

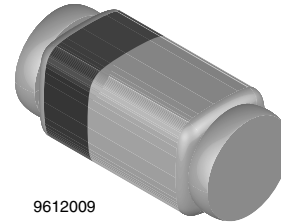
## Small Signal Schottky Diodes

### Features

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



**RoHS**  
COMPLIANT



9612009

### Applications

- HF-Detector
- Protection circuit
- Small battery charger
- AC-DC / DC-DC converters

### Mechanical Data

**Case:** QuadroMELF SOD-80

**Weight:** approx. 34 mg

**Cathode band color:** black

**Packaging codes/options:**

GS18 / 10 k per 13" reel (8 mm tape), 10 k/box

GS08 / 2.5 k per 7" reel (8 mm tape), 12.5 k/box

### Parts Table

Part	Type differentiation	Ordering code	Remarks
LS103A	$V_R = 40\text{ V}$	LS103A-GS18 or LS103A-GS08	Tape and Reel
LS103B	$V_R = 30\text{ V}$	LS103B-GS18 or LS103B-GS08	Tape and Reel
LS103C	$V_R = 20\text{ V}$	LS103C-GS18 or LS103C-GS08	Tape and Reel

### Absolute Maximum Ratings

$T_{amb} = 25\text{ }^\circ\text{C}$ , 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	$t_p = 300\text{ }\mu\text{s}$ , 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	$I_R = 10\text{ }\mu\text{A}$	LS103A	$V_{(BR)}$	40			V
		LS103B	$V_{(BR)}$	30			V
		LS103C	$V_{(BR)}$	20			V
Leakage current	$V_R = 30\text{ V}$	LS103A	$I_R$			5	$\mu\text{A}$
	$V_R = 20\text{ V}$	LS103B	$I_R$			5	$\mu\text{A}$
	$V_R = 10\text{ V}$	LS103C	$I_R$			5	$\mu\text{A}$
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

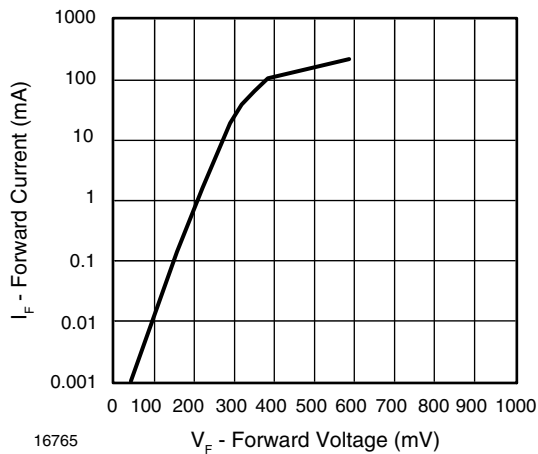


Figure 1. Forward Current vs. Forward Voltage

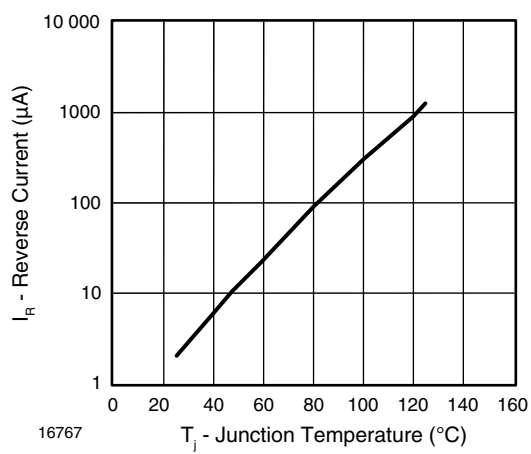


Figure 3. Reverse Current vs. Junction Temperature

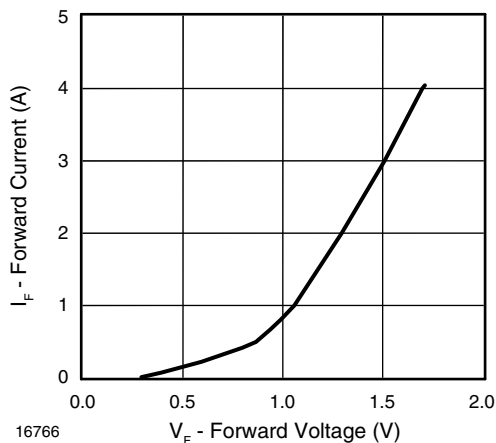


Figure 2. Forward Current vs. Forward Voltage

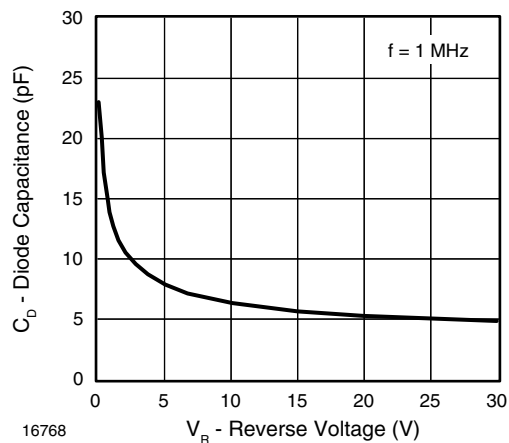


Figure 4. Diode Capacitance vs. Reverse Voltage

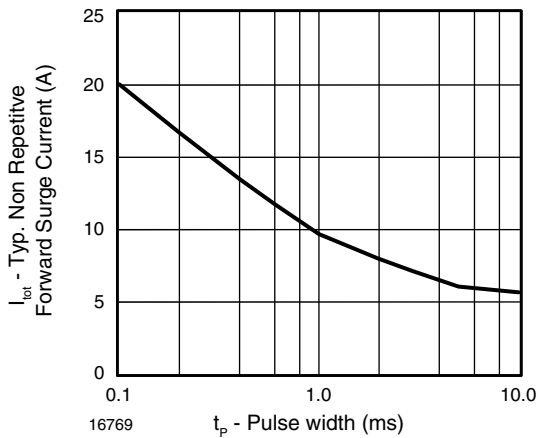
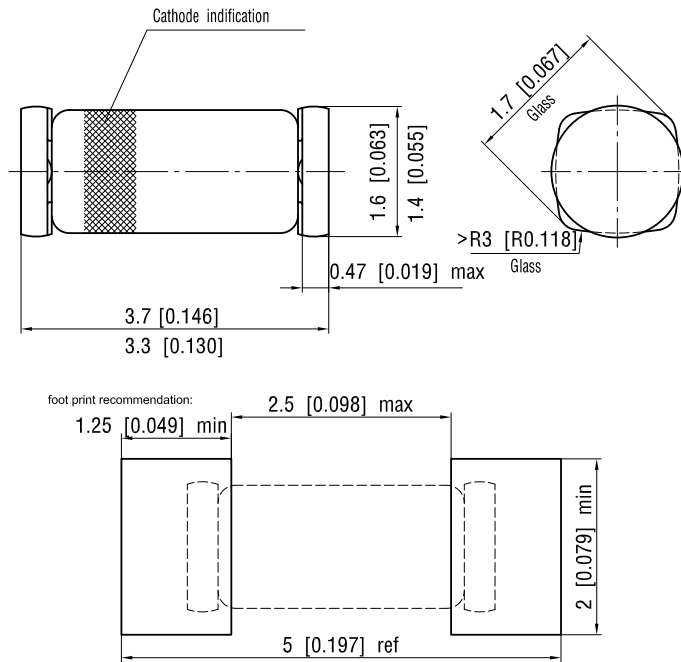


Figure 5. Typ. Non Repetitive Forward Surge Current vs. Pulse width

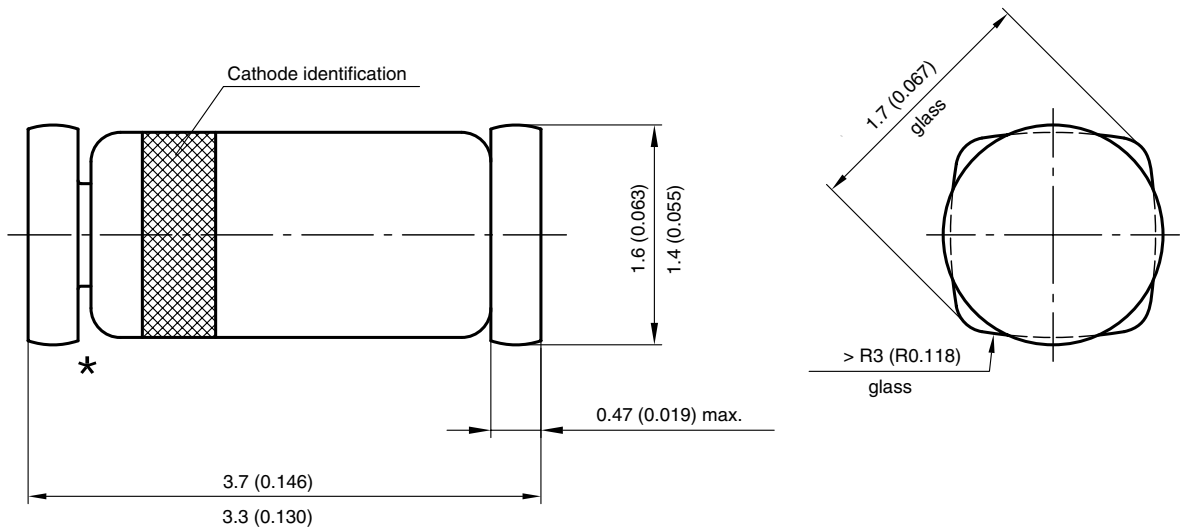
## Package Dimensions in millimeters (inches): QuadroMELF SOD-80



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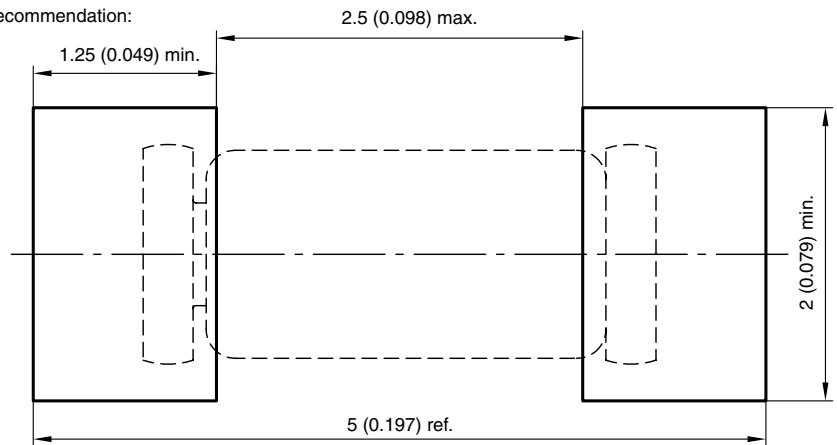
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**PACKAGE DIMENSIONS** in millimeters (inches)



\* The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



Created - Date: 03.November.2003  
 Rev. 11 - Date: 07.June 2006  
 Document no.:6.560-5006.01-4  
 96 12071



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