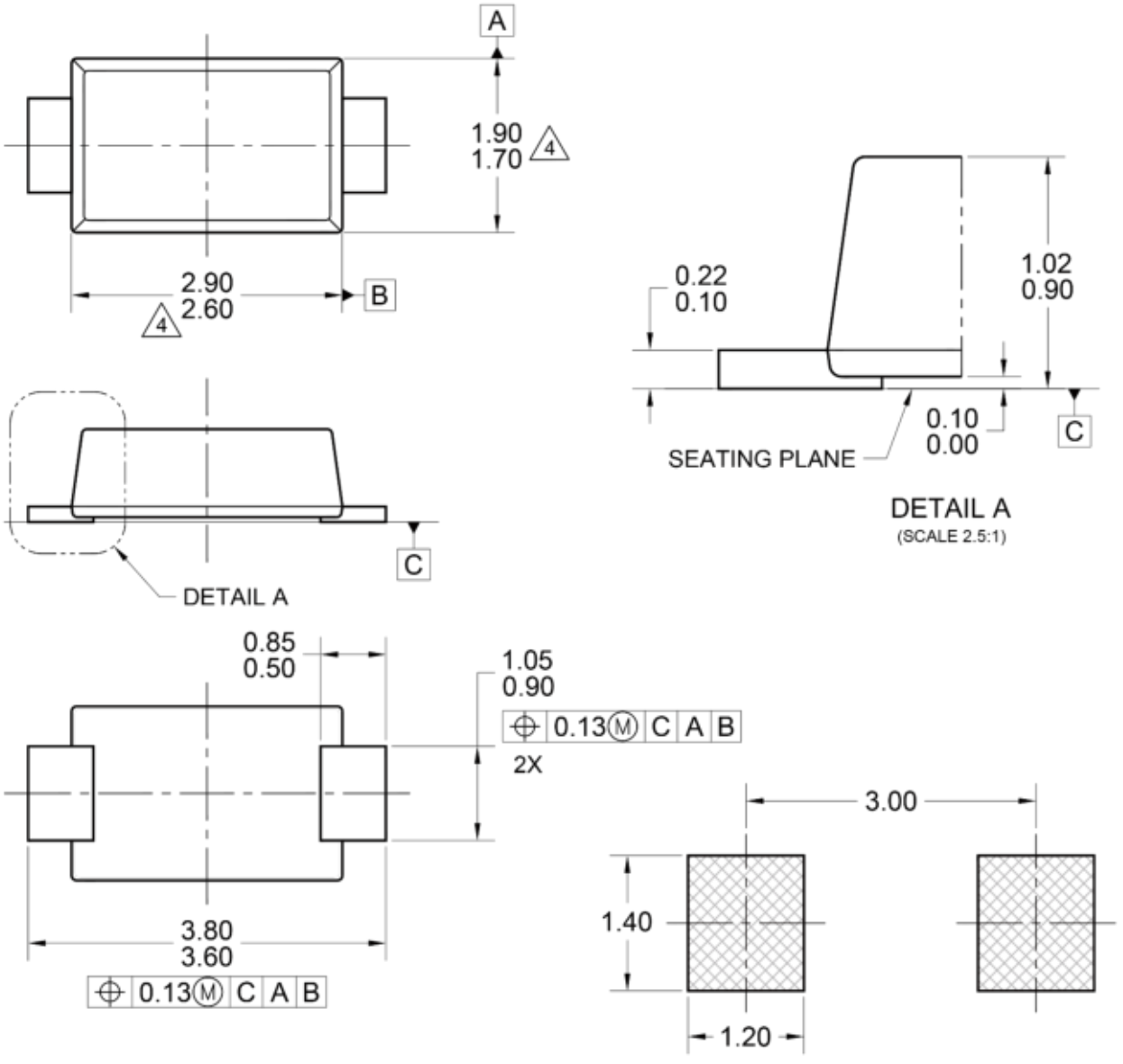


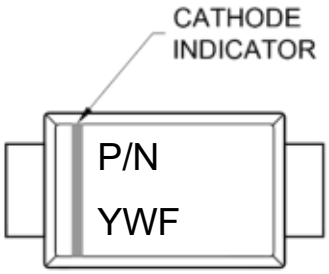
Fig.11 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

SOD-123W





MARKING DIAGRAM

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

NOTES: UNLESS OTHERWISE SPECIFIED

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

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