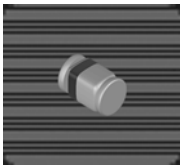
MCL101A / 101B / 101C

Small Signal Schottky Barrier Diodes

GOOD-ARK

Features

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop



Applications

HF-Detector
Protection circuit
Diode for low currents with a low supply voltage
Small battery charger
Power supplies
DC / DC converter for notebooks

Mechanical Data

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

■Absolute Maximum Ratings

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

Parameter	Test Condition	Part	Symbol	Value	Unit
Reverse voltage		MCL101A	V_R	60	V
		MCL101B	V_R	50	V
		MCL101C	V_R	40	V
Peak forward surge current	t_p= 10 us		I_{FSM}	2	A
Repetitive peak forward current			I_{FRM}	150	mA
Forward current			I_F	30	mA

■Thermal Characteristics

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

Parameter	Test Condition	Symbol	Value	Unit
Junction ambient	on PC board 50 mm X 50mm X 1.6mm	R_{thJA}	320	K/W
Junction temperature		T_j	125	°C
Stroage temperature range		T_{stg}	-65 to +150	°C

■Electrical Characteristics

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

Parameter	Test Condition	Part	Symbol	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	I_R = 10 uA	MCL101A	$V_{(BR)R}$	60			V
		MCL101B		50			
		MCL101C		40			
Leakage current	V_R=50V	MCL101A	I_R			200	nA
	V_R=40V	MCL101B				200	
	V_R=30V	MCL101C				200	
Forward voltage drop	I_F = 1 mA	MCL101A	V_F			0.41	V
		MCL101B				0.4	
		MCL101C				0.39	
	I_F = 15 mA	MCL101A				1	
		MCL101B				0.95	
		MCL101C				0.9	
Diode capacitance	V_R=0, f=1MHz	MCL101A	C_D			2.0	pF
		MCL101B				2.1	
		MCL101C				2.2	

■Typical characteristics

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

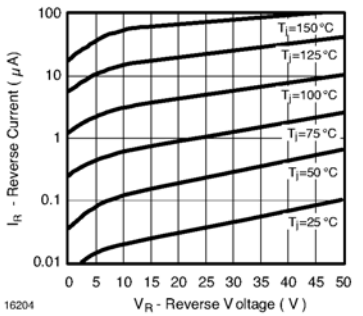


Fig. 1 Reverse Current vs. Reverse Voltage

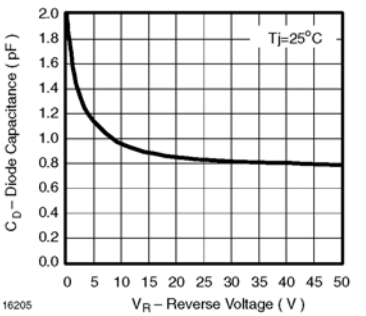


Fig. 2 Diode Capacitance vs. Reverse Voltage

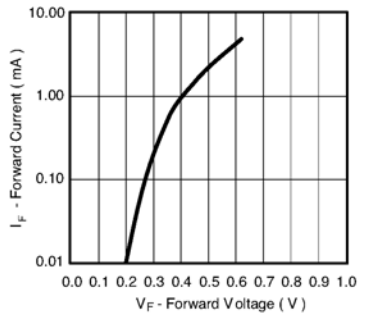


Fig. 3 Forward Current vs. Forward Voltage

Package Dimensions in mm (inches)