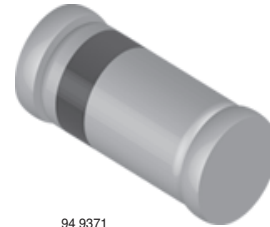


Small Signal Schottky Barrier Diodes

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: MiniMELF Glass Case (SOD-80)

Weight: approx. 31 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
LL103A	$V_R = 40\text{ V}$, $V_F @ I_F = 20\text{ mA max. } 0.37\text{ V}$	LL103A-GS08 or LL103A-GS18	Tape and Reel
LL103B	$V_R = 30\text{ V}$, $V_F @ I_F = 20\text{ mA max. } 0.37\text{ V}$	LL103B-GS08 or LL103B-GS18	Tape and Reel
LL103C	$V_R = 20\text{ V}$, $V_F @ I_F = 20\text{ mA max. } 0.37\text{ V}$	LL103C-GS08 or LL103C-GS18	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		LL103A	V_R	40	V
		LL103B	V_R	30	V
		LL103C	V_R	20	V
Forward current			I_{FAV}	200	mA
Peak forward surge current	$t_p = 300\text{ }\mu\text{s}$, square pulse		I_{FSM}	15	mW
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 temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$
Junction ambient	$l = 4\text{ mm}$, $T_L = \text{constant}$	R_{thJA}	250	K/W

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	I_R	40			V
		LL103B	I_R	30			V
		LL103C	I_R	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			0.37	V
	$I_F = 200\text{ mA}$		V_F			0.6	V
Junction capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$		C_{tot}		50		pF
Reverse recovery time	$I_F = I_R = 50\text{ to }200\text{ mA}$, recover to $0.1 I_R$		t_{rr}		10		ns

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

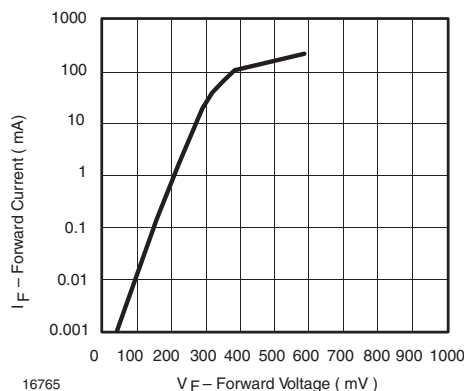


Fig. 1 Forward Current vs. Forward Voltage

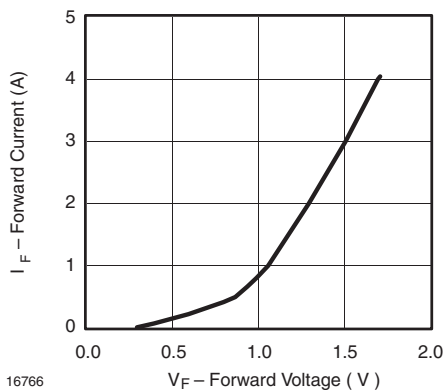


Fig. 2 Forward Current vs. Forward Voltage

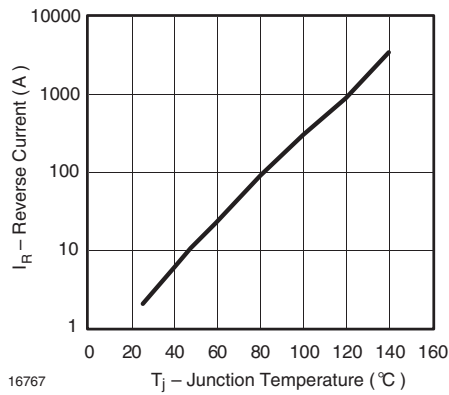


Fig. 3 Reverse Current vs. Junction Temperature

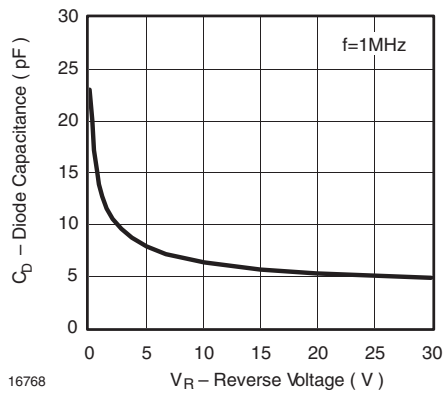


Fig. 4 Diode Capacitance vs. Reverse Voltage

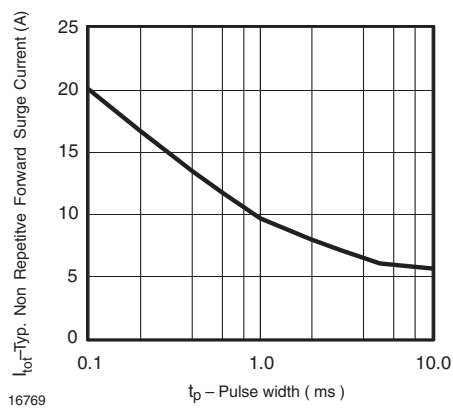


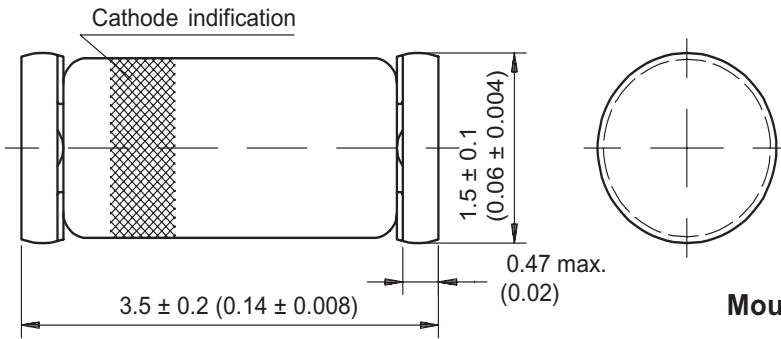
Fig. 5 Typ. Non Repetitive Forward Surge Current vs. Pulse width

LL103A / 103B / 103C

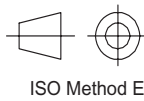
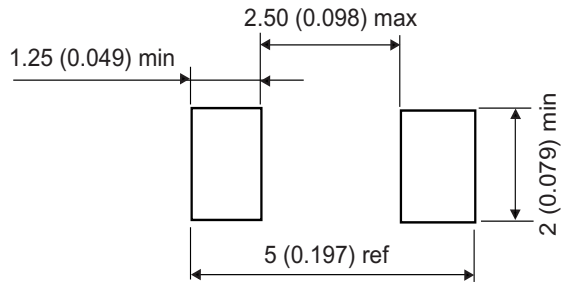


Vishay Semiconductors

Package Dimensions in mm (Inches)



Mounting Pad Layout



ISO Method E

Glass case
Mini Melf / SOD 80
JEDEC DO 213 AA

96 12070



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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