

200mW, 75V Switching Diode

FEATURES

- Low power loss, high efficiency
- Fast switching speed
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21
- Moisture sensitivity level: level 1, per J-STD-020

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: SOD-323
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 4.50mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	150	mA
V_R	75	V
V_F at $I_F = 150\text{mA}$	1.25	V
T_J	150	°C
Package	SOD-323	
Configuration	Single die	



SOD-323



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	1N4148WS-G	UNIT
Marking code on the device		T4	
Power dissipation	P_D	200	mW
Repetitive peak reverse voltage	V_{RM}	100	V
Reverse voltage	V_R	75	V
Forward current	I_F	150	mA
Non-repetitive peak forward current	I_{FM}	300	mA
Peak forward surge current @ $t = 1\mu\text{s}$	I_{FSM}	2	A
Junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	MIN	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 1\text{mA}, T_J = 25^\circ\text{C}$	V_F	-	0.715	V
	$I_F = 10\text{mA}, T_J = 25^\circ\text{C}$		-	0.885	V
	$I_F = 50\text{mA}, T_J = 25^\circ\text{C}$		-	1.000	V
	$I_F = 150\text{mA}, T_J = 25^\circ\text{C}$		-	1.250	V
Reverse current @ rated V_R ⁽²⁾	$V_R = 20\text{V}, T_J = 25^\circ\text{C}$	I_R	-	25	nA
	$V_R = 75\text{V}, T_J = 25^\circ\text{C}$		-	1	μA
Junction capacitance	1MHz, $V_R = 0\text{V}$	C_J	-	2	pF
Reverse recovery time	$I_F = I_R = 10\text{mA}$, $R_L = 100\Omega, I_{RR} = 1\text{mA}$	t_{rr}	-	4	ns

Notes:

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

ORDERING INFORMATION		
ORDERING CODE	PACKAGE	PACKING
1N4148WS-G RVG	SOD-323	3,000 / 7" Tape & Reel

CHARACTERISTICS CURVES

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

Fig.1 Typical Reverse Characteristics

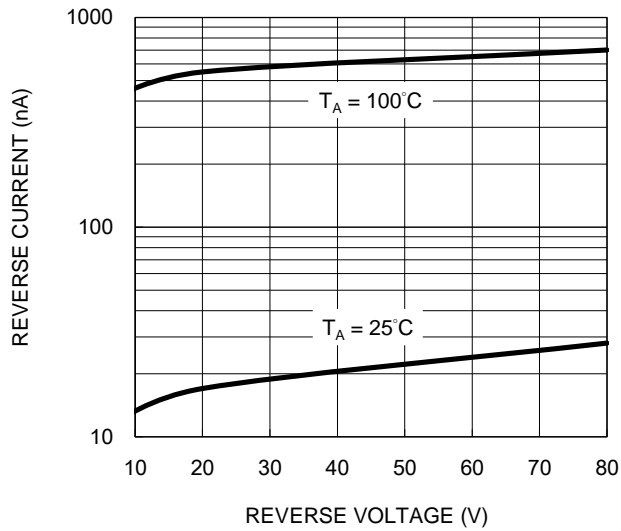


Fig.2 Typical Forward Characteristics

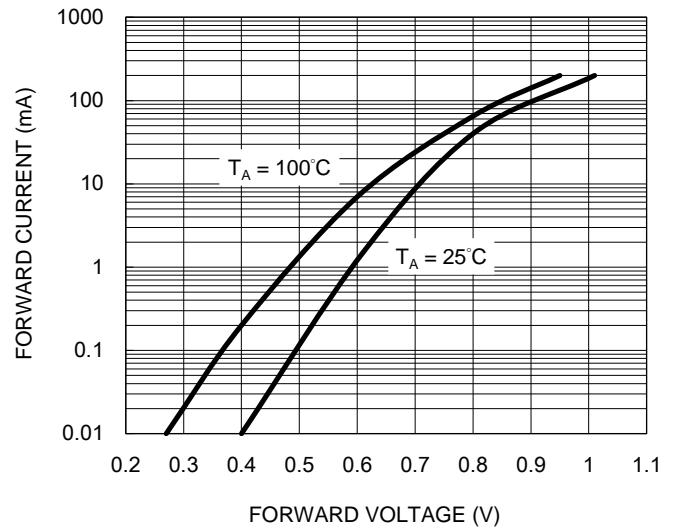


Fig.3 Power Derating Curve

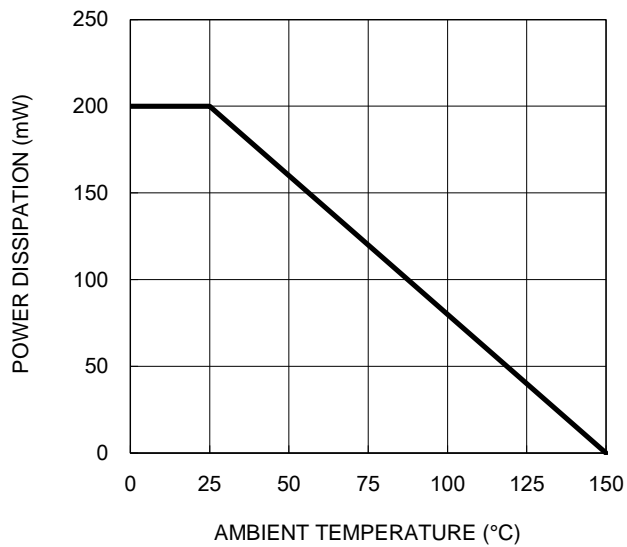
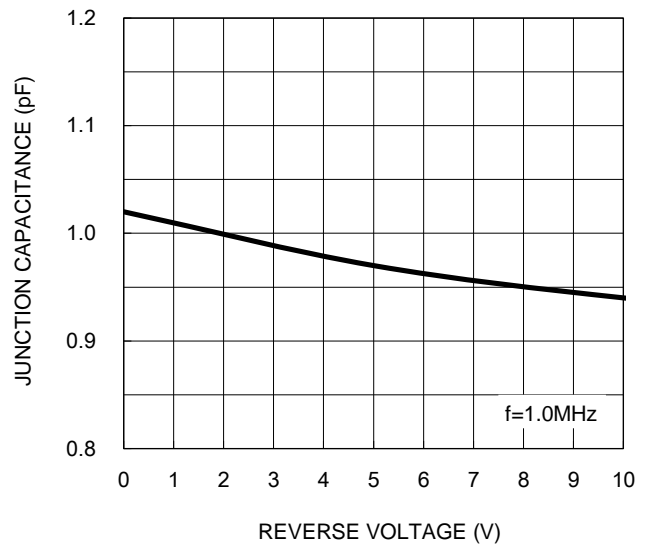
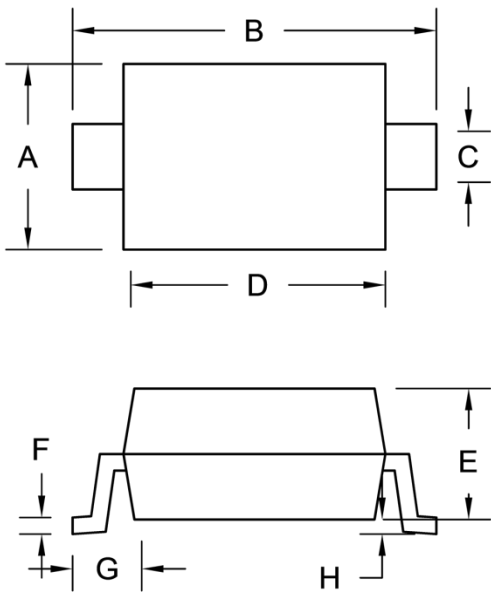


Fig.4 Typical Junction Capacitance



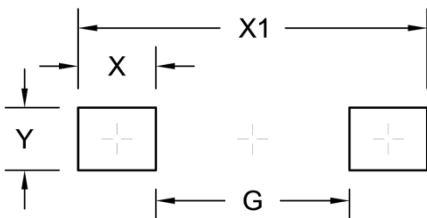
PACKAGE OUTLINE DIMENSION

SOD-323



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.150	1.400	0.045	0.055
B	2.300	2.700	0.091	0.106
C	0.250	0.450	0.010	0.018
D	1.600	1.800	0.063	0.071
E	0.800	1.000	0.031	0.039
F	0.050	0.177	0.002	0.007
G	0.475 (Ref.)		0.019 (Ref.)	
H	-	0.100	-	0.004

SUGGEST PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
G	1.52	0.060
X	0.61	0.024
X1	2.74	0.108
Y	0.49	0.019

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