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

FEATURES

- Ideal for automated placement
- Compact package size, profile <0.85mm
- Ultra low leakage current
- High surge current capability
- Low power loss, high efficiency
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

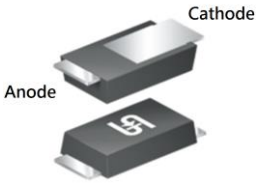
- Switching mode power supply (SMPS)
- Adapters
- DC to DC converter

MECHANICAL DATA

- Case: SOD-123HE
- 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: 0.021g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	1	A
V_{RRM}	40 - 200	V
I_{FSM}	30	A
$T_{J\ MAX}$	150	°C
Package	SOD-123HE	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE



SOD-123HE

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)							
PARAMETER	**SYMBOL**	**SS1H4LS**	**SS1H6LS**	**SS1H10LS**	**SS1H15LS**	**SS1H20LS**	**UNIT**
Marking code on the device		1H4LS	1H6LS	1H10LS	1H15LS	1H20LS	
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 +150					°C
Storage temperature	T_{STG}	- 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	$R_{\Theta JA}$	72	°C/W

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	SS1H4LS	I_F = 1A, T_J = 25°C	V_F	-	0.65	V
	SS1H6LS			-	0.70	V
	SS1H10LS			-	0.80	V
	SS1H15LS SS1H20LS			-	0.85	V
Reverse current @ rated V_R[2]	SS1H4LS SS1H6LS	T_J = 25°C	I_R	-	1.0	μA
		T_J = 125°C		-	0.3	mA
	SS1H10LS SS1H15LS	T_J = 25°C		-	1.0	μA
		T_J = 125°C		-	0.2	mA
	SS1H20LS	T_J = 25°C		-	1.0	μA
		T_J = 125°C		-	0.1	mA

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1]	PACKAGE	PACKING
SS1HxLS	SOD-123HE	10,000 / Tape & Reel

Notes:

1. “x” defines voltage from 40V(SS1H4LS) to 200V(SS1H20LS)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

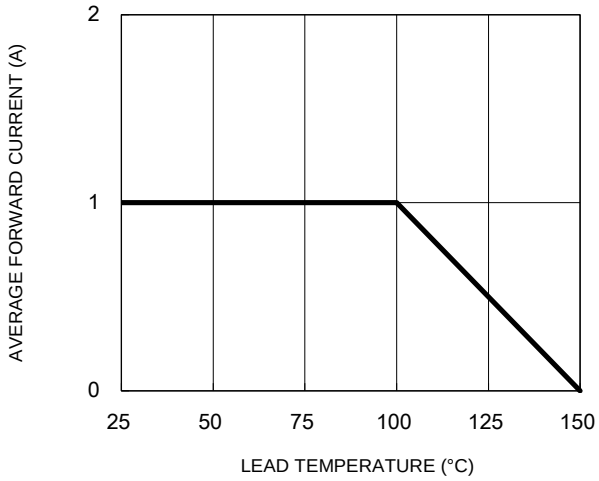


Fig.2 Typical Junction Capacitance

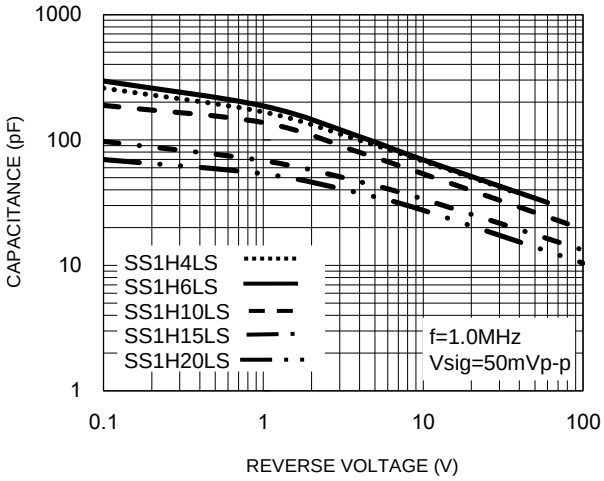


Fig.3 Typical Reverse Characteristics

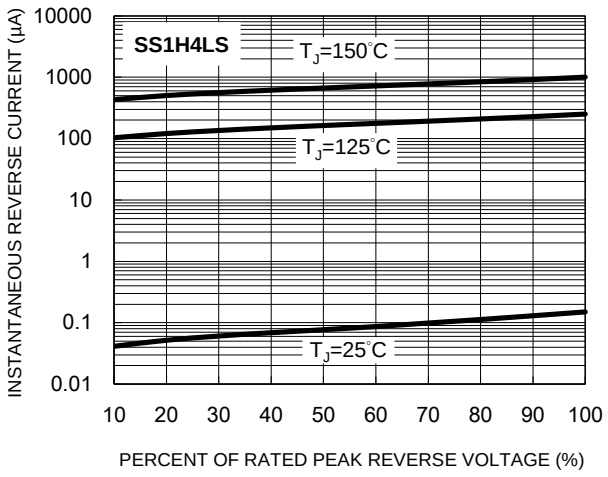


Fig.4 Typical Forward Characteristics

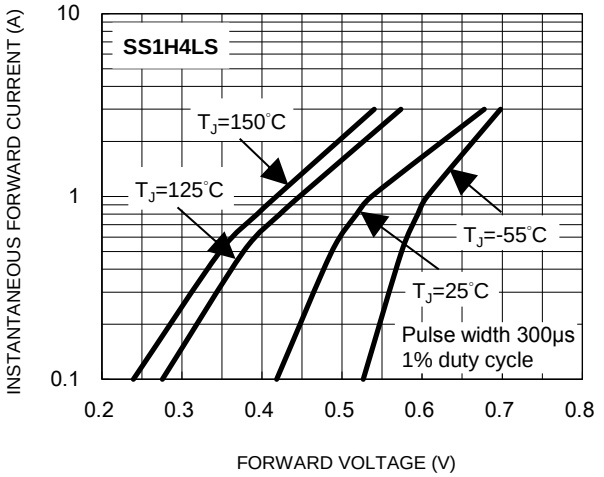


Fig.5 Typical Reverse Characteristics

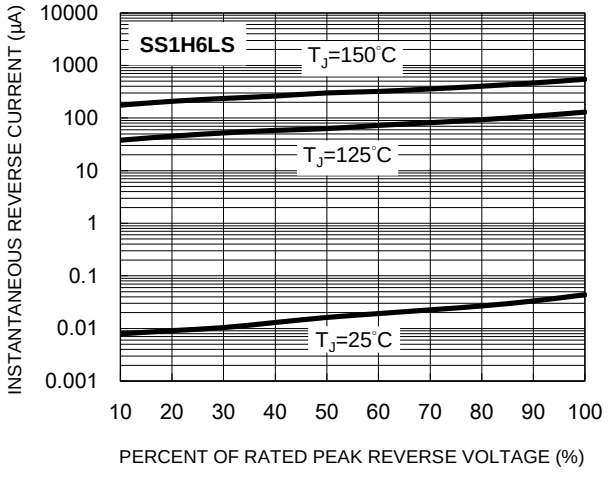
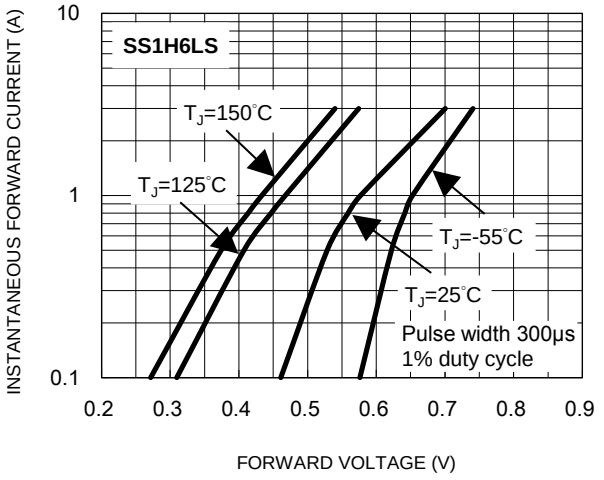


Fig.6 Typical Forward Characteristics



CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.7 Typical Reverse Characteristics

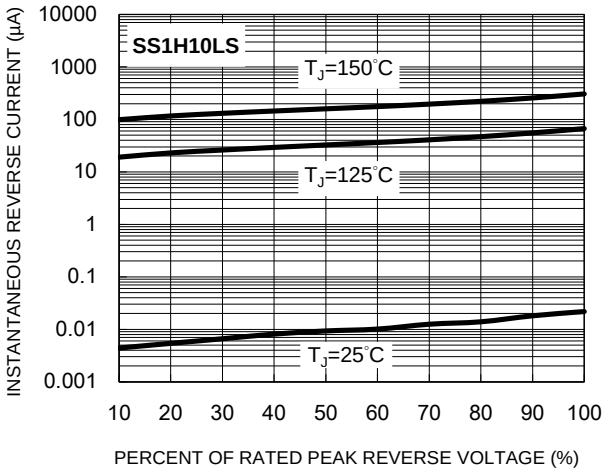


Fig.8 Typical Forward Characteristics

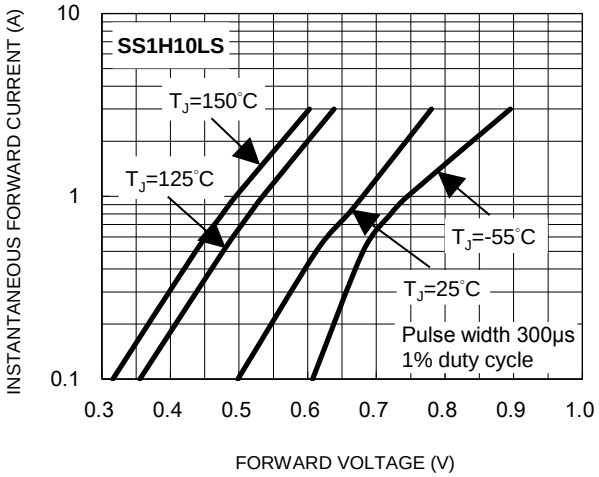


Fig.9 Typical Reverse Characteristics

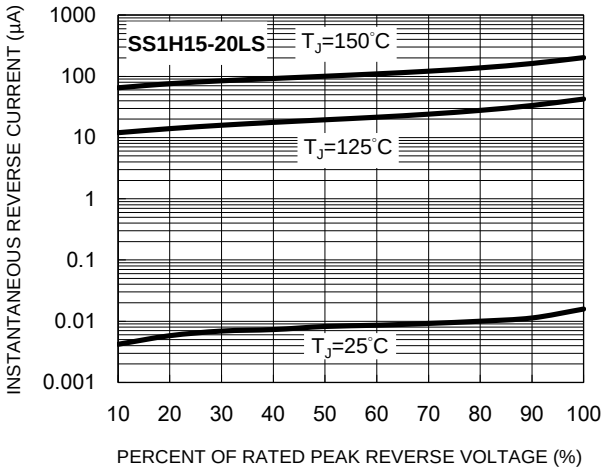


Fig.10 Typical Forward Characteristics

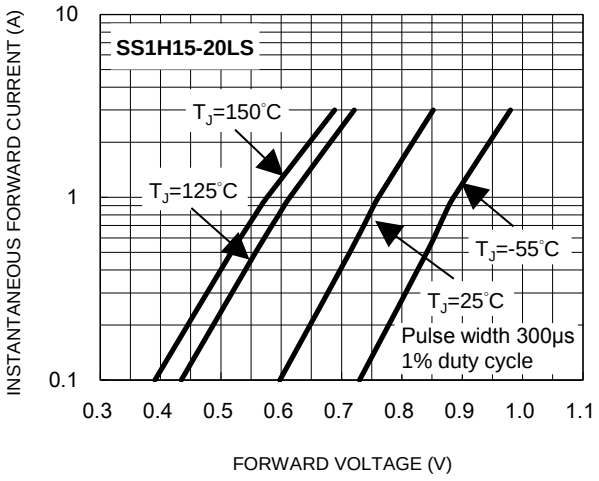
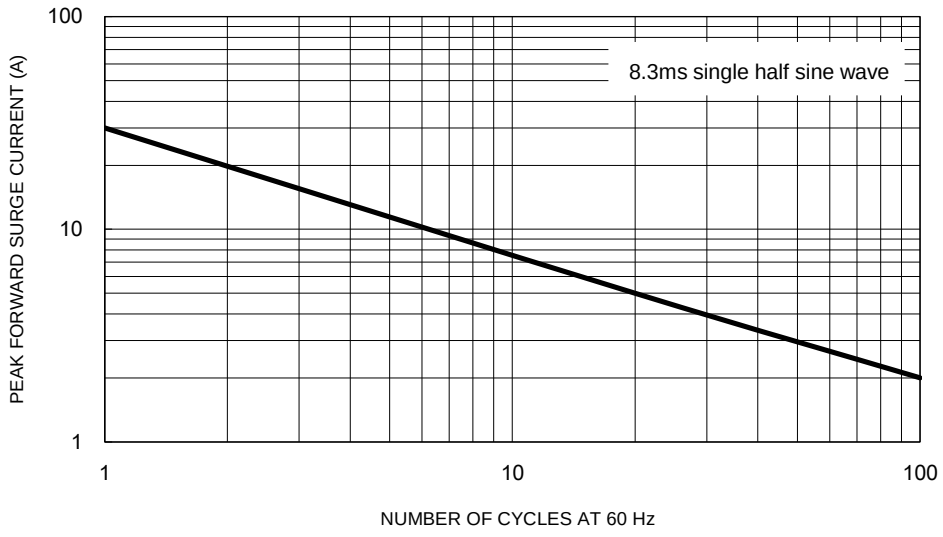
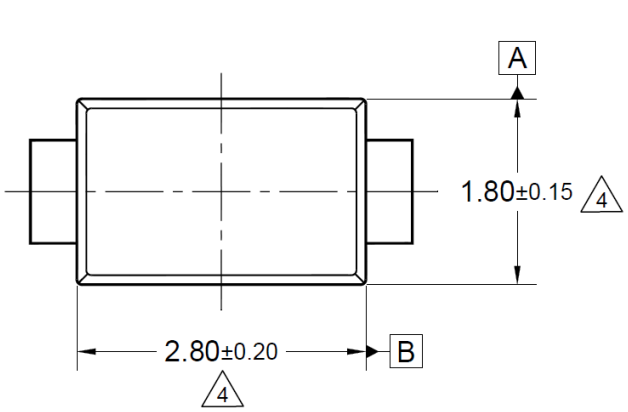


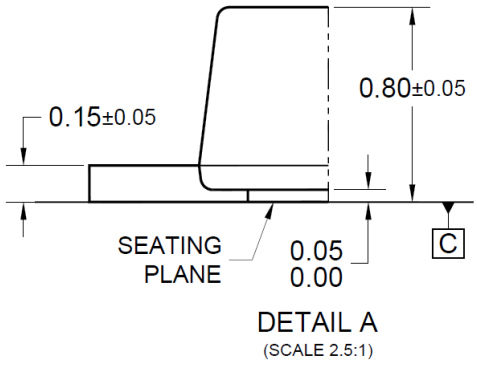
Fig.11 Maximum Non-Repetitive Forward Surge Current

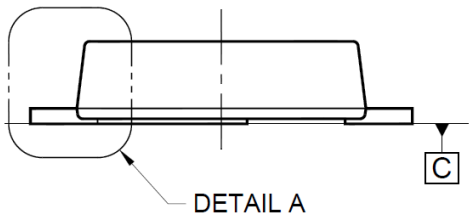


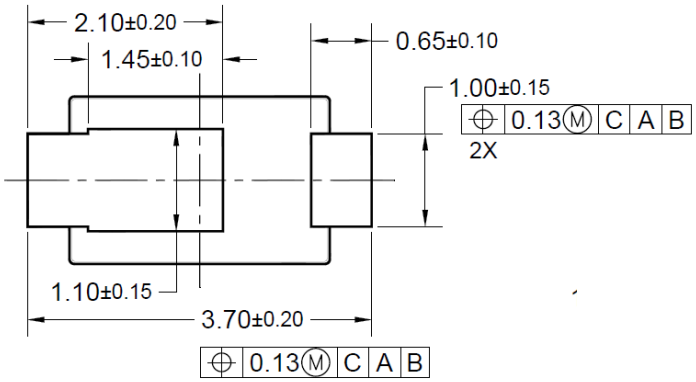
PACKAGE OUTLINE DIMENSIONS

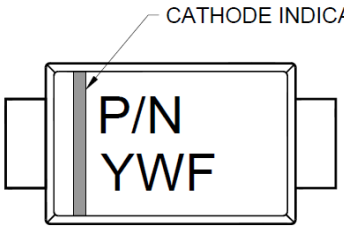
SOD-123HE





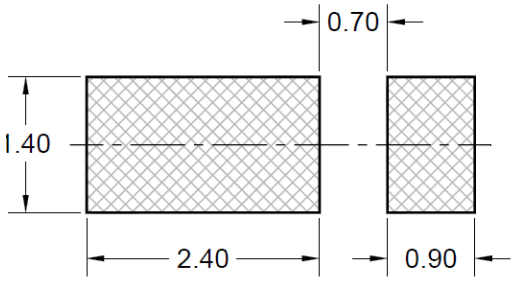






MARKING DIAGRAM

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



SUGGESTED PAD LAYOUT

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-2009.
3. THERE IS NO EXISTING INDUSTRY STANDARD FOR THIS PACKAGE.
4. MOLDED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH.
5. DWG NO. REF: HQ2SD07-SOD123HE-038 REV A.

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