



SURFACE MOUNT FAST SWITCHING DIODE

1N4148WS FAST SWITCHING DIODE

SOD-323



FEATURES

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

Marking



Mechanical Data

Case : SOD-323

Terminals : Solderable per MIL-STD-750, Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

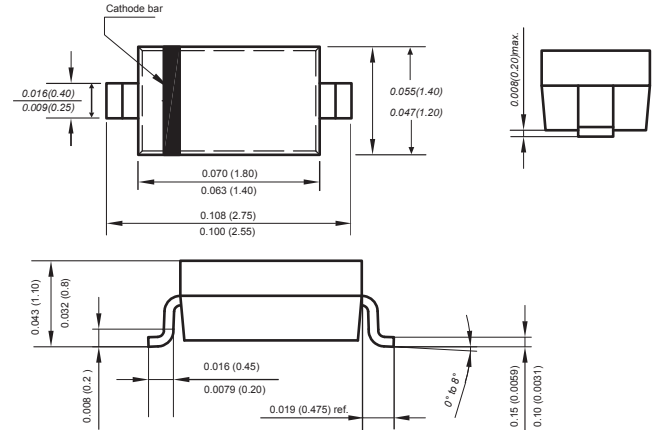
Weight : 0.00019 ounce, 0.00548 grams

Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

Parameter	Symbol	Limit	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
Maximum RMS Voltage	V_{RMS}	75	V
Forward Continuous Current	I_{FM}	300	mA
Average Rectified Output Current	I_O	150	mA
Non-Repetitive Peak Forward Surge Current @ $t=1S$ $t=1mS$ $t=1uS$	I_{FSM}	0.5 1.0 4.0	A
Power Dissipation	P_d	400	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	250	°C/W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{STG}	-55~+150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R=100\mu A$	75		V
Reverse voltage leakage current	I_R	$V_R=75V$ $V_R=20V$		1 0.025	μA
Forward voltage	V_F	$I_F=1mA$ $I_F=10mA$ $I_F=50mA$ $I_F=150mA$		0.715 0.855 1 1.25	V
Capacitance between terminals	C_T	$V_R=0, f=1MHz$		2	pF
Reverse recovery time	t_{rr}	$I_F=I_R=10mA, I_{rr}=0.1 \times I_R,$ $R_L=100\Omega$		4	ns



Dimensions in inches and (millimeters)

Typical Characteristics

Fig.1 Power Derating Curve

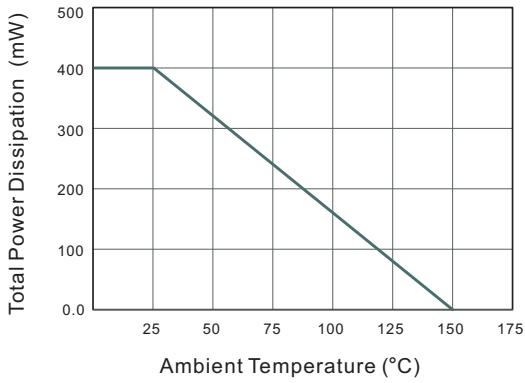


Fig.2 Typical Reverse Characteristics

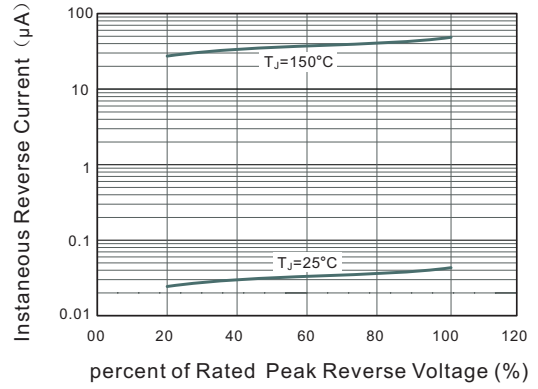


Fig.3 Typical Instantaneous Forward Characteristics

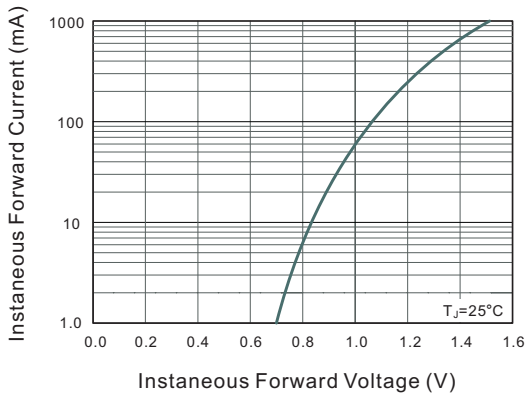
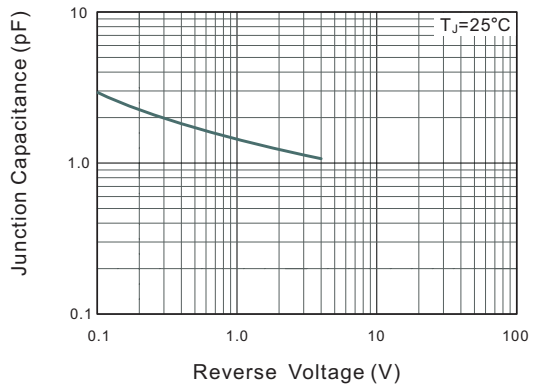
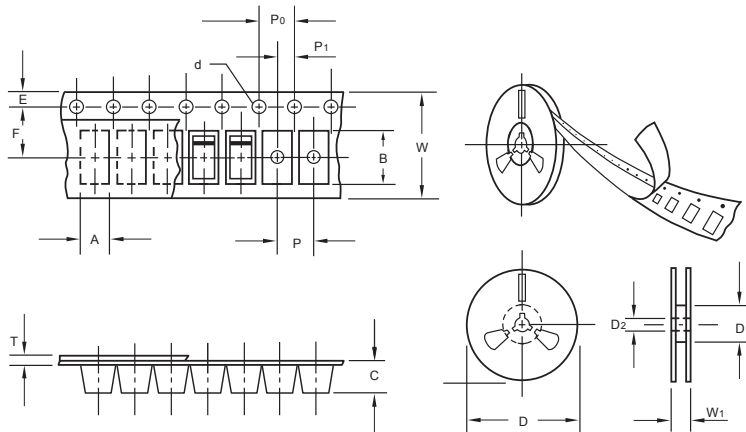


Fig.4 Typical Junction Capacitance



The curve above is for reference only.

Packing information



unit:mm

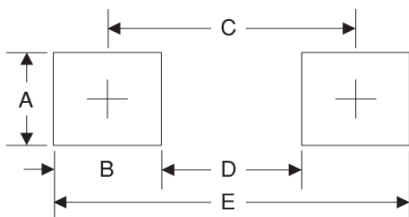
Item	Symbol	Tolerance	SOD-323
Carrier width	A	0.1	1.46
Carrier length	B	0.1	2.90
Carrier depth	C	0.1	1.25
Sprocket hole	d	0.05	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D ₁	min	50.00
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D ₁	min	54.40
Feed hole diameter	D ₂	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P ₀	0.1	4.00
Embossment center	P ₁	0.1	2.00
Overall tape thickness	T	0.1	0.06
Tape width	W	0.3	8.00
Reel width	W ₁	1.0	12.30

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-323	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	9.0

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.047
B	1.2	0.047
C	2.6	0.102
D	1.4	0.055
E	3.8	0.149

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