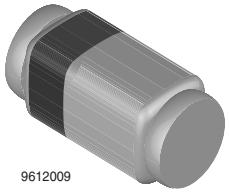
Small Signal Schottky Barrier Diodes

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
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 V, V_F @ I_F 20 mA max. 0.37 V	LS103A-GS18 or LS103A-GS08	Tape and Reel
LS103B	V_R = 30 V, V_F @ I_F 20 mA max. 0.37 V	LS103B-GS18 or LS103B-GS08	Tape and Reel
LS103C	V_R = 20 V, V_F @ I_F 20 mA max. 0.37 V	LS103C-GS18 or LS103C-GS08	Tape and Reel

Absolute Maximum Ratings

T_{amb} = 25 °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 µs, 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 = 4mm, T_L = constant	R_{thJA}	250	K/W
Junction temperature		T_j	125	°C
Storage 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 µA	LS103A	$V_{(BR)R}$	40			V
		LS103B	$V_{(BR)R}$	30			V
		LS103C	$V_{(BR)R}$	20			V
Leakage current	V_R = 30 V	LS103A	I_R			5	µA
	V_R = 20 V	LS103B	I_R			5	µA
	V_R = 10 V	LS103C	I_R			5	µA
Forward voltage drop	I_F = 20 mA		V_F			0.37	V
	I_F = 200 mA		V_F			0.6	V
Diode capacitance	V_R = 0 V, f = 1 MHz		C_D		50		pF
Reverse recovery time	I_F = I_R = 50 to 200 mA, recover to 0.1 I_R		t_{rr}		10		ns

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

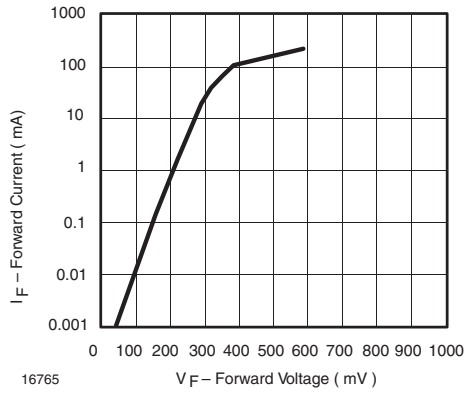


Fig. 1 Forward Current vs. Forward Voltage

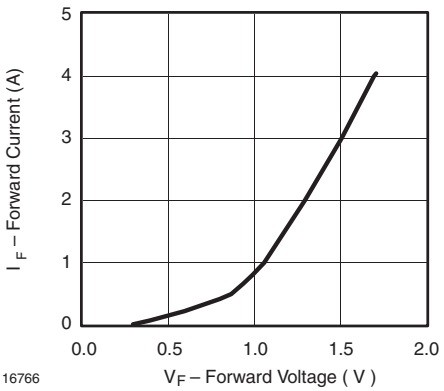


Fig. 2 Forward Current vs. Forward Voltage

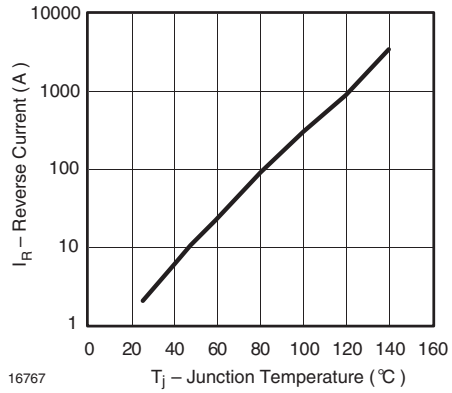


Fig. 3 Reverse Current vs. Junction Temperature

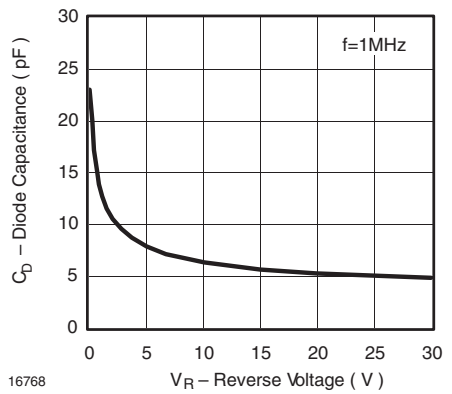


Fig. 4 Diode Capacitance vs. Reverse Voltage

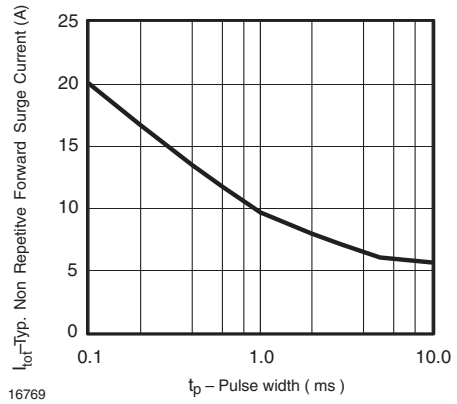
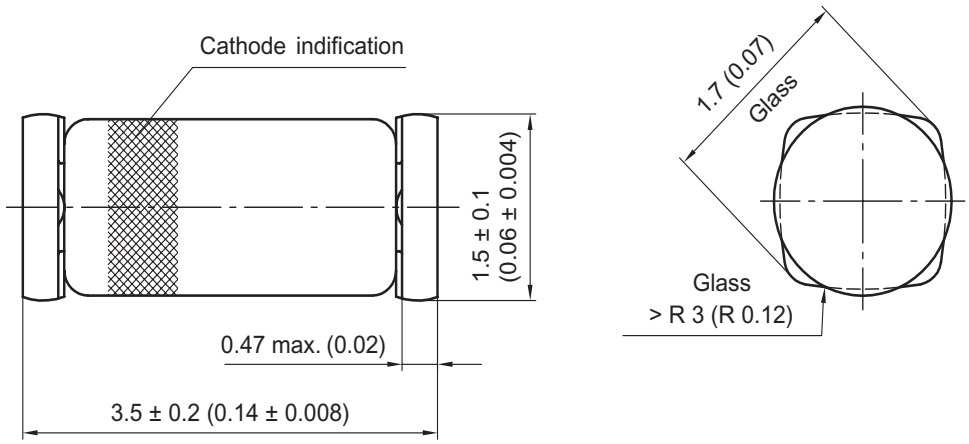
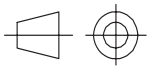


Fig. 5 Typ. Non Repetitive Forward Surge Current vs. Pulse width

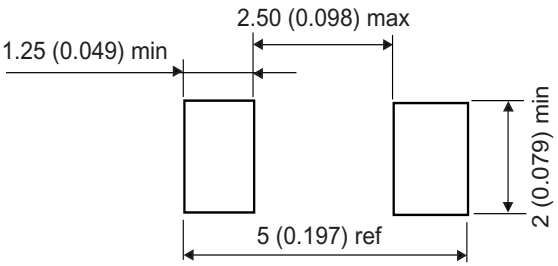
Package Dimensions in mm (Inches)





ISO Method E

Mounting Pad Layout



Glass case
Quadro Melf / SOD 80
JEDEC DO 213 AA

96 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 operatingsystems 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.

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