

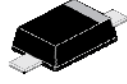


## 200mW Fast Switching Diode

**1N4148WS**  
Package SOD-323GW



SOD-323GW



SOD-323FL

**1N4148WSFL**  
Package SOD-323FL

Surface mount  
Plastic Package  
RoHS compliant

### Marking Code

1. 1N4148WS, SOD-323GW, Marking code = **T4**
2. 1N4148WSFL, SOD-323FL, Marking code = **W2**

### FEATURES:

1. 4.0nS; Fast Switching Device ( $T_{RR} < 4.0$  nS)
2. 200mW; Power Dissipation of 200mW
3. High Stability and High Reliability
4. Low reverse leakage
5. This product is available in AEC-Q101 Compliant also.
6. Note: For AEC-Q101 compliant product, please suffix - AQ in the part number while ordering.

### ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C Unless otherwise specified)

PARAMETER	SYMBOL	VALUE	UNIT
Reverse Voltage	$V_R$	75	V
Peak Reverse Voltage	$V_{RM}$	100	V
Power Dissipation	$P_d$	200	mW
Operating junction temperature	$T_j$	125	°C
Storage temperature range	$T_s$	-55 to +150	°C
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	°C/W
Working Inverse Voltage	$W_{IV}$	75	V
Average Rectified Current	$I_O$	150	mA
Non-repetitive Peak Forward Current	$I_{FM}$	300	mA
Peak Forward Surge Current @tp=1us; Ta=25°C	$I_{FSM}$	2.0	A

#### Note:

1. Valid provided that electrodes are kept at ambient temperature.



**ELECTRICAL CHARACTERISTICS** at ( $T_a = 25\text{ }^\circ\text{C}$  Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Reverse breakdown voltage	$B_V$	$I_R=100\mu\text{A}$	100	--	--	V
		$I_R=5\mu\text{A}$	75	--	--	
Reverse leakage current	$I_R$	$V_R=20\text{V}$	--	--	25	nA
		$V_R=75$	--	--	1	$\mu\text{A}$
Forward Voltage	$V_F$	$I_F=1.0\text{mA}$	--	--	0.715	V
		$I_F=10\text{mA}$	--	--	0.855	
		$I_F=50\text{mA}$	--	--	1.00	
		$I_F=150\text{mA}$	--	--	1.25	
Reverse Recovery Time	$T_{RR}$	$I_F= I_R=10\text{mA}$	--	--	4	nS
		$R_L=100\Omega$	--	--		
		$I_{RR}=0.1 \times I_R$	--	--		
Capacitance	CT	$V_R=0\text{V}$ , $f=1\text{MHZ}$	--	--	2	pF



## TYPICAL CHARACTERISTICS CURVES

Fig 1: Forward Characteristics

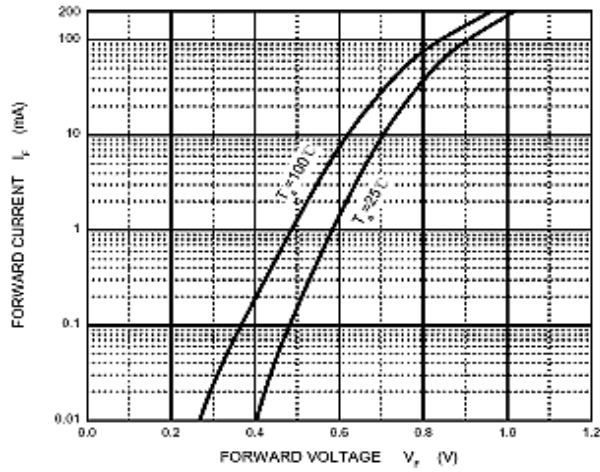


Fig 3: Reverse Characteristics

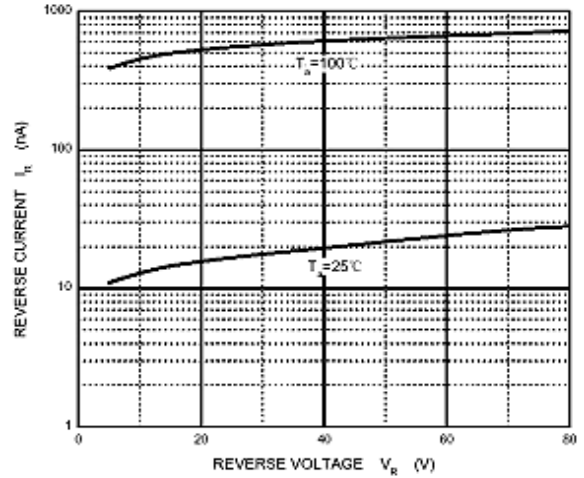


Fig 2: Capacitance Characteristics

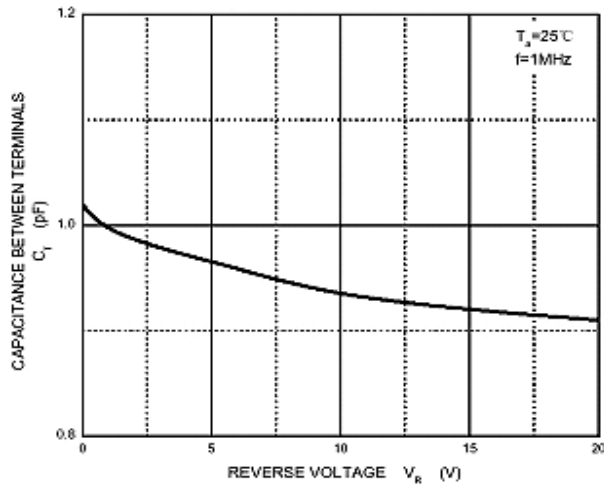
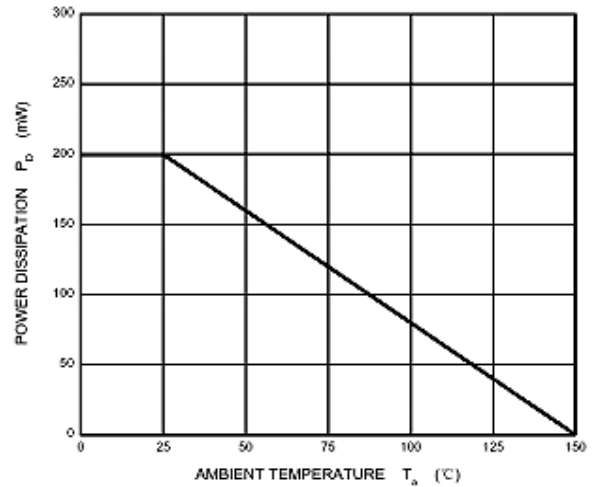
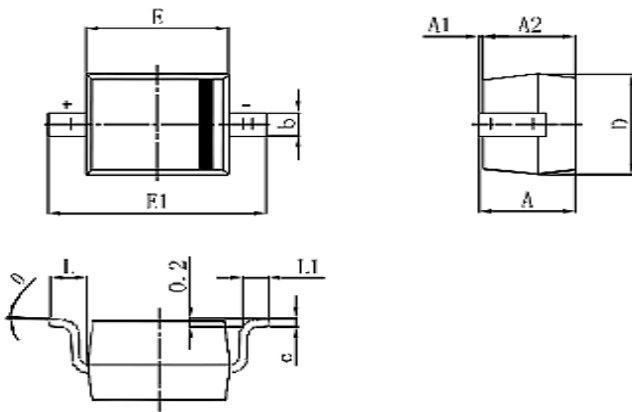


Fig 4: Power Derating Curve



## PACKAGE DETAILS

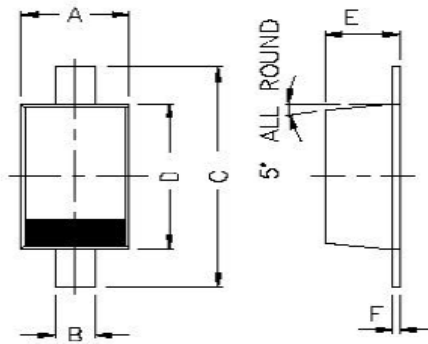
### SOD-323GW Plastic Package



SYMBOL	MIN.(mm)	MAX.(mm)
A		1.000
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
L	0.475REF	
L1	0.250	0.400
$\theta$	0°	8°

All dimensions are in mm

### PACKAGE SOD-323 FL



DIM	MIN.	MAX.
A	1.15	1.35
B	0.25	0.40
C	2.30	2.80
D	1.60	1.80
E	0.80	1.10
F	0.00	0.15

All dimensions are in mm

### Mechanical Data

**Package:** SOD-323GW/SOD-323FL Small Outline Plastic Package

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any



## Recommended Product Storage Environment for Discrete Semiconductor Devices

This storage environment assumes that the Diodes and transistors are packed properly inside the original packing supplied by CDIL.

- Temperature 5 °C to 30 °C
- Humidity between 40 to 70 %RH
- Air should be clean.
- Avoid harmful gas or dust.
- Avoid outdoor exposure or storage in areas subject to rain or water spraying .
- Avoid storage in areas subject to corrosive gas or dust. Product shall not be stored in areas exposed to direct sunlight.
- Avoid rapid change of temperature.
- Avoid condensation.
- Mechanical stress such as vibration and impact shall be avoided.
- The product shall not be placed directly on the floor.
- The product shall be stored on a plane area. They should not be turned upside down. They should not be placed against the wall.

### Shelf Life of CDIL Products

The shelf life of products is the period from product manufacture to shipment to customers. The product can be unconditionally shipped within this period. The period is defined as 2 years.

If products are stored longer than the shelf life of 2 years the products shall be subjected to quality check as per CDIL quality procedure.

The products are further warranted for another one year after the date of shipment subject to the above conditions in CDIL original packing.

### Floor Life of CDIL Products and MSL Level

When the products are opened from the original packing, the floor life will start.

For this, the following JEDEC table may be referred:

JEDEC MSL Level		
Level	Time	Condition
1	Unlimited	≤30 °C / 85% RH
2	1 Year	≤30 °C / 60% RH
2a	4 Weeks	≤30 °C / 60% RH
3	168 Hours	≤30 °C / 60% RH
4	72 Hours	≤30 °C / 60% RH
5	48 Hours	≤30 °C / 60% RH
5a	24 Hours	≤30 °C / 60% RH
6	Time on Label(TOL)	≤30 °C / 60% RH



Continental Device India Pvt. Limited  
An IATF 16949, ISO9001 and ISO 14001 Certified Company



## Customer Notes

### Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

### Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



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CIN No. U32109DL1964PTC004291

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