



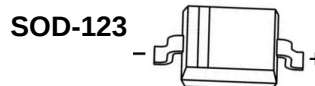
1N4148W

Plastic-encapsulate diodes

Product data sheet

1. General description

Fast switching diode encapsulated in a small SOD-123 Surface-Mounted Device (SMD) plastic package.



2. Features

- Fast switching speed
- High Conductance

3. Applications

- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications

4. Quick reference data

Table 1. Quick reference data

Parameter	Symbol	Limit	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	71	V
Forward Continuous Current	I_{FM}	300	mA
Average Rectified Output Current	I_O	150	mA
Non-Repetitive Peak Forward Surge Current @t=1ms	I_{FSM}	2.0	A
Power Dissipation	P_d	300	mW

5. Pinning information

Table 2. Pinning information

Pin	Name	Description	SOD-123 Simplified outline	Graphic symbol
1	Cathode	connect to IO		
2	Anode	connect to IO		

6. Ordering information

Table 3. Ordering information

Part number	Package	Material	Packing	Quantity per reel	Flammability rating	Reel size
1N4148W	SOD-123	halogen free	tape & reel	3,000pcs	UL 94V-0	7 inches

7. Marking

Table 4. Marking codes

Part number	Marking code
1N4148W	T4

The marking bar indicates the cathode

Solid dot = Green molding compound device, if none, the normal device.

8. Limiting values and electrical Characteristics

Table 5. Limiting values

$T_a=25^{\circ}\text{C}$

Parameter	Symbol	Limit	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	71	V
Forward Continuous Current	I_{FM}	300	mA
Average Rectified Output Current	I_O	150	mA
Non-Repetitive Peak Forward Surge Current @ $t=1\text{ms}$	I_{FSM}	2.0	A
Power Dissipation	P_d	300	mW
Thermal Resistance from Junction to Ambient(Note 1)	$R_{\theta JA}$	250	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}\text{C}$

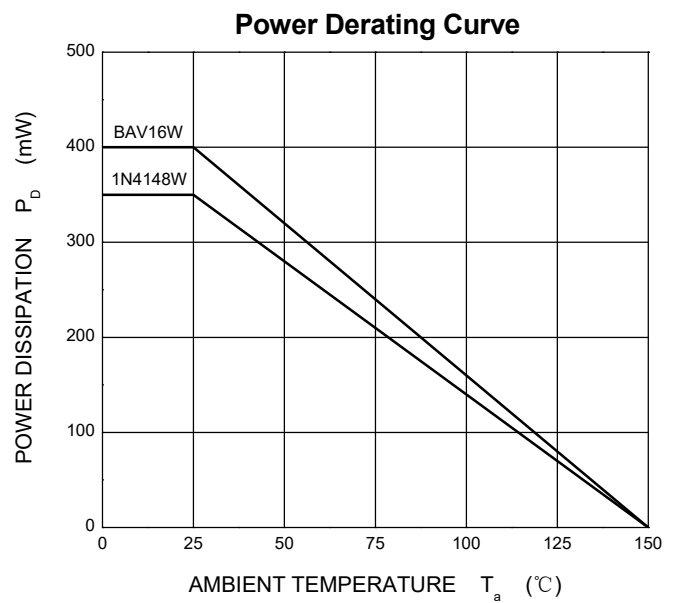
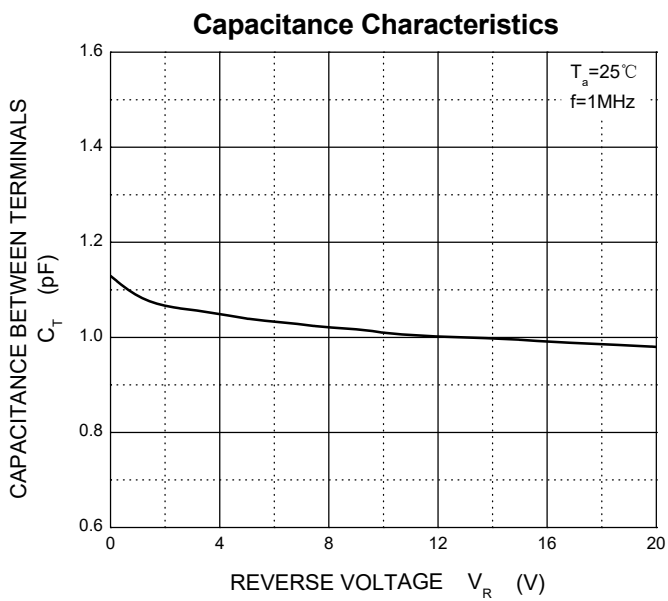
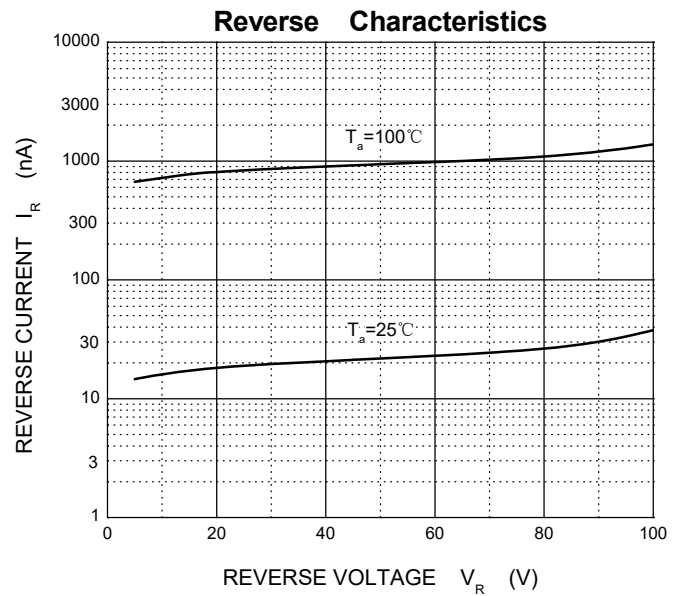
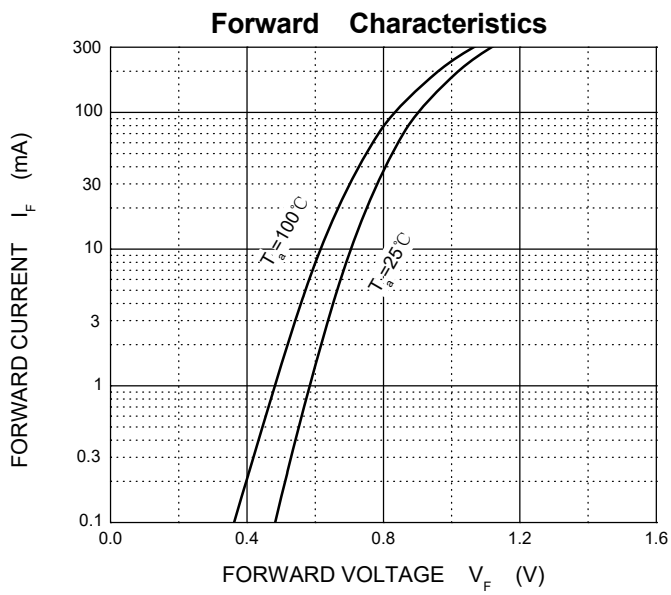
Note 1: Device mounted on 1"x1" FR4 PCB, 1oz single-side copper.

Table 6. Electrical Ratings

$T_a=25^{\circ}\text{C}$

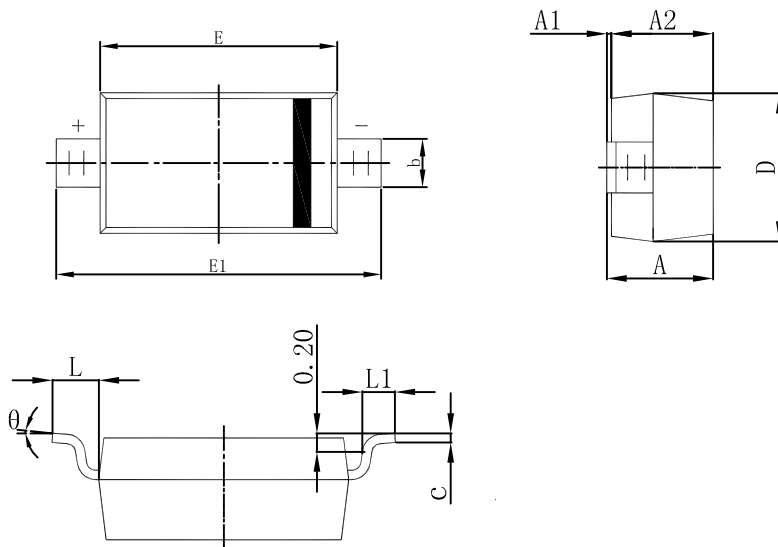
Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Forward voltage	V_{F1}			0.715	V	$I_F=1\text{mA}$
	V_{F2}			0.855	V	$I_F=10\text{mA}$
	V_{F3}			1.0	V	$I_F=50\text{mA}$
	V_{F4}			1.25	V	$I_F=150\text{mA}$
Reverse current	I_{R1}			1	μA	$V_R=75\text{V}$
	I_{R2}			25	nA	$V_R=20\text{V}$
Capacitance between terminals	C_T			2	pF	$V_R=0\text{V}, f=1\text{MHz}$
Reverse recovery time	t_{rr}			4	ns	$I_F=I_R=10\text{mA}$ $I_{rr}=0.1I_R, R_L=100\Omega$

9. Typical characteristics



10.Package outline

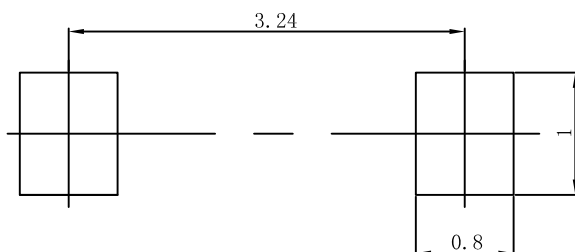
Table 7. SOD123 Package outline



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

11.Suggested padlayout

Table 8. Suggested padlayout



Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

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