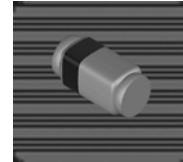# LS103A / 103B / 103C

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
Small battery charger
AC-DC / DC-DC converters

Mechanical Data
- Case:QuadroMELF Glass Case (SOD-80)
- Weight: approx. 34 mg
- Cathode Band Color: Black

■Absolute Maximum Ratings

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

Parameter	Test Condition	Part	Symbol	Value	Unit
Reverse voltage		LS103A	V_R	40	V
		LS103B	V_R	30	V
		LS103C	V_R	20	V
Peak forward surge current	t_p= 300 us, square pulse		I_{FSM}	15	A
Power dissipation	I = 4 mm, T_L=constant		P_{tot}	400	mW

■Thermal Characteristics

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

Parameter	Test Condition	Symbol	Value	Unit
Junction ambient	I = 4 mm, T_L=constant	R_{thJA}	250	K/W
Junction temperature		T_j	125	ºC
Stroage temperature range		T_{stg}	-65 to +150	ºC

■Electrical Characteristics

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

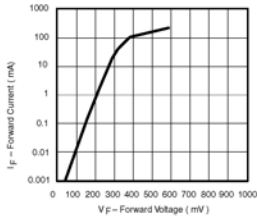| Parameter	Test Condition	Part	Symbol	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	I_R = 10 uA	LS103A		40			
		LS103B	$V_{(BR)R}$	30			V
		LS103C		20			
Leakage current	V_R = 30V	LS103A				5	
	V_R = 20V	LS103B	I_R			5	uA
	V_R = 10V	LS103C				5	
Forward voltage drop	I_F = 20mA		V_F			0.37	V
	I_F = 200mA					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

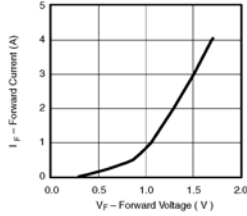Fig. 1 Forward Current vs. Forward Voltage

Fig. 2 Forward Current vs. Forward Voltage

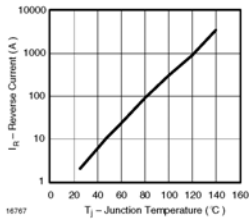Fig. 3 Reverse Current vs. Junction Temperature
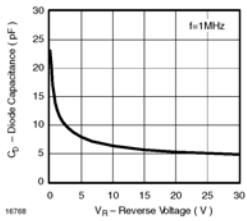
Fig. 4 Diode Capacitance vs. Reverse Voltage

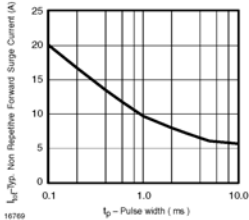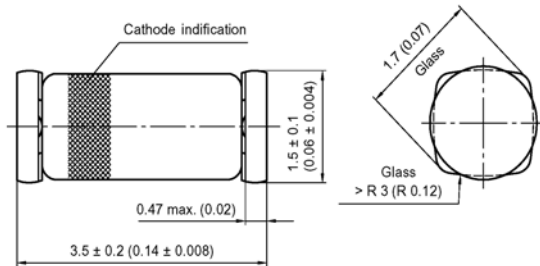Fig. 5 Typ. Non Repetitive Forward Surge Current vs. Pulse width

Package Dimensions in mm (inches)

Cathode indification

1.7 (0.07) Glass

1.5 ± 0.1 (0.06 ± 0.004)

Glass > R 3 (R 0.12)

0.47 max. (0.02)

3.5 ± 0.2 (0.14 ± 0.008)

ISO Method E

Glass case
Quadro Melf / SOD 80
JEDEC DO 213 AA

Mounting Pad Layout

2.50 (0.098) max

1.25 (0.049) min

2 (0.079) min

5 (0.197) ref