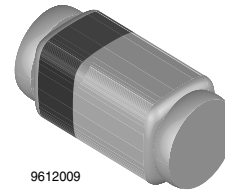


## Small Signal Schottky Diodes

### Features

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



9612009

### Applications

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

### Mechanical Data

**Case:** QuadroMELF Glass case SOD80

**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	$V_R = 40\text{ V}$ , $V_F$ at $I_F = 20\text{ mA}$ max. 370 mV	LS103A-GS18 or LS103A-GS08	Tape and Reel
LS103B	$V_R = 30\text{ V}$ , $V_F$ at $I_F = 20\text{ mA}$ max. 370 mV	LS103B-GS18 or LS103B-GS08	Tape and Reel
LS103C	$V_R = 20\text{ V}$ , $V_F$ at $I_F = 20\text{ mA}$ max. 370 mV	LS103C-GS18 or LS103C-GS08	Tape and Reel

### Absolute Maximum Ratings

$T_{amb} = 25\text{ °C}$ , 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	$l = 4\text{ mm}$ , $T_L = \text{constant}$		$P_{tot}$	400	mW

## Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Junction to ambient air	$l = 4\text{ mm}$ , $T_L = \text{constant}$	$R_{thJA}$	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	$V_{(BR)R}$	40			V
		LS103B	$V_{(BR)R}$	30			V
		LS103C	$V_{(BR)R}$	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

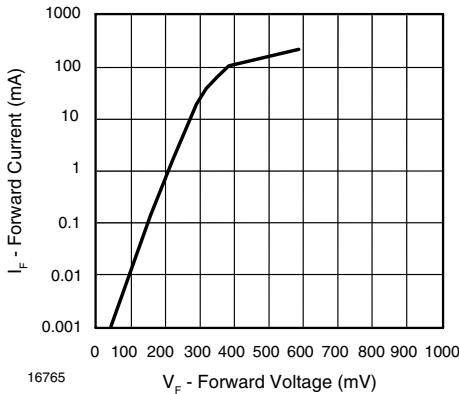


Figure 1. Forward Current vs. Forward Voltage

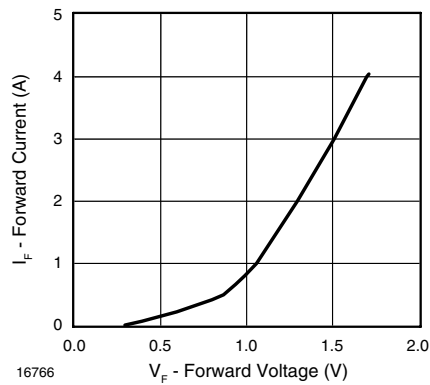


Figure 2. Forward Current vs. Forward Voltage

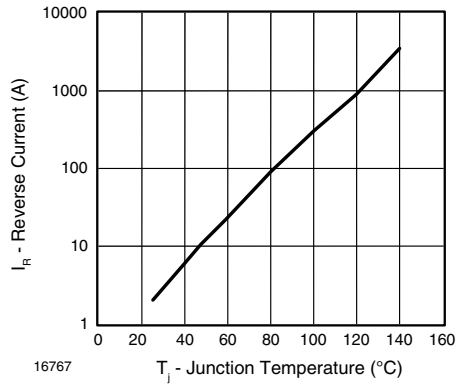


Figure 3. Reverse Current vs. Junction Temperature

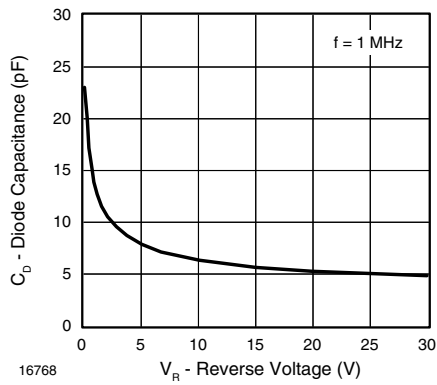


Figure 4. Diode Capacitance vs. Reverse Voltage

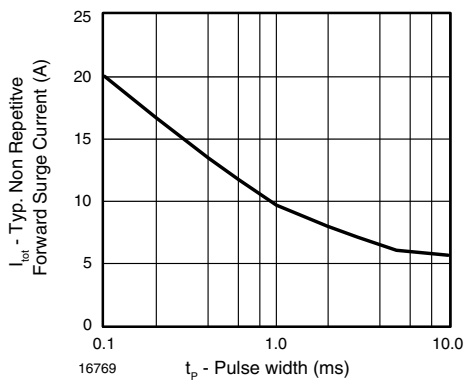


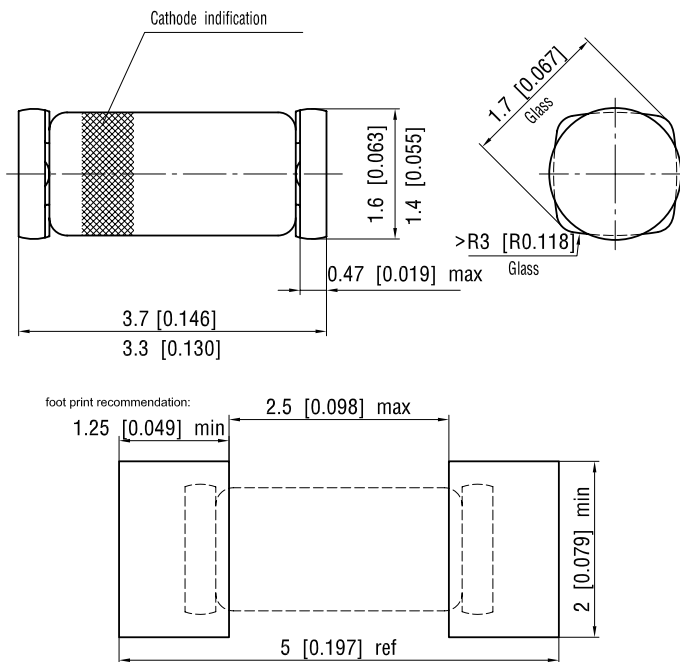
Figure 5. Typ. Non Repetitive Forward Surge Current vs. Pulse width

# LS103A / 103B / 103C

Vishay Semiconductors



## Package Dimensions in mm (Inches)



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Rev. 10 - Date: 30.August.2004

12071



## Ozone Depleting Substances Policy Statement

It is the policy of Vishay Semiconductor GmbH to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

We reserve the right to make changes to improve technical design and may do so without further notice.

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use Vishay Semiconductors products for any unintended or unauthorized application, the buyer shall indemnify Vishay Semiconductors against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

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