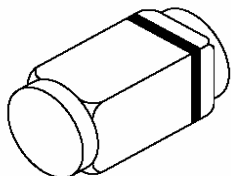


FAST SWITCHING SURFACE MOUNT DIODES

MCL4148 / MCL4448



LS-31 (Micro MELF) GLASS PACKAGE

Marking:- Cathode Band Colour Black

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	VALUE	UNIT
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Reverse Voltage	V_R	75	V
Peak Forward Surge Current $t_p=1\text{ms}$	I_{FSM}	2	A
Repetitive Peak Forward Current	I_{FRM}	450	mA
Forward Current	I_F	200	mA
Average Forward Current	$I_{F(AV)}$	150	mA
Power Dissipation	P_D	500	mW

THERMAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless specified otherwise)

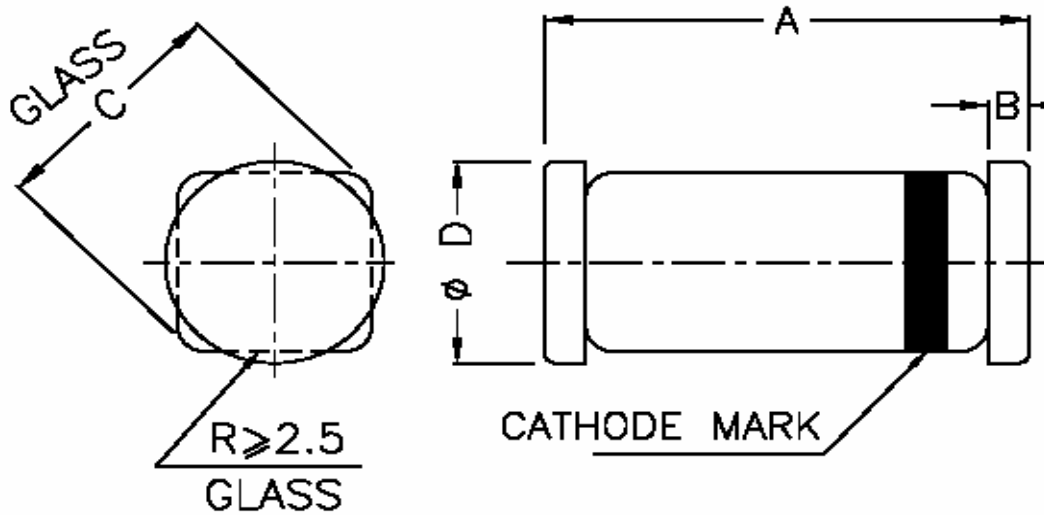
Junction to Ambient	$*R_{th(j-a)}$	500	K/W
Junction Temperature	T_j	175	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to +175	$^\circ\text{C}$

*Mounted on epoxy glass hard tissue, 35mm copper clad, 0.9mm^2 copper area per electrode

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Forward Voltage	V_F	$I_F=5\text{mA}$	0.62	0.72	V
	V_F	$I_F=50\text{mA}$		1.0	V
	V_F	$I_F=100\text{mA}$		1.0	V
Reverse Current	I_R	$V_R=20\text{V}$		25	nA
		$V_R=20\text{V}, T_j=150^\circ\text{C}$		50	μA
		$V_R=75\text{V}$		5.0	μA
Breakdown Voltage	$V_{(BR)}$	$I_R=100\mu\text{A}, t_p/T=0.01, t_p=0.3\text{ms}$	100		V
Diode Capacitance	C_d	$V_R=0\text{V}, f=1\text{MHz}, V_{HF}=50\text{mV}$		4.0	pF
Rectification Efficiency	η_r	$V_{HF}=2\text{V}, f=100\text{MHz}$	45		%
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

MCL4148_4448 Rev_2 161107E

PACKAGE MICRO MELF LS-31

DIM	MIN	MAX
A	1.90	2.10
B	0.21	0.26
C	—	1.35
D	1.20	1.25

All dimensions are in mm

PACKING:- 2.5K / REEL (7" 178.0mm)

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 Discrete 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).

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