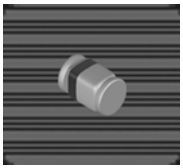
MCL103A / 103B / 103C

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
Small battery charger
AC-DC / DC-DC converters

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		MCL103A	V_R	40	V
		MCL103B	V_R	30	V
		MCL103C	V_R	20	V
Peak forward surge current	t_p= 300 us, square pulse		I_{FSM}	15	A
Power dissipation	l = 4 mm, T_L=constant		P_{tot}	400	mW

■Thermal Characteristics

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

Parameter	Test Condition	Symbol	Value	Unit
Junction ambient	l = 4 mm, T_L=constant	R_{thJA}	250	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	MCL103A	$V_{(BR)R}$	40			V
		MCL103B		30			
		MCL103C		20			
Leakage current	V_R=30V	MCL103A	I_R			5	uA
	V_R=20V	MCL103B				5	
	V_R=10V	MCL103C				5	
Forward voltage drop	I_F = 20mA		V_F			0.37	V
	I_F = 200mA					0.6	
Diode capacitance	V_R = 0 V, f=1MHz		C_D		50		pF
Reverse recovery time	I_F=I_R=50mA to 200mA, recover to 0.1 I_R		t_{rr}		10		ns

■Typical characteristics

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

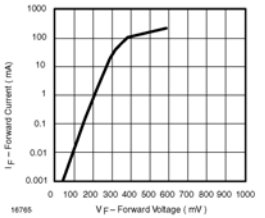


Fig. 1 Forward Current vs. Forward Voltage

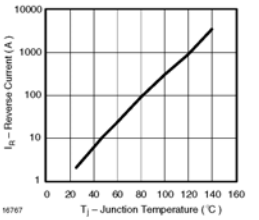


Fig. 3 Reverse Current vs. Junction Temperature

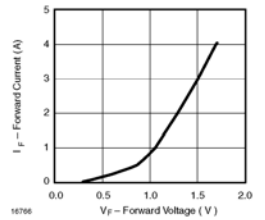


Fig. 2 Forward Current vs. Forward Voltage

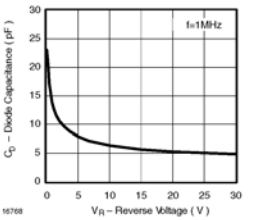


Fig. 4 Diode Capacitance vs. Reverse Voltage

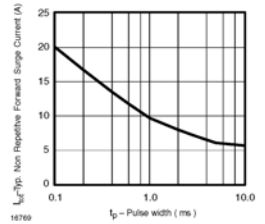


Fig. 5 Typ. Non Repetitive Forward Surge Current vs. Pulse width

Package Dimensions in mm (inches)

