



Continental Device India Pvt. Limited

An IATF 16949, ISO9001 and ISO 14001 Certified Company



HIGH SPEED SILICON SWITCHING DIODES

LL4148

LL4448



SOD-80C
(Mini MELF)

SOD - 80C

Mini MELF (LL- 34)

SMD Glass Package

RoHS compliant

FEATURES:

1. Polarity: Cathode is indicated by a black band
2. Hermetically Sealed, Glass Silicon Diodes

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

PARAMETER		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage		V _{RRM}	100	V
Reverse Voltage (Continuous)		V _R	75	V
Average Rectified Forward Current		I _{F(av)}	150	mA
Forward Current (DC)		I _F	200	mA
Repetitive Peak Forward Current		I _{FRM}	450	mA
Non Repetitive Peak Surge Current	t=1 ms	I _{FSM}	2000	mA
	t=1 s	I _{FSM}	500	mA
Power Dissipation up to Tamb=25 °C		P _{tot}	500	mW
Derating factor			2.85	mW/K
Operating and Storage Junction Temperature Range		T _J , T _{stg}	- 65 to +200	°C

LL4148_4448
Rev2_26032021EGL



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ELECTRICAL CHARACTERISTICS at $T_a = 25^\circ\text{C}$

PARAMETER	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Forward Voltage	LL4148	$I_F = 10\text{mA}$	0.62	1.0	V
	LL4448	$I_F = 5\text{mA}$		0.72	
		$I_F = 100\text{mA}$		1.0	
Reverse Current		$V_R = 20\text{V}$	-	25	nA
		$V_R = 75\text{V}$		5.0	μA
		$V_R = 20\text{V}, T_j = 150^\circ\text{C}$		50	μA
		$V_R = 20\text{V}, T_j = 100^\circ\text{C}$		3.0	μA
Reverse Breakdown Voltage	V_{BR}	$I_R = 100\text{mA}$	100	-	V
DYNAMIC CHARACTERISTICS					
Diode Capacitance	C_d	$V_R = 0\text{V}, f = 1\text{MHz}$	-	4.0	pF
Forward Recovery Voltage	V_{fr}	$I_F = 50\text{mA}, t_f = 20\text{ns}$	-	2.5	V
Reverse Recovery Time	t_{rr}	$I_F = 10\text{mA}$ to $I_R = 60\text{mA}$, $R_L = 100\ \Omega$, Measured at $I_R = 1\text{mA}$	-	4.0	ns



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Typical Characteristic Curves

Figure 1. Reverse Voltage vs Reverse Current
 V_R - 1.0 to 100V

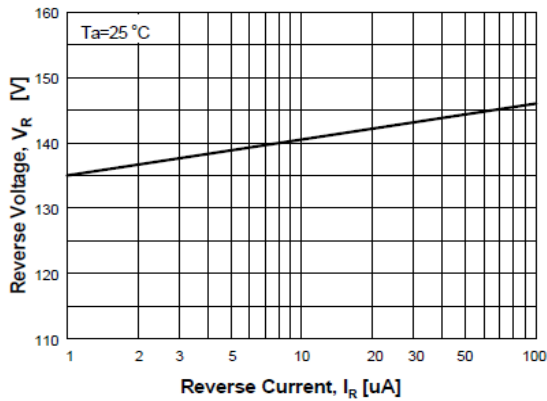


Figure 2. Reverse Voltage vs Reverse Current
 I_R - 10 to 100V

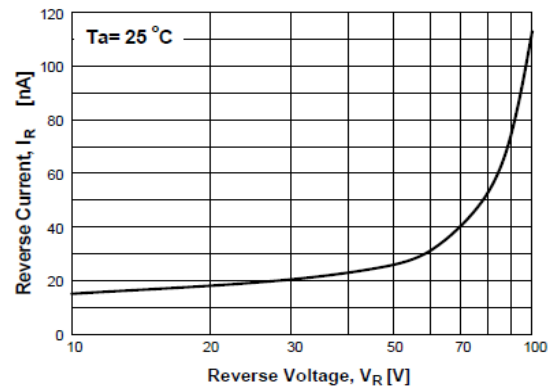


Figure 3. Forward Voltage vs Forward Current
 V_F - 1 to 100V

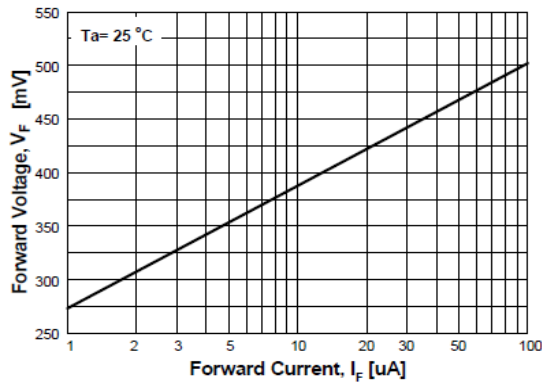


Figure 4. Forward Voltage vs Forward Current
 V_F - 0.1 to 10mA

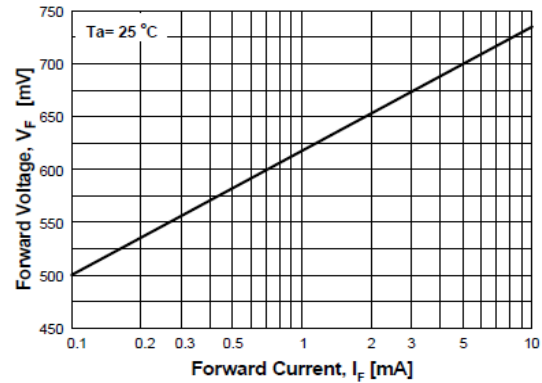


Figure 5. Forward Voltage vs Forward Current
 V_F - 10 to 800mA

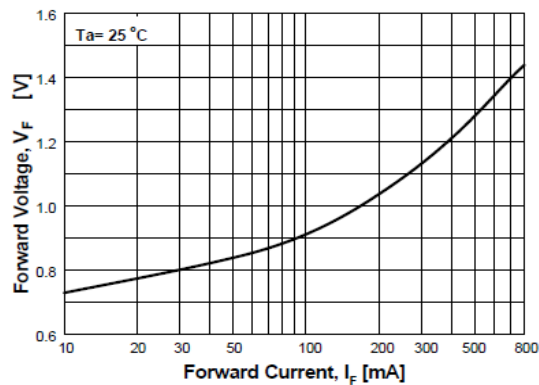
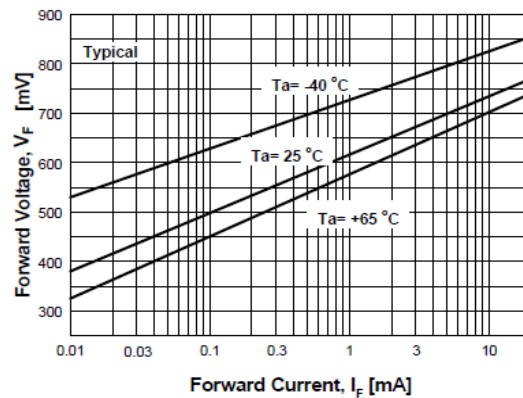


Figure 6. Forward Voltage vs Ambient Temperature
 V_F - 0.01 - 20mA (-40 to +65 Deg C)



LL4148_4448
Rev2_26032021EGL



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Typical Characteristic Curves

Figure 7. Total Capacitance

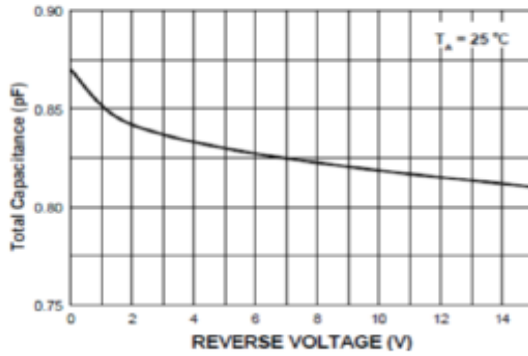


Figure 8. Reverse Recovery Time vs Reverse Recovery Current

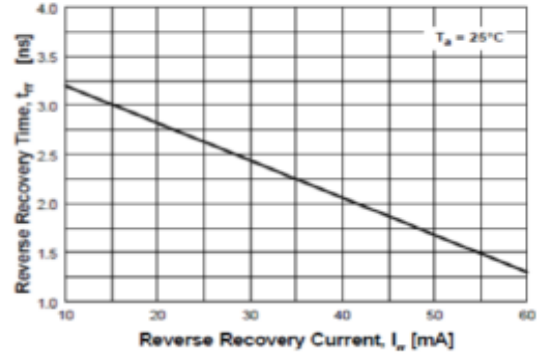


Figure 9. Average Rectified Current ($I_{F(AV)}$) versus Ambient Temperature (T_A)

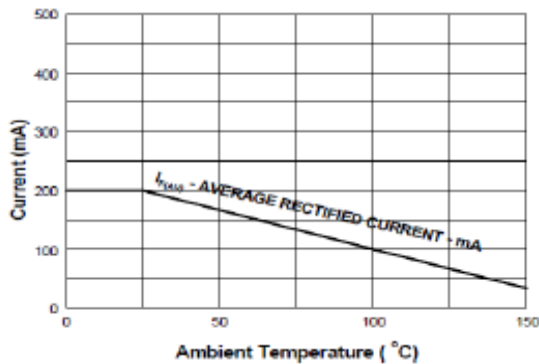
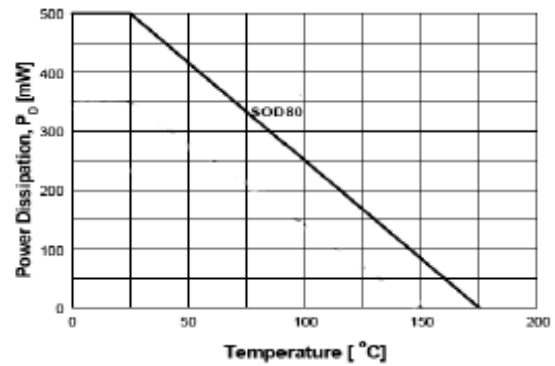


Figure 10. Power Derating Curve





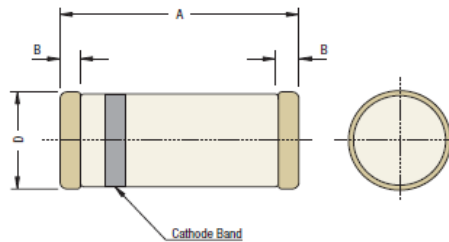
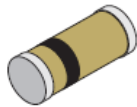
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Package Details

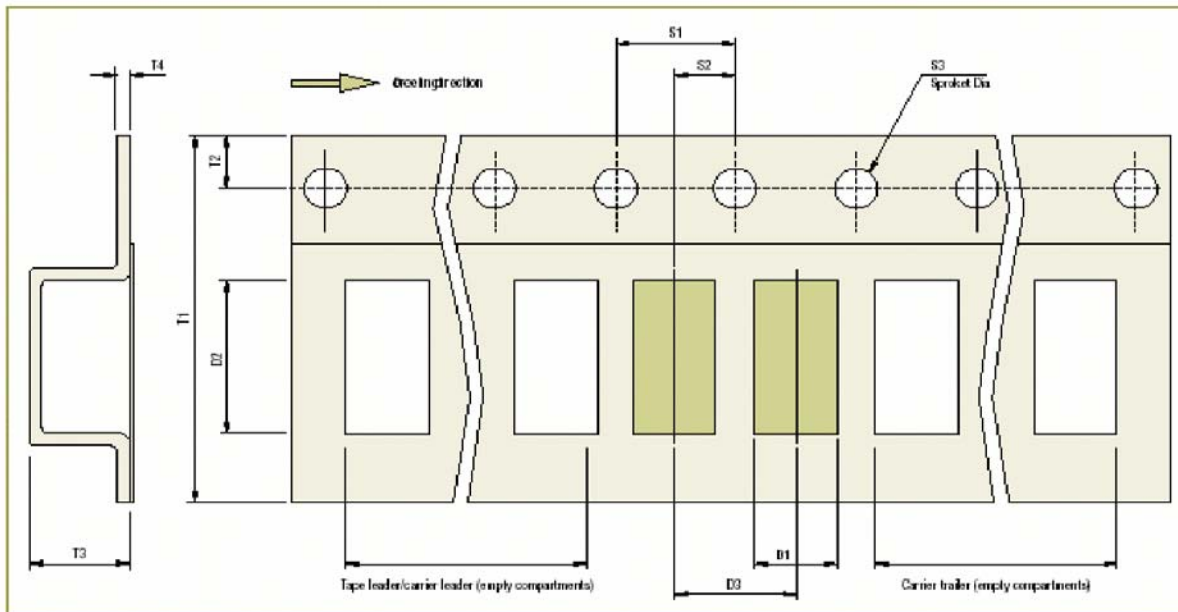
SOD-80C/LL-34
(Mini MELF)
Hermetically Sealed
SMD Glass Package



Dim	Min	Max
A	3.30	3.70
B	0.20	0.40
D	1.40	1.60

All dimensions are in mm

Packaging Tape Specifications for SMD Packages



SMD Tape Specifications (8-12 mm)

Device	D1	D2	D3	T1	T2	T3	T4	S1	S2	S3
						Max	Max			Dia
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm

LL4148_4448
Rev2_26032021EGL

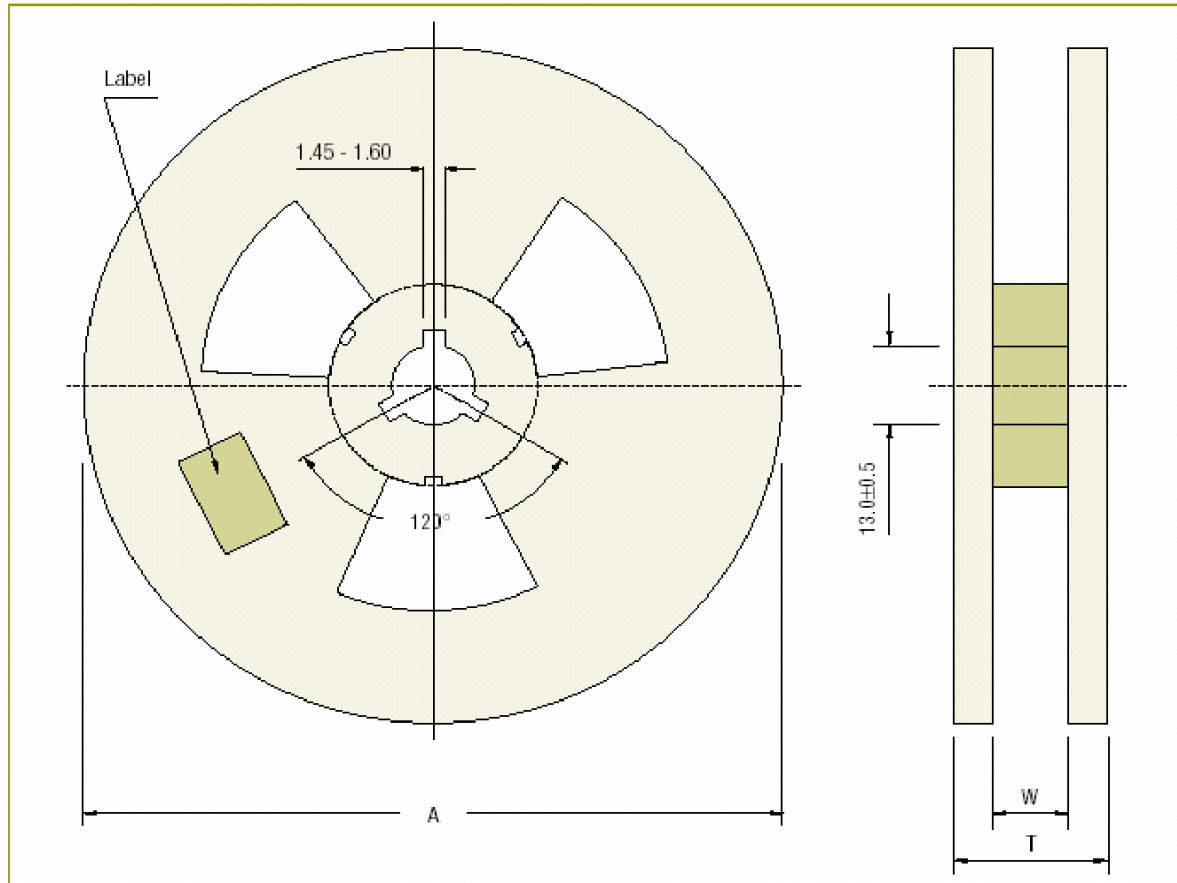


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Reel Specifications for SMD Packages



Reel Specifications

Package	Tape Width	Reel Dia.	Devices per Reel and MOQ	Inside Thickness W	Reel Thickness T - Max
SOD-80C (Mini MELF)	8	180	2,500	8.4±2	14.4
	8	330	10,000	8.4±2	14.4

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Rev2_26032021EGL



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



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LL4148_4448

Rev2_26032021EGL