

MCL4148

Silicon Epitaxial Planar Switching Diode

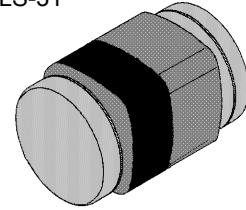
Features

- Saving space
- Hermetic sealed parts
- Fits onto SOD 323 / SOT 23 footprints
- Electrical data identical with the device 1N4148

Applications

Extreme fast switches

LS-31

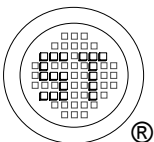


Glass Case MicroMELF

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Peak Reverse Voltage	V_{RM}	100	V
Reverse Voltage	V_R	75	V
Average Rectified Forward Current	$I_{F(AV)}$	200	mA
Repetitive Peak Forward Current	I_{FRM}	450	mA
Non-repetitive Peak Forward Surge Current	I_{FSM}	0.5 1 4	A
		at $t = 1$ s at $t = 1$ ms at $t = 1$ μ s	
Power Dissipation	P_{tot}	500 ¹⁾	mW
Junction Temperature	T_j	175	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 175	$^\circ\text{C}$

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



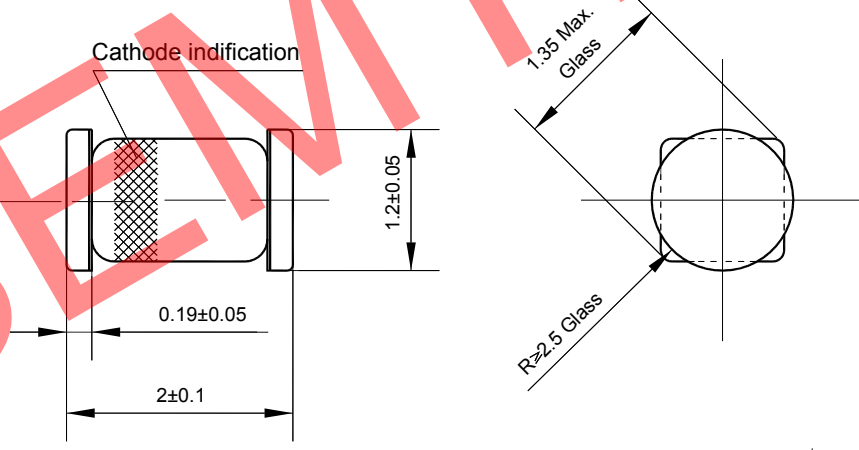
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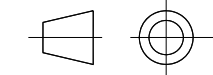
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Characteristics at $T_a = 25^\circ\text{C}$

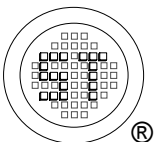
Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 100 \mu\text{A}$	$V_{(BR)R}$	100	-	V
Forward Voltage at $I_F = 50 \text{ mA}$	V_F	-	1	V
Leakage Current at $V_R = 20 \text{ V}$ at $V_R = 75 \text{ V}$ at $V_R = 20 \text{ V}, T_j = 150^\circ\text{C}$	I_R I_R I_R	- - -	25 5 50	nA μA μA
Capacitance at $V_R = 0, f = 1 \text{ MHz}$	C_{tot}	-	4	pF
Voltage Rise when Switching ON tested with 50 mA Forward Pulses $t_p = 0.1 \text{ s}$, Rise Time < 30 ns, $f_p = 5 \text{ to } 100 \text{ KHz}$	V_{rr}	-	2.5	V
Reverse Recovery Time at $I_F = 10 \text{ mA}$ to $I_R = 1 \text{ mA}$, $I_{\text{rr}} = 0.1 \times I_R$, $V_R = 6 \text{ V}$, $R_L = 100 \Omega$	t_{rr}	-	4	ns
Rectification Efficiency at $f = 100 \text{ MHz}, V_{\text{RF}} = 2 \text{ V}$	η_v	0.45	-	-



Glass case MicroMELF
Dimensions in mm

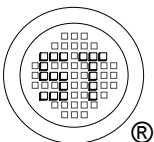
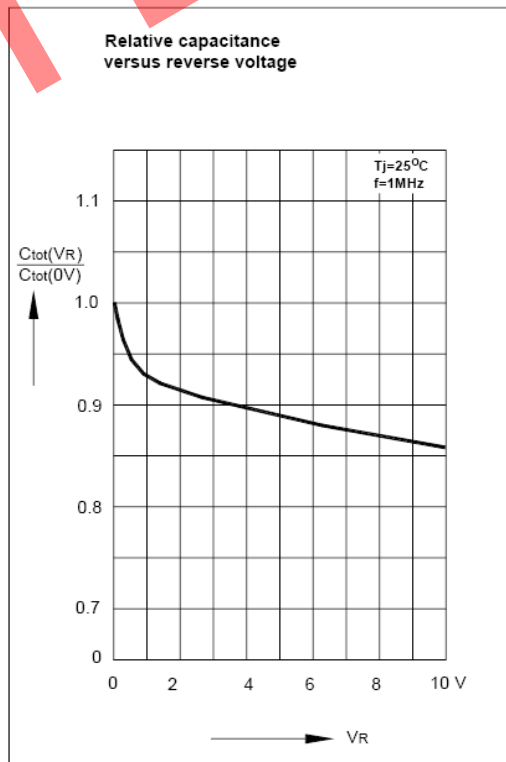
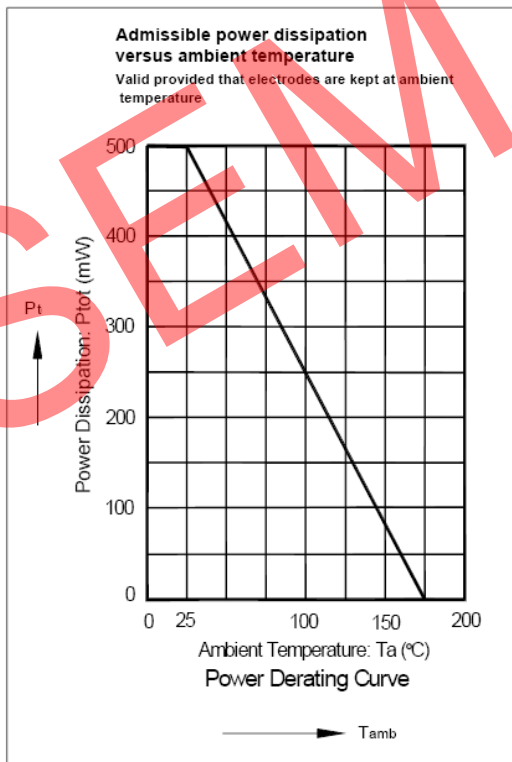
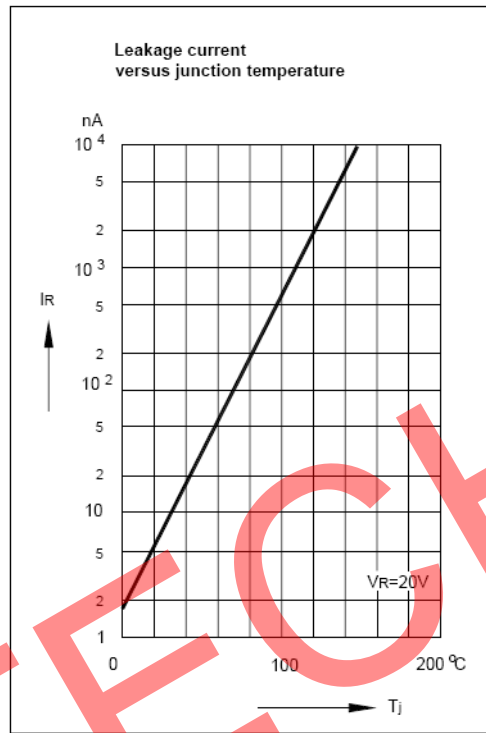
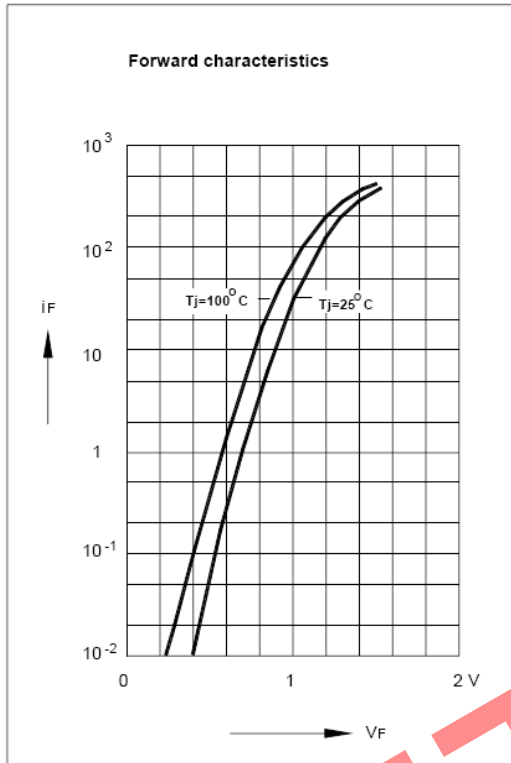


technical drawings
according to DIN
specifications



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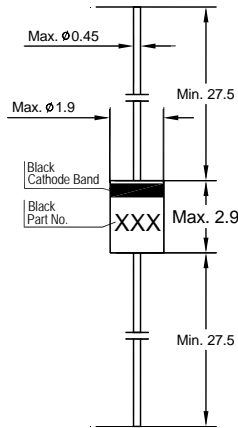


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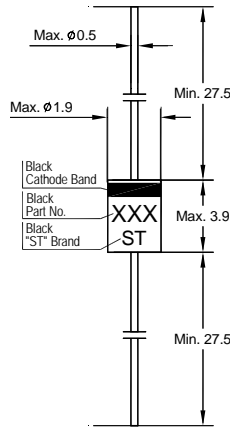


Glass Case Package Outline

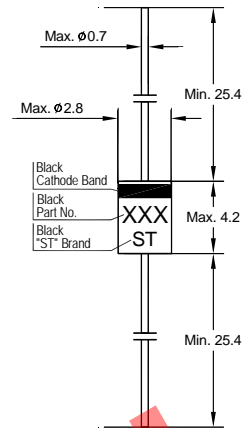
Package Outline Dimensions (Units: mm)



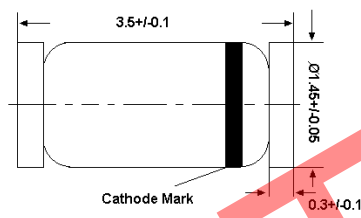
Glass Case DO-34
Dimensions in mm



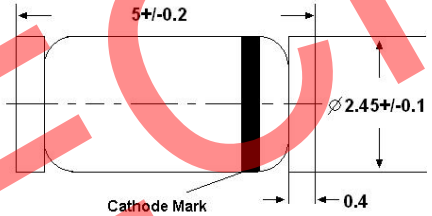
Glass Case DO-35
Dimensions in mm



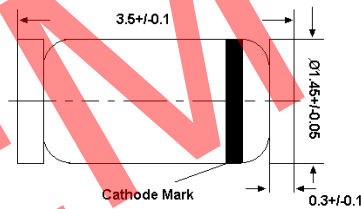
Glass Case DO-41
Dimensions in mm



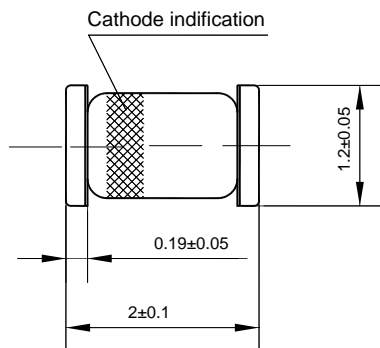
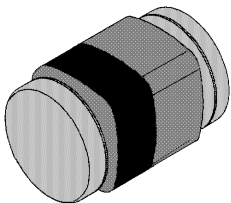
Glass case MiniMELF
Dimensions in mm
(LL-34)



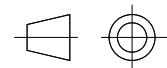
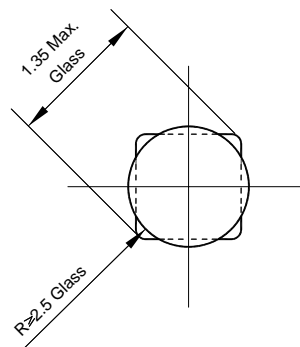
Glass case MELF
Dimensions in mm
(LL-41)



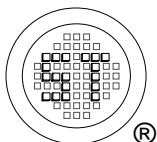
Glass case QuadroMELF
Dimensions in mm
(LS-34)



Glass case MicroMELF
Dimensions in mm
(LS-31)



technical drawings
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ISO/TS 16949 : 2009 Certificate No. 160713000
 ISO 14001 : 2004 Certificate No. 7116
 ISO 9001 : 2008 Certificate No. 50719410
 BS-OHSAS 18001 : 2007 Certificate No. 7116
 IECQ QC 080000 Certificate No. PCC-8896-168-1