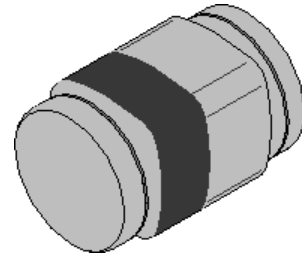


High-speed switching diode

Features

1. Saving space
2. Fits onto SOD 323/SOT 23 footprints
3. Micro Melf package



Applications

Extreme fast switches

Construction

Silicon epitaxial planar

Absolute Maximum Ratings

$T_j=25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Repetitive peak reverse voltage			V_{RRM}	100	V
Reverse voltage			V_R	75	V
Peak forward surge current	$t_p=1\mu\text{ s}$		I_{FSM}	2	A
Repetitive peak forward voltage			I_{FRM}	450	mA
Forward current			I_F	200	mA
Average forward current	$V_R=0$		I_{FAV}	150	mA
Power dissipation			P_V	500	mW
Junction temperature			T_j	175	?
Storage temperature range			T_{stg}	-65~+175	?

Maximum Thermal Resistance

$T_j=25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	on PC board 50mm× 50mm× 1.6mm	R_{thJA}	500	K/W

Electrical Characteristics

T_j=25?

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I _F =5mA	MCL4448	V _F	0.62		0.72	V
	I _F =10mA	MCL4148	V _F		0.86	1	V
	I _F =100mA	MCL4448	V _F		0.93	1	V
Reverse current	V _R =20V		I _R			25	nA
	V _R =20V, T _j =150?		I _R			50	μ A
	V _R =75V		I _R			5	μ A
Breakdown current	I _R =100μ A, t _p /T=0.01, t _p =0.3ms		V _(BR)	100			V
Diode capacitance	V _R =0, f=1MHz, V _{Hf} =50mV		C _D			4	pF
Rectification efficiency	V _{Hf} =2V, f=100MHz		η _R	45			%
Reverse recovery time	I _F = I _R =10mA, i _R =1mA		t _{rr}			8	ns
	I _F =10mA, V _R =6V, i _R =0.1× I _R , R _L =1000		t _{rr}			4	ns

Characteristics (T_j=25? unless otherwise specified)

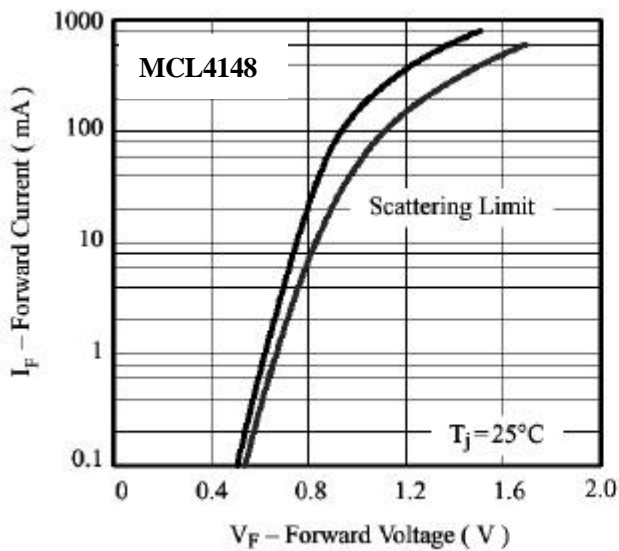


Figure 1. Forward Current vs. Forward Voltage

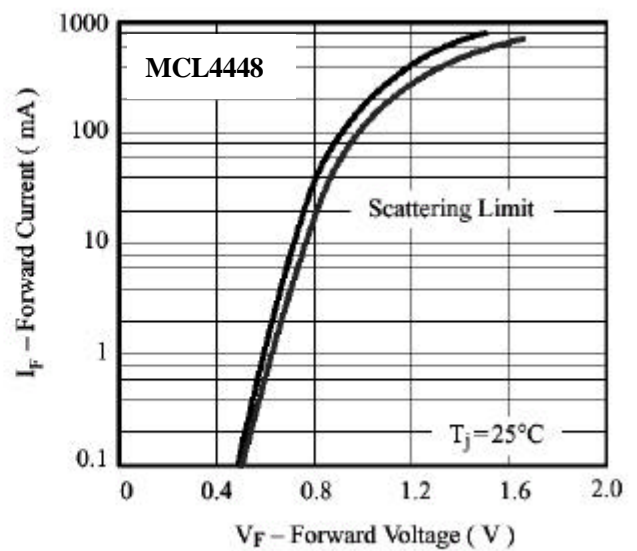


Figure 2. Forward Current vs. Forward Voltage

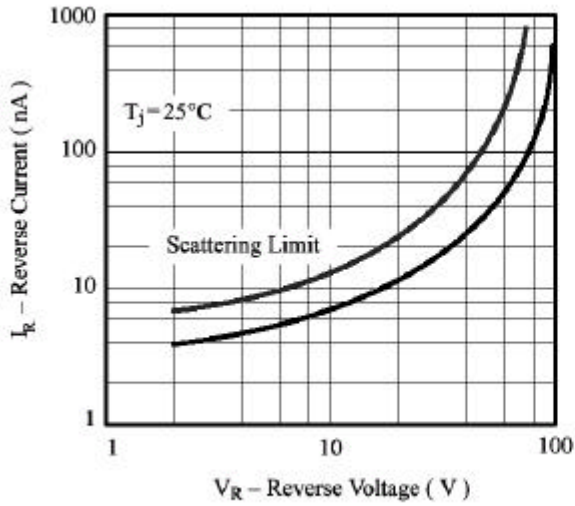


Figure 3. Reverse Current vs. Reverse Voltage

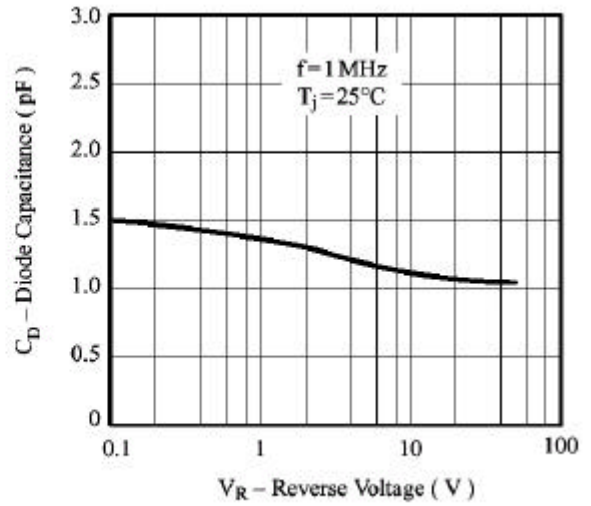
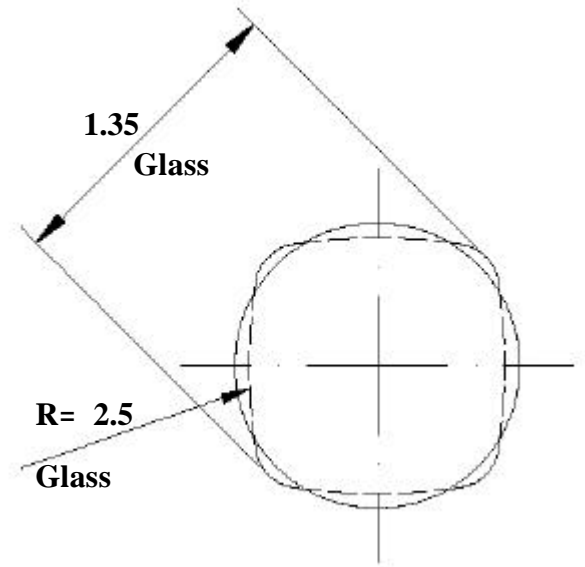
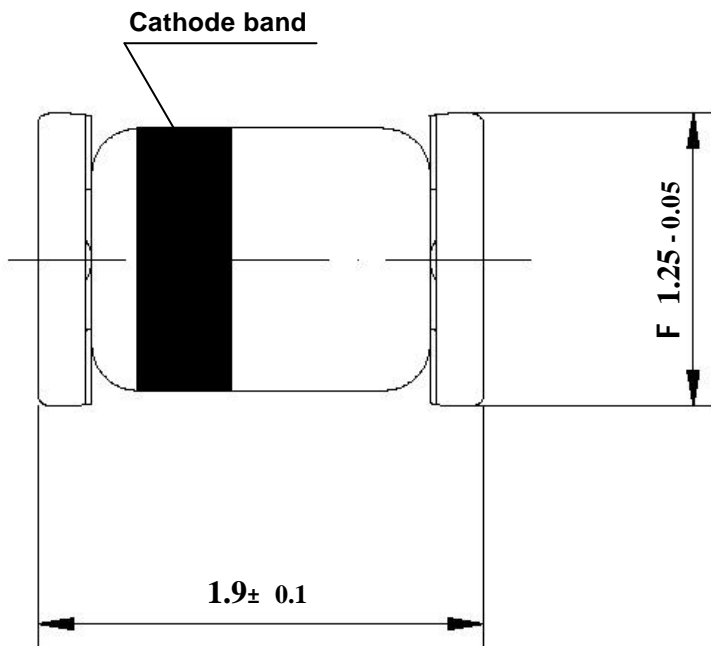


Figure 4. Diode Capacitance vs. Reverse Voltage

Dimensions in mm



Glass Case

Micro Melf