

High-Speed Switching Diodes

(Pb) Lead(Pb)-Free

Features:

- *Silicon Epitaxial Planar Diode
- *Fast Switching Diodes
- *500 mW Power Dissipation

Mechanical Data:

- *Case : MicroMELF Glass Case
- *Weight : Approx 0.0123 gram

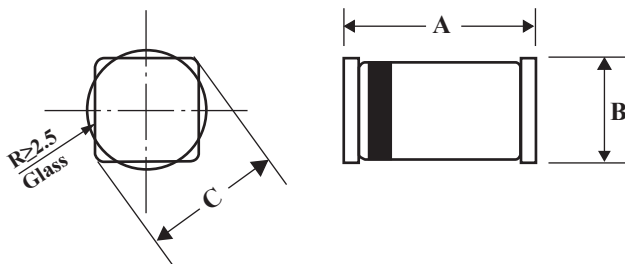
SMALL SIGNAL
SWITCHING DIODES
150 m AMPERES
75 VOLTS



MICRO-MELF

MICRO-MELF Outline Dimensions

Unit:mm



MICRO-MELF		
Dim	Min	Max
A	2.0	1.8
B	1.20	1.30
C	1.35	1.35

Maximum Ratings ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Characteristic	Symbol	MCL4148/MCL4448	Unit
Peak Repetitive Reverse Voltage	V_{PWM}	100	V
DC Blocking Voltage	V_R	75	V
Average Rectified Output Current (1)	I_o	150	mA
Non-Repetitive Peak Forward Surge Current @ $t=1.0\mu\text{s}$	I_{FSM}	2.0	A
Power Dissipation	P_d	500	mW
Thermal Resistance Junction to Ambient(2)	$R_{\theta JA}$	300	K/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Reverse Breakdown Voltage $I_R=100\mu\text{A}$	$V_{(BR)R}$	100	-	V
Forward Voltage MCL4148 $I_F=10\text{ mA}$ MCL4448 $I_F=5\text{ mA}$ $I_F=100\text{ mA}$	V_F	0.62	1.0 0.72 1.0	V
Leakage Current $V_R=20\text{V}$ $V_R=75\text{V}$ $V_R=20\text{V}, T_J=150^{\circ}\text{C}$	I_R	- - -	25 5 50	nA uA uA
Junction Capacitance $V_R=0\text{V}, f=1\text{MHz}$	C_j	-	4	PF
Reverse Recovery Time $I_F=10\text{ mA}, I_R=1\text{ mA}, i_R=0.1 \times I_R, V_R=6\text{V}, R_L=100\Omega$	T_{rr}	-	4	nS

Note: 1. Valid Provided that device Terminals are Kept at Ambient Temperature.

2. On PC board 50 mm \times 50mm \times 1.6mm.

Typical Characteristics ($T_{amb}=25^{\circ}C$ unless otherwise specified)

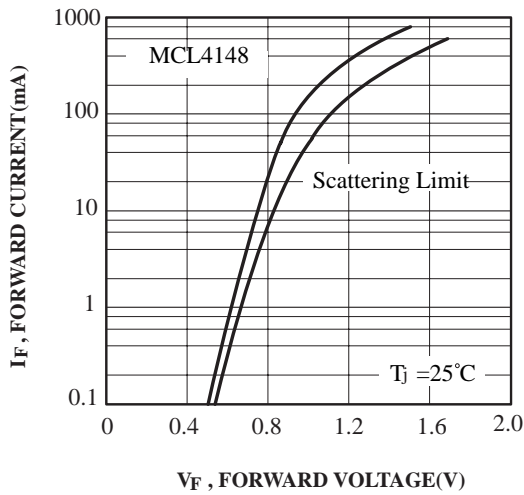


FIG.1 Forward Current vs. Forward Voltage

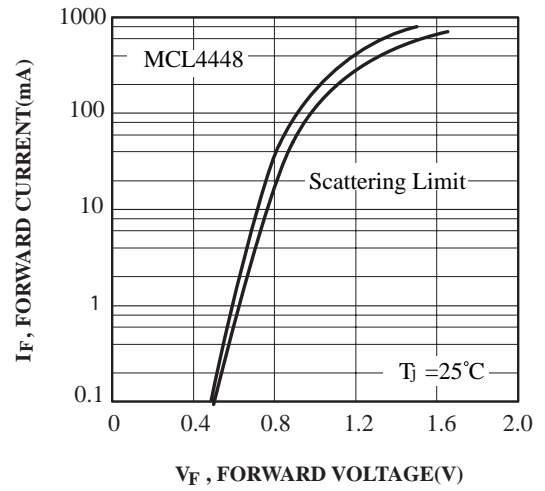


FIG.2 Forward Current vs. Forward Voltage

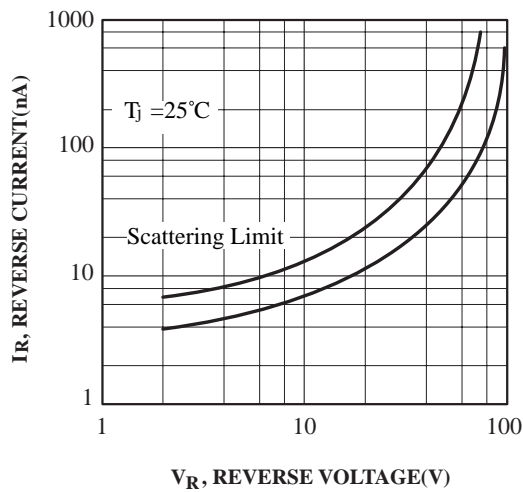


FIG.3 Reverse Current vs. Reverse Voltage

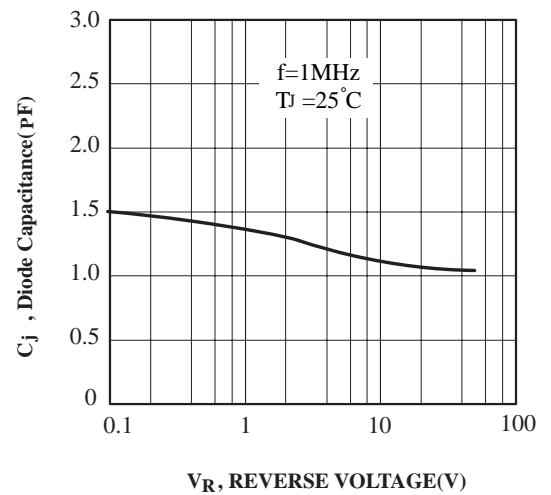


FIG.4 Diode Capacitance vs. Reverse Voltage