

1A, 400V ESD Capability Rectifier

FEATURES

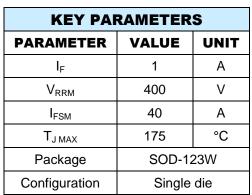
- High ESD capability
- Glass passivated chip junction
- Ideal for automated placement
- Low forward voltage drop
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

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- DC to DC converter
- Adapters
- Lighting application

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)











SOD-123W



ABSOLUTE MAXIMUM RATINGS (T _A = 25°C unless otherwise noted)						
PARAMETER	SYMBOL	TSDGLW	UNIT			
Marking code on the device		TSDGLW				
Repetitive peak reverse voltage	V_{RRM}	400	V			
Reverse voltage, total rms value	$V_{R(RMS)}$	280	V			
Forward current	I _F	1	Α			
Peak forward surge current, 8.3ms single half sinewave superimposed on rated load	I _{FSM}	40	А			
Junction temperature	TJ	- 55 to +175	°C			
Storage temperature	T _{STG}	- 55 to +175	°C			

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THERMAL PERFORMANCE					
PARAMETER	SYMBOL	TYP	UNIT		
Junction-to-lead thermal resistance	R _{eJL}	25	°C/W		
Junction-to-ambient thermal resistance	R _{OJA}	84	°C/W		
Junction-to-case thermal resistance	R _{eJC}	27	°C/W		

Thermal Performance Note: Units mounted on PCB (5mm x 5mm Cu pad test board)

ELECTRICAL SPECIFICATIONS (T _A = 25°C unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
	$I_F = 0.5A, T_J = 25^{\circ}C$		0.86	0.95	V
[$I_F = 1.0A, T_J = 25^{\circ}C$	V_{F}	0.90	1.00	V
Forward voltage ⁽¹⁾	I _F = 0.5A, T _J = 125°C		0.72	0.90	V
	$I_F = 1.0A, T_J = 125$ °C		0.77	1.00	V
D	T _J = 25°C		-	1	μΑ
Reverse current @ rated V _R ⁽²⁾	T _J = 125°C	I _R	-	50	μΑ
Junction capacitance	$1MHz, V_R = 4.0V$	CJ	15	-	pF

Notes:

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

IMMUNITY TO ELECTRICAL STATIC DISCHARGE TO THE FOLLOWING							
STANDARDS (T _A = 25°C unless otherwise noted)							
STANDARD	TEST TYPE	TEST CONDITION	SYMBOL	CLASS	VALUE	TYPICAL	
AEC-Q101-001	Human body model(contact mode)	C=100pF,R=1.5kΩ		НЗВ	≥8kV	N/A	
IEC 61000-4-2	Contact mode	C=150pF,R=330Ω	Vc	4	≥8kV	20kV	
	Air-discharge mode	C=150pF,R=330Ω		4	≥15kV	25kV	
ISO 10605	Contact mode	C=330pF,R=330Ω		L4	≥15kV	20kV	
	Air-discharge mode	C=330pF,R=330Ω		L4	≥25kV	25kV	

ORDERING INFORMATION				
ORDERING CODE PACKAGE PACKING				
TSDGLW	SOD-123W	10,000 / Tape & Reel		



CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

1.5

VERYARD CORRENT

O.0

25 50 75 100 125 150 175

LEAD TEMPERATURE (°C)

Fig.2 Typical Junction Capacitance

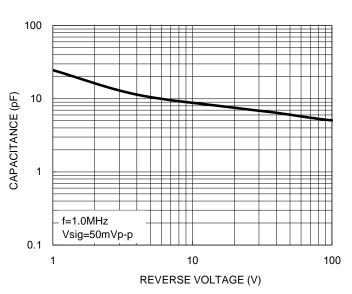


Fig.3 Typical Reverse Characteristics

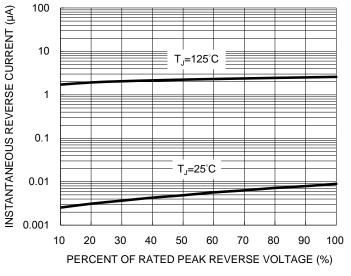
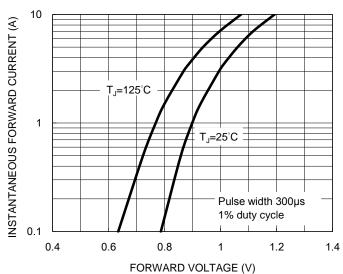


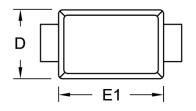
Fig.4 Typical Forward Characteristics

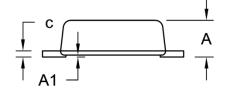


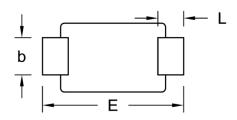


PACKAGE OUTLINE DIMENSIONS

SOD-123W

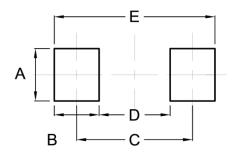






DIM.	Unit (mm)		Unit (inch)	
DIW.	Min.	Max.	Min.	Max.
Α	0.90	1.02	0.035	0.040
A1	0.00	0.10	0.000	0.004
b	0.90	1.05	0.035	0.041
С	0.10	0.22	0.004	0.009
D	1.70	1.90	0.067	0.075
E	3.60	3.80	0.142	0.150
E1	2.60	2.90	0.102	0.114
L	0.50	0.85	0.020	0.033

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 YW = Date Code F = Factory Code



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