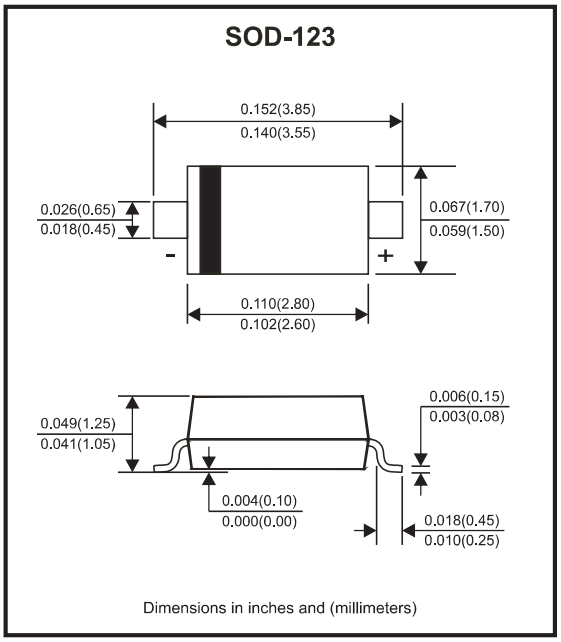
1N4148W

Small Signal Switching Diodes

Reverse Voltage: 100 Volts
Forward Current: 300 mAmpere
RoHS Device
Halogen Free

Features

- Fast switching device (Trr < 4.0nS).
- Power dissipation of 400mW.
- High stability and high reliability.
- Low reverse leakage.



Mechanical data

- Case: SOD-123, molded plastic.
- Polarity: Color band denotes cathode end.
- Epoxy UL: 94V-0.
- Mounting position: Any.

Circuit Diagram

Maximum Rating (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak reverse voltage	V_{RRM}	100	V
RMS reverse voltage	$V_{R(RMS)}$	75	V
Power dissipation	P_D	400	mW
Average rectified current	Io	200	mA
Non-repetitive peak forward current	I_{FRM}	300	mA
Peak forward surge current @tp=1μs, T_A=25°C	I_{FSM}	2	A
Thermal resistance from junction to ambient	$R_{\theta JA}$	625	°C/W
Operating junction temperature	T_j	150	°C
Storage temperature range	T_{STG}	-65 to +150	°C

Note: Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics (at Ta=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse leakage current	V_R = 20V	I_R			25	nA
	V_R = 75V				1	μA
Forward voltage	I_F = 1.0mA	V_F			0.715	V
	I_F = 10mA				0.855	
	I_F = 50mA				1.00	
	I_F = 150mA				1.25	
Capacitance	V_R = 0V, f = 1 MHz	C			4	pF
Reverse recovery time	I_F = I_R = 10mA, I_{rr} = 0.1 x I_R R_L = 100Ω	T_{RR}			4	nS

Rating and Characteristic Curves

Fig.1 - Forward Characteristics

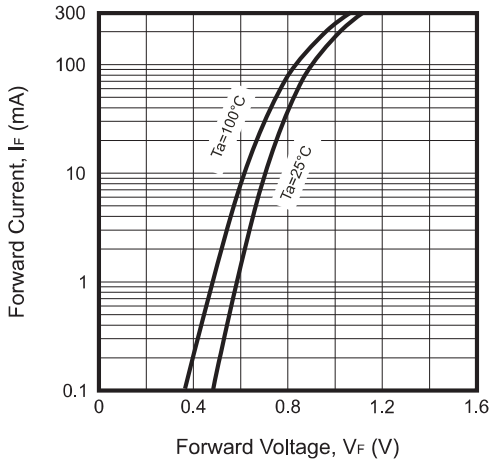


Fig.2 - Reverse Characteristics

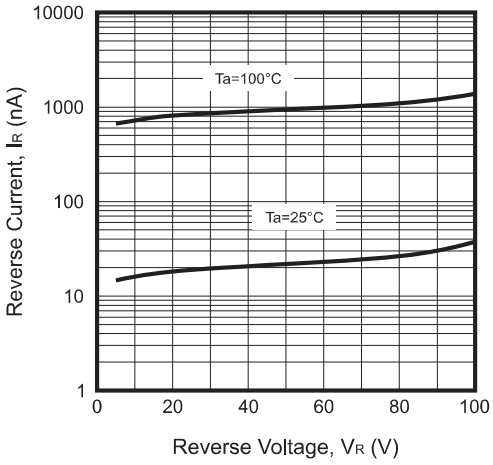


Fig.3 - Capacitance Characteristics

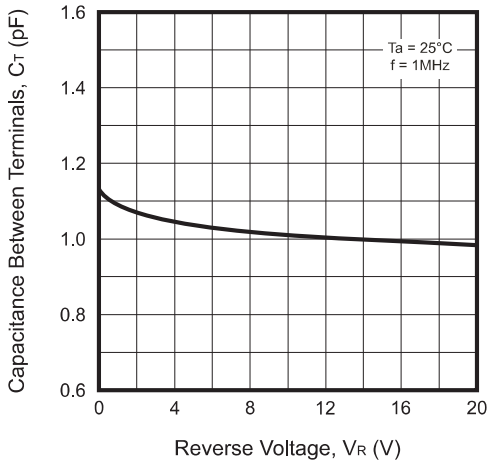
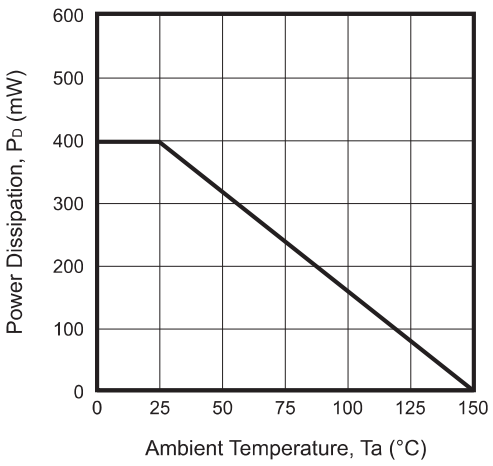
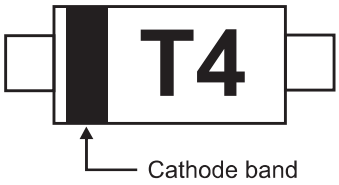


Fig.4 - Power Derating Curve



Marking Code

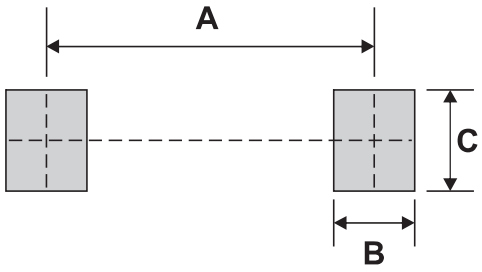
Part Number	Marking Code
1N4148W	T4



Suggested PAD Layout

SIZE	SOD-123	
	(mm)	(inch)
A	3.24	0.128
B	0.80	0.031
C	1.00	0.039

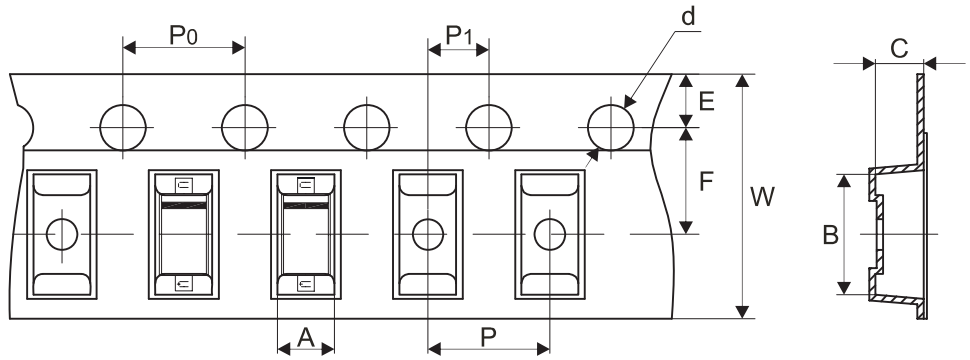
Note: 1.The pad layout is for reference purposes only.

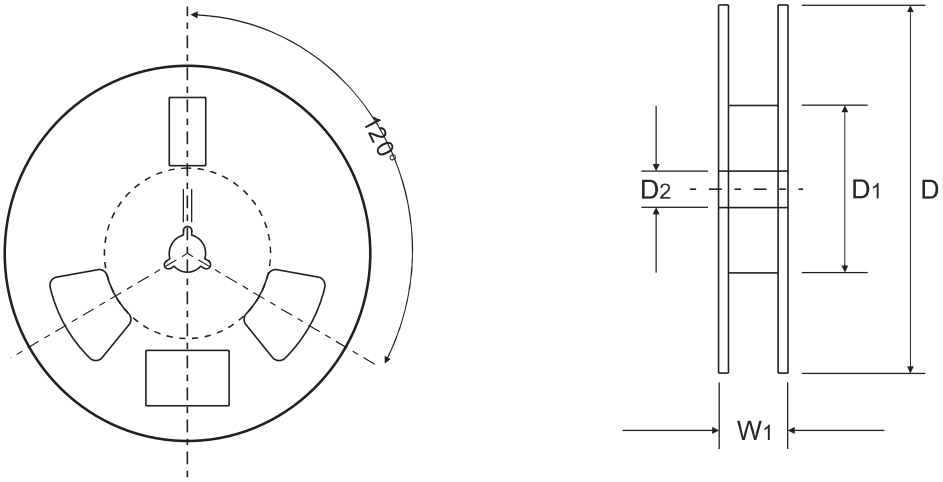


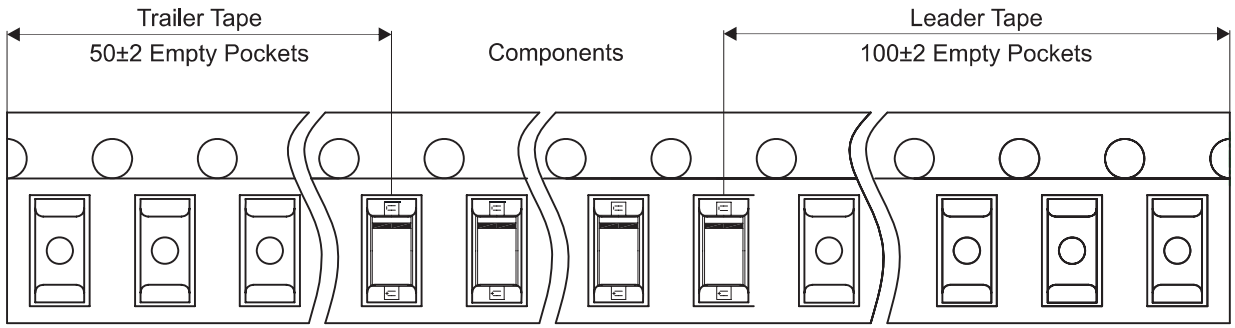
Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOD-123	3,000	7

Reel Taping Specification







	SYMBOL	A	B	C	d	D	D1	D2
SOD-123	(mm)	1.85 ± 0.05	3.94 ± 0.05	1.57 ± 0.05	1.55 ± 0.10	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.073 ± 0.002	0.155 ± 0.002	0.062 ± 0.002	0.061 ± 0.004	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

	SYMBOL	E	F	P	P1	P0	W	W1
SOD-123	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	4.00 ± 0.10	8.00 + 0.06 − 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.157 ± 0.004	0.315 + 0.002 − 0.004	0.484 ± 0.039