

Small Signal Schottky 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: MiniMELF SOD-80
Weight: approx. 31 mg
Cathode band color: black

● Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
Reverse voltage		LL103A	V_R	40	V
		LL103B	V_R	30	V
		LL103C	V_R	20	V
Forward continuous current			I_{FAV}	200	mA
Peak forward surge current	$t_p = 300\text{ }\mu\text{s}$, square pulse		I_{FSM}	15	A
Power dissipation			P_{tot}	400	mW

● Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air	On PC board 50 mm x 50 mm x 1.6 mm	R_{thJA}	250	K/W
Junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

● Electrical Characteristics

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

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Reverse breakdown voltage	$I_R = 50\text{ }\mu\text{A}$	LL103A	$V_{(BR)}$	40			V
		LL103B	$V_{(BR)}$	30			V
		LL103C	$V_{(BR)}$	20			V
Leakage current	$V_R = 30\text{ V}$	LL103A	I_R			5	μA
	$V_R = 20\text{ V}$	LL103B	I_R			5	μA
	$V_R = 10\text{ V}$	LL103C	I_R			5	μA
Forward voltage drop	$I_F = 20\text{ mA}$		V_F			370	mV
	$I_F = 200\text{ mA}$		V_F			600	mV
Diode capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$		C_D		50		pF
Reverse recovery time	$I_F = I_R = 50\text{ to }200\text{ mA}$, recover to $0.1\text{ }I_R$		t_{rr}		10		ns

● Typical Characteristics

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

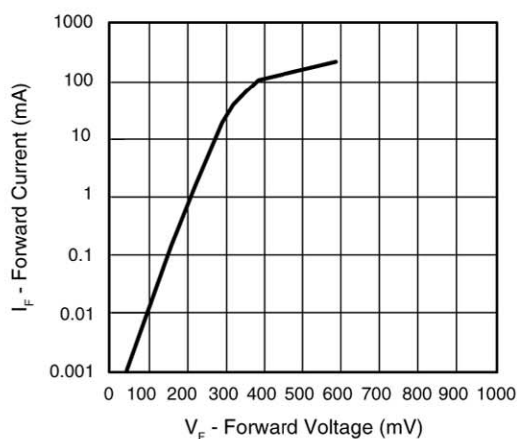


Figure 1. Forward Current vs. Forward Voltage

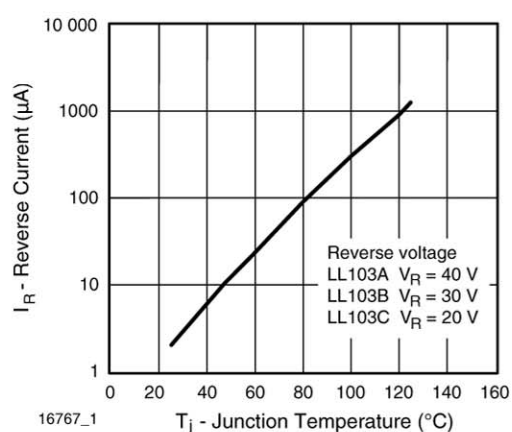


Figure 3. Reverse Current vs. Junction Temperature

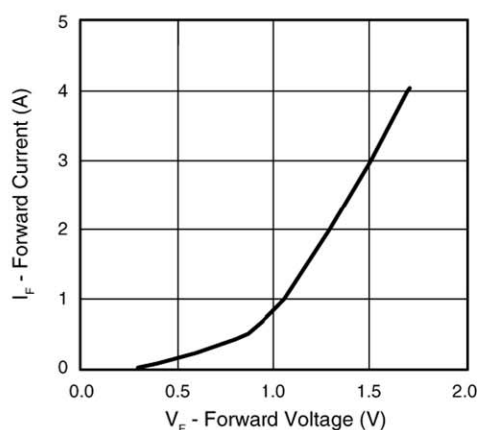


Figure 2. Forward Current vs. Forward Voltage

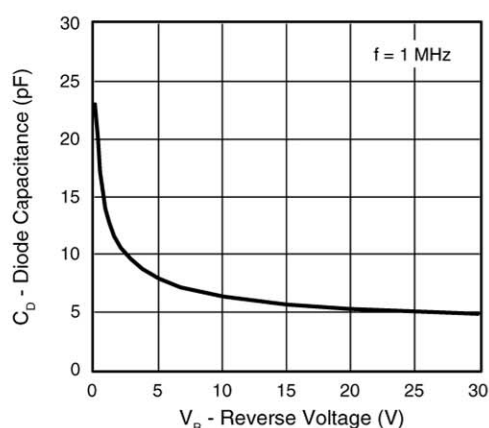


Figure 4. Diode Capacitance vs. Reverse Voltage

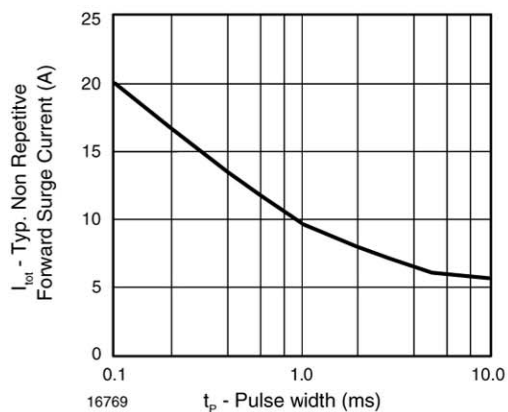
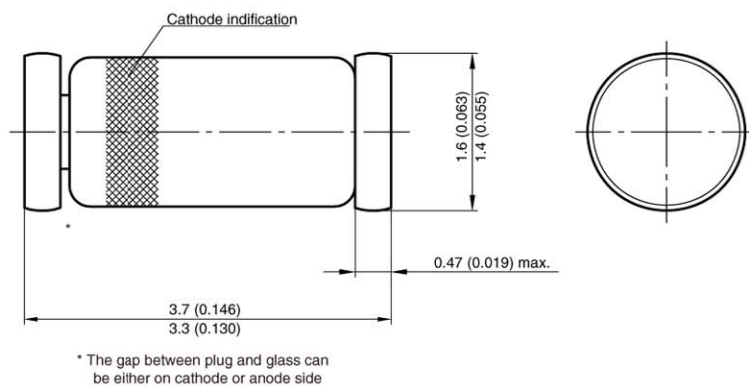
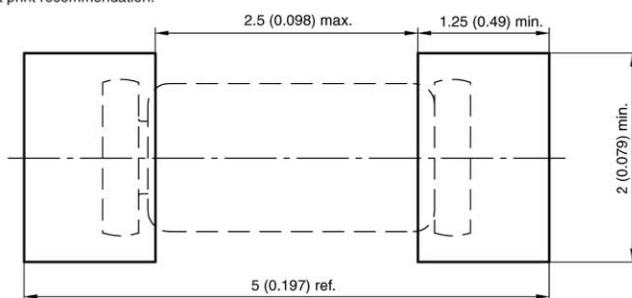


Figure 5. Typ. Non Repetitive Forward Surge Current vs. Pulse width

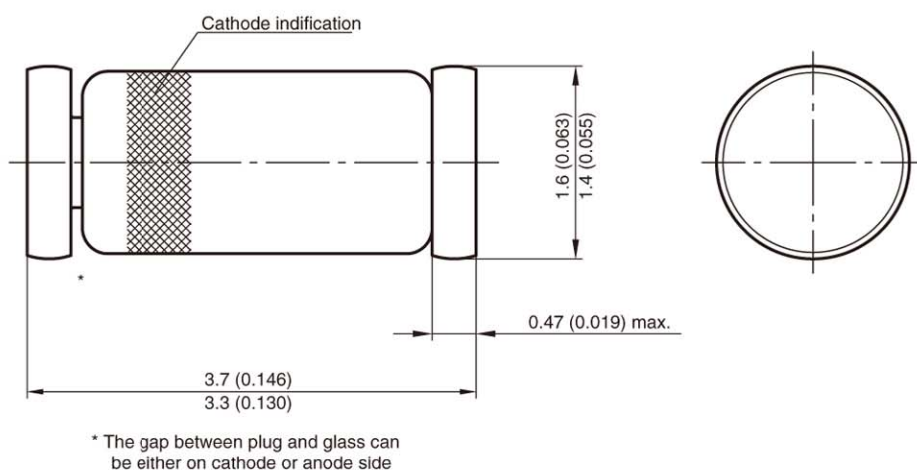
Package



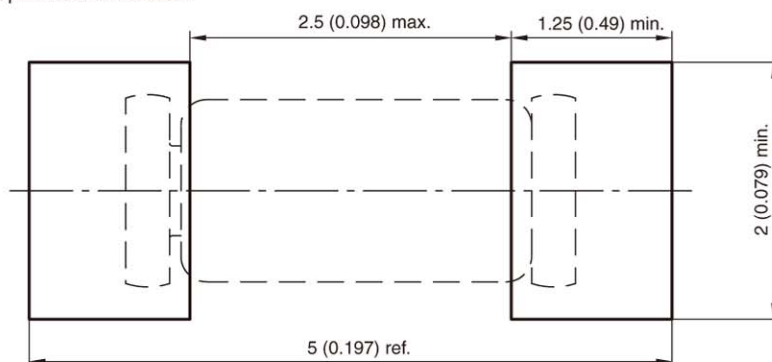
Foot print recommendation:



PACKAGE DIMENSIONS in millimeters (inches)



Foot print recommendation:



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