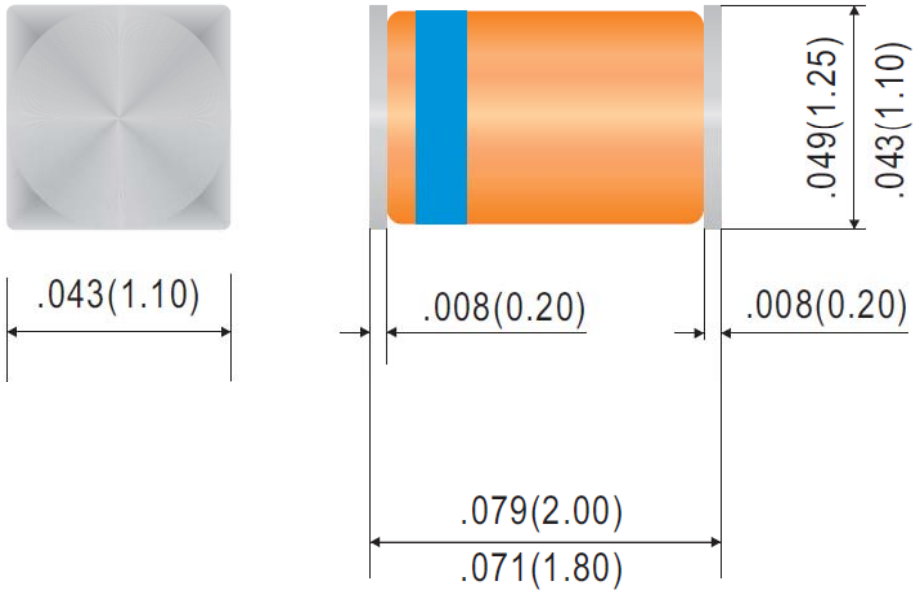
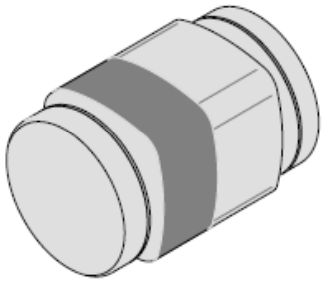
MCL4x48(MICRO-MELF)

Micro Melf Switching Diode





Dimensions in inches and (millimeters)

FEATURES

·Saving space
·Hermetic sealed parts
·Fits onto SOD-323 / SOT-23 footprints
·Electrical data identical with the devices 1N4148 and 1N4448 respectively
·Micro Melf package
·Extreme fast switches
·Moisture Sensitivity Level 1
·Polarity: Color band denotes cathode end

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Maximum Ratings (T_A=25°C unless otherwise specified)			
Characteristic	**Symbol**	**Value**	**Unit**
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Reverse Voltage	V_R	75	V
Peak Forward Surge Current t_p=1μs	I_{FSM}	2	A
Repetitive Peak Forward Current	I_{FRM}	450	mA
Forward Current	I_F	200	mA
Average Forward Current V_R=0	I_{FAV}	150	mA
Power Dissipation	P_D	500	mW
Junction Ambient, mounted on epoxy–glass hard tissue Fig. 1, 35 μm copper clad, 0.9 mm^2 copper area per electrode	R_{thJA}	500	K/W
Junction Temperature	TJ	150	°C
Operating/ Storage Temperature Range	T_{STG}	-55~+150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)						
Characteristic	**Symbol**	**Test Condition**	**Min.**	**Typ.**	**Max.**	**Unit**
Forward Voltage	V_F	I_F=5mA MCL4448	0.62	—	0.72	V
		I_F=50mA MCL4148	—	0.86	1	
		I_F=100mA MCL4448	—	0.93	1	
Reverse Current	I_R	V_R=20V	—	—	25	nA
		V_R=20V, T_J=150°C	—	—	50	μA
		V_R=75V	—	—	5	μA
Reverse Breakdown Voltage	$V_{(BR)}$	I_R=100μA t_p/T=0.01, t_p=0.3ms	100	—	—	V
Total Capacitance	C_T	V_R=0, f=1MHz, V_{HF}=50mV	—	—	4	pF
Rectification Efficiency	η_r	V_{HF}=2V, f=100MHz	45	—	—	%
Reverse Recovery Time	t_{rr}	I_F=I_R=10mA, i_R=1mA	—	—	8	ns
		I_F=10mA, V_R=6V, i_R=0.1xI_R, R_L=100	—	—	4	

Characteristics (T_j = 25°C unless otherwise specified)

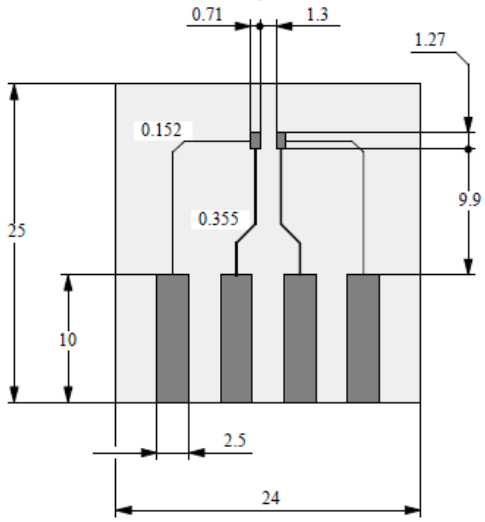

Figure 1. Board for R_{thJA} definition (in mm)

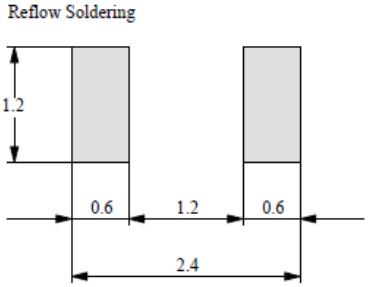

Figure 2. Recommended foot pads (in mm)

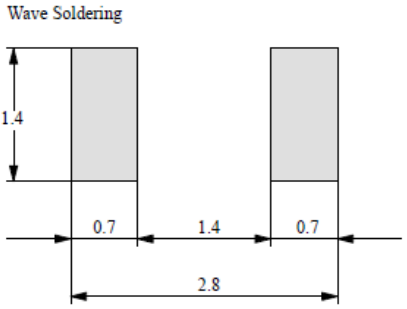

Figure 3. Recommended foot pads (in mm)

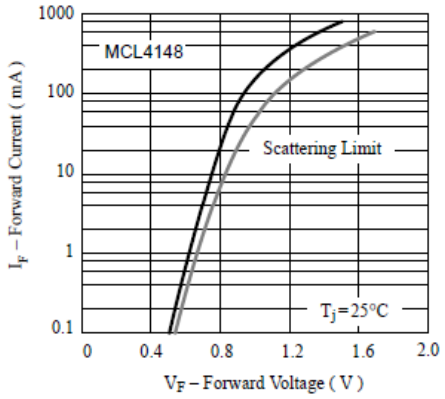

Figure 4. Forward Current vs. Forward Voltage

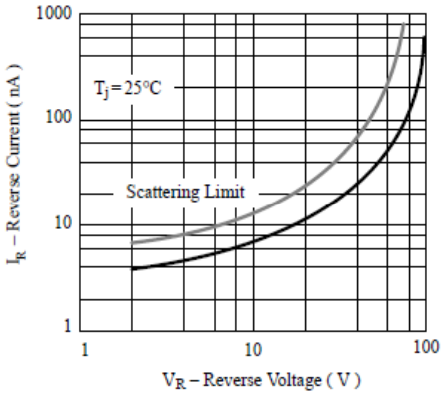

Figure 6. Reverse Current vs. Reverse Voltage

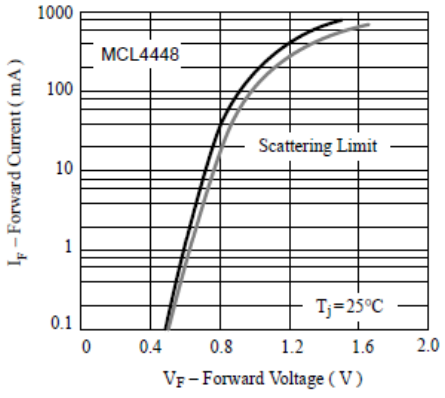

Figure 5. Forward Current vs. Forward Voltage

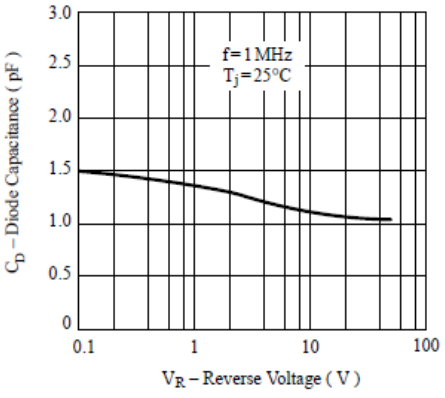

Figure 7. Diode Capacitance vs. Reverse Voltage