

1A, 200V - 1000V Standard Surface Mount Rectifier

FEATURES

- AEC-Q101 qualified
- Ideal for automated placement
- Compact package size
- 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

- DC to DC converter
- Automotive application
- Car lighting
- Snubber
- General purpose

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: 0.019g (approximately)

KEY PARAMETERS			
PARAMETER	VALUE	UNIT	
I _F	1	Α	
V_{RRM}	200 - 1000	V	
I _{FSM}	30	Α	
T_{JMAX}	175	°C	
Package	SOD-123W		
Configuration	Single die		







SOD-123W



ABSOLUTE MAXIMUM RATINGS (T _A = 25°C unless otherwise noted)							
PARAMETER	SYMBOL	S1DLWH	S1GLWH	S1JLWH	S1KLWH	S1MLWH	UNIT
Marking code on the device		1DLW	1GLW	1JLW	1KLW	1MLW	
Repetitive peak reverse voltage	V_{RRM}	200	400	600	800	1000	V
Reverse voltage, total rms value	V _{R(RMS)}	140	280	420	560	700	V
Forward current	I _F			1			Α
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	30			А		
Junction temperature	TJ	- 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 _{OJA}	80	°C/W	

ELECTRICAL SPECIFICATIONS (T _A = 25°C unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	I _F = 1A, T _J = 25°C	V _F	-	1.1	V
Reverse current @ rated V _R ⁽²⁾	T _J = 25°C		-	1	μA
Reverse current @ rated V _R	T _J = 125°C	- I _R	-	50	μA
Junction capacitance	1MHz, V _R = 4.0V	CJ	8	-	pF

Notes:

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

ORDERING INFORMATION				
ORDERING CODE ⁽¹⁾	PACKAGE	PACKING		
S1xLWH	SOD-123W	10,000 / Tape & Reel		

Notes:

1. "x" defines voltage from 200V(S1DLWH) to 1000V(S1MLWH)



CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

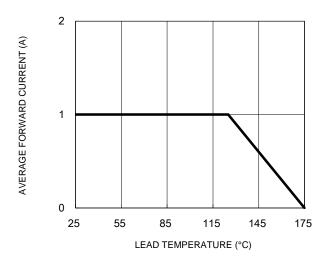


Fig.3 Typical Reverse Characteristics

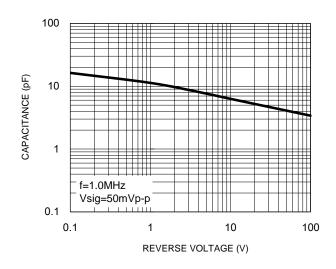
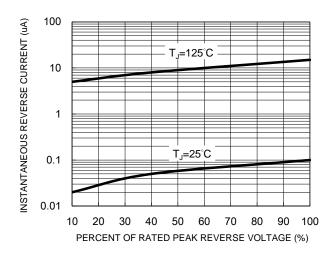


Fig.2 Typical Junction Capacitance

Fig.4 Typical Forward Characteristics



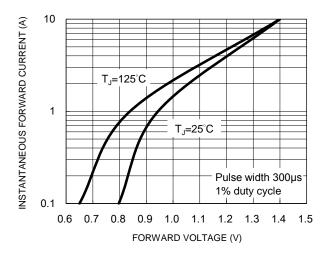
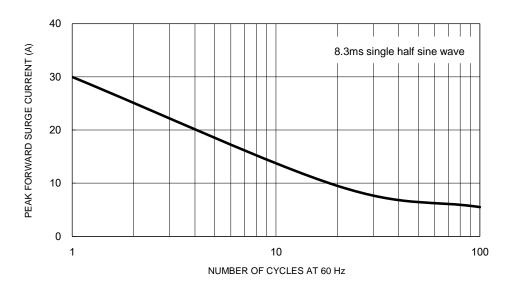


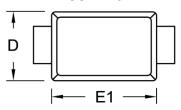
Fig.5 Maximum Non-Repetitive Forward Surge Current

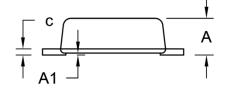


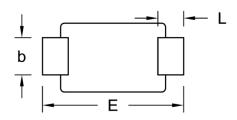


PACKAGE OUTLINE DIMENSIONS

SOD-123W

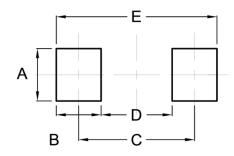






DIM.	Unit (m) Unit (inch)		
DIW.	Min.	Max.	Min.	Max.	
Α	0.90	1.02	0.035	0.040	
A1	0.00	0.10	0.000	0.004	
b	0.90	1.05	0.035	0.041	
С	0.10	0.22	0.004	0.009	
D	1.70	1.90	0.067	0.075	
E	3.60	3.80	0.142	0.150	
E1	2.60	2.90	0.102	0.114	
L	0.50	0.85	0.020	0.033	

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
Α	1.40	0.055
В	1.20	0.047
С	3.10	0.122
D	1.90	0.075
E	4.30	0.169

MARKING DIAGRAM



P/N = Marking Code ΥW = Date Code F = Factory Code



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