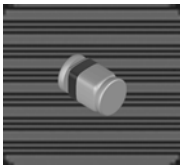
MCL4154

Fast Switching Diode



Features

- Silicon Epitaxial Planar Diodes
- Electrical data identical with the device 1N4154
- Micro Melf package

Applications

- Extreme fast switches

Mechanical Data

- Case: MicroMELF Glass Case
- Weight: approx. 12.3 mg
- Cathode Band Color: Black

■Absolute Maximum Ratings

(T_{amb}=25ºC unless otherwise specified)

Parameter	Test Condition	Symbol	Value	Unit
Repetitive peak reverse voltage		V_{RRM}	35	V
Reverse voltage		V_R	25	V
Peak forward surge current	t_p= 1 uS	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_V	500	mW

■Thermal Characteristics

(T_{amb}=25ºC unless otherwise specified)

Parameter	Test Condition	Symbol	Value	Unit
Junction ambient	mounted on epoxy-glass hard tissue, Fig 4. 35 um copper clad, 0.9m^2 copper area per electrode	R_{thJA}	500	K/W
Junction temperature		T_j	175	ºC
Stroage temperature range		T_{stg}	-65 to +175	ºC

■Electrical Characteristics

(T_{amb}=25ºC unless otherwise specified)

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	I_F=30mA	V_F			1	V
Reverse current	V_R=25V	I_R			100	nA
	V_R=25V, T_j=150ºC				100	uA
Breakdown voltage	I_R=5uA, t_p/T=0.01, t_p=0.3ms	$V_{(BR)}$	35			V
Diode capacitance	V_R=0, f=1MHz, V_{HF}=50mV	C_D			4	pF
Reverse recovery time	I_F=I_R=10mA, i_R=1mA	t_{rr}			4	nS
	I_F=10mA, V_R=6V, i_R=0.1x I_R, R_L=100Ω				2	

■Typical characteristics

(T_{amb}=25°C unless otherwise specified)

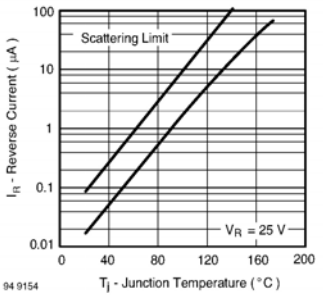


Fig. 1 Reverse Current vs. Junction Temperature

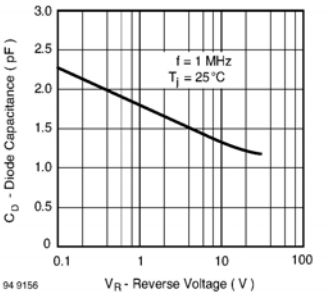


Fig. 3 Diode Capacitance vs. Reverse Voltage

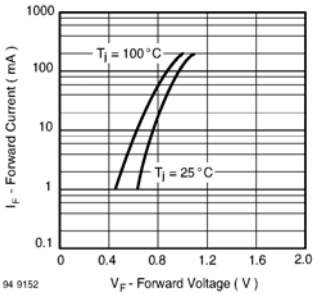


Fig. 2 Forward Current vs. Forward Voltage

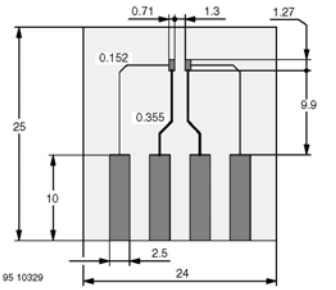


Fig. 4 Board for R_{thJA} definition (in mm)

Package Dimensions in mm (inches)