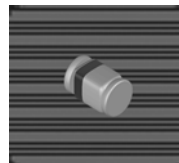


MCL101A / 101B / 101C

Small Signal Schottky Barrier Diodes

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

($T_{amb}=25^{\circ}\text{C}$ 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	$t_p = 10 \mu\text{s}$		I_{FSM}	2	A
Repetitive peak forward current			I_{FRM}	150	mA
Forward current			I_F	30	mA

Thermal Characteristics

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

Parameter	Test Condition	Symbol	Value	Unit
Junction ambient	on PC board 50 mm X 50mm X 1.6mm	$R_{\theta JA}$	320	K/W
Junction temperature		T_J	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-65 to +150	$^{\circ}\text{C}$

Electrical Characteristics

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

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

■ Typical characteristics

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

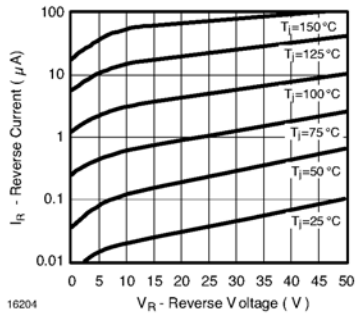


Fig. 1 Reverse Current vs. Reverse Voltage

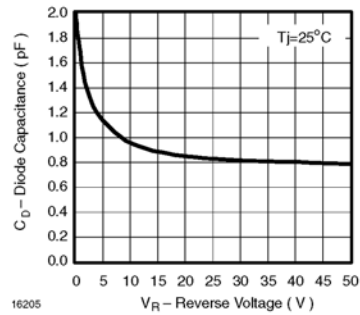


Fig. 2 Diode Capacitance vs. Reverse Voltage

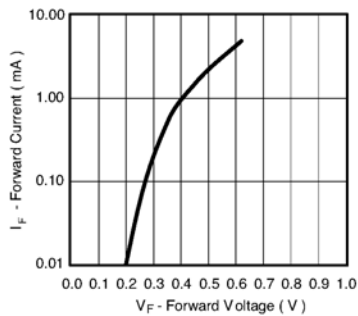


Fig. 3 Forward Current vs. Forward Voltage

Package Dimensions in mm (inches)

