CDIL

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

Silicon Epitaxial Planar Switching Diode

1N4148W
Package SOD-123(GW)
1N4148W-FL
Package SOD-123FL

Surface mount
Plastic Package
RoHS compliant

SOD123FL   SOD123GW

FEATURES:

1. Fast Switching

2. SOD-123

3. These diodes are also available in other case style including the DO-35 case with the type designation 1N4148, the MiniMELF case with the type designation LL4148 and the MicroMELF case type designation LL4148 and the MicroMELF case with the type designation MCL4148.

4. This product is available in AEC-Q101 Compliant also.

5. **Note:** For AEC-Q101 compliant product, please suffix - AQ iin the part number while ordering.

Absolute Maximum Ratings ($T_A = 25°C$)

Parameter		Symbol	Value	Unit
Peak Reverse Voltage		V_{RM}	100	V
Reverse Voltage		V_R	75	V
Average Rectified Forward Curre		$I_{F(AV)}$	150	mA
Non-repetitive Peak Forward Surge Current	at t = 1 s	I_{FSM}	0.5	A
	at t = 1 ms		1	
	at t = 1 µs		4	
Power Dissipation		P_{tot}	400	mW
Thermal Resistance from Junction to Ambient Air		$R_{\theta JA}$	312	°C/W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS at T_a = 25 ℃

Parameter	Symbol	Test Conditions	Value			Unit
			Min.	Typ.	Max.	
Reverse Breakdown Voltage	$V_{(BR)}$	at I_R = 1 μA	75	--	--	V
Forward Voltage	V_F	at IF = 1 mA	--	--	0.72	V
		at IF = 10 mA	--	--	0.86	
		at IF = 50 mA	--	--	1.00	
		at IF = 150 mA	--	--	1.20	
Peak Reverse Current	I_R	at VR = 75 V	--	--	1	μA
		at VR = 20 V	--	--	25	nA
		at V_R=75 V @T_J 150℃	--	--	50	μA
		at V_R=25 V@T_J 150℃	--	--	30	μA
Total Capacitance	C_T	at V_R = 0 V, f = 1 MHz	--	--	2	pF
Reverse Recovery Time	t_{rr}	at I_F = 10 mA, I_R = 1 mA,	--	--	4	nS

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Typical Characteristic test circuit and curves

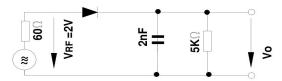Fig 1. Test Circuit for Rectification Efficency Measurement
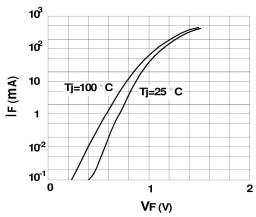
Fig 2. Forward Characteristics
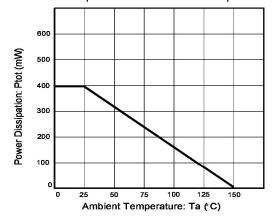
Fig 3. Power Dissipation vs. Ambient Temperature

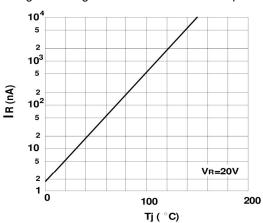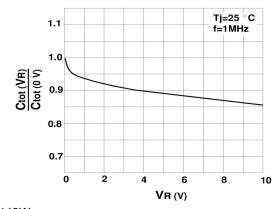Fig 4. Leakage Current vs. Junction Temperature

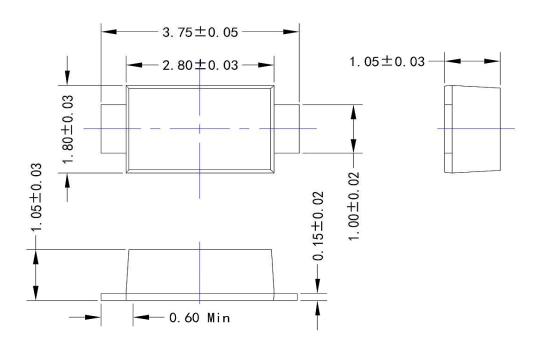Fig 5. Reverse Capacitance vs. Reverse Voltage

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Package Details

Package SOD123FL

Package SOD123GW

SYMBOL	Dimensions	
	Min.	Max.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.450	0.650
c	0.080	0.150
D	1.500	1.700
E	2.600	2.800
E1	3.550	3.850
L	0.500 Ref.	
L1	0.250	0.450
Θ	0º	8º

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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

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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

CDIL is a registered trademark of

Continental Device India Pvt. Limited

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone +91-11-2579 6150, 4141 1112 Fax +91-11-2579 5290, 4141 1119

email@cdil.com   www.cdil.com

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