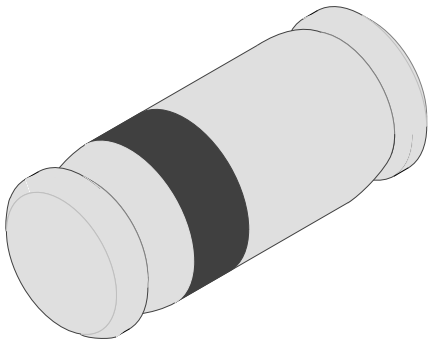
Small Signal Schottky Barrier Diodes

Features

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop



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Applications

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

Order Instruction

Type	Type Differentiation	Ordering Code	Remarks
LL103A	V_R=40 V, V_F@I_F20mA max. 0.37 V	LL103A–GS08	Tape and Reel
LL103B	V_R=30 V, V_F@I_F20mA max. 0.37 V	LL103B–GS08	
LL103C	V_R=20 V, V_F@I_F20mA max. 0.37 V	LL103C–GS08	

Absolute Maximum Ratings

T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Value	Unit
Reverse voltage		LL103A	V_R	40	V
		LL103B	V_R	30	V
		LL103C	V_R	20	V
Peak forward surge current	t_p=300µs, square pulse		I_{FSM}	15	A
Power dissipation	l=4 mm, T_L=constant		P_{tot}	400	mW
Junction temperature			T_j	125	°C
Storage temperature range			T_{stg}	–65...+150	°C

Maximum Thermal Resistance

T_j = 25°C

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	l=4 mm, T_L=constant	R_{thJA}	250	K/W

Electrical Characteristics

T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage	I_R=10μA	LL103A	$V_{(BR)R}$	40			V
		LL103B	$V_{(BR)R}$	30			V
		LL103C	$V_{(BR)R}$	20			V
Leakage current	V_R= 30 V	LL103A	I_R			5	μA
	V_R= 20 V	LL103B	I_R			5	μA
	V_R= 10 V	LL103C	I_R			5	μA
Forward voltage drop	I_F=20mA		V_F			0.37	V
	I_F=200mA		V_F			0.6	V
Junction capacitance	V_R= 0 V, f= 1MHz		C_D		50		pF
Reverse recovery time	I_F=I_R=50 to 200mA, recover to 0.1 I_R		t_{rr}		10		ns

Characteristics (T_j = 25°C unless otherwise specified)

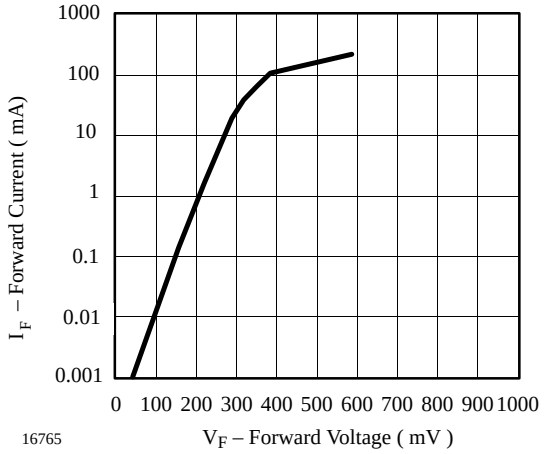


Figure 1. Forward Current vs. Forward Voltage

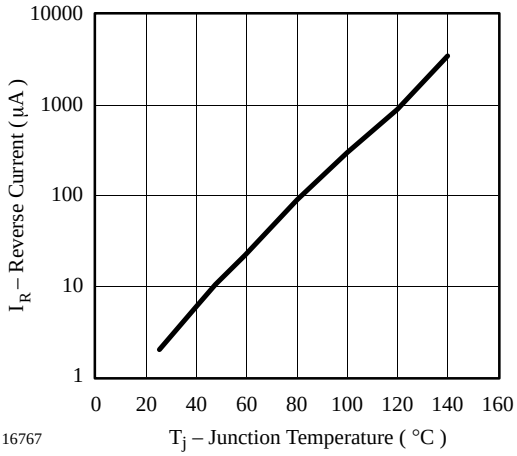


Figure 3. Reverse Current vs. Junction Temperature

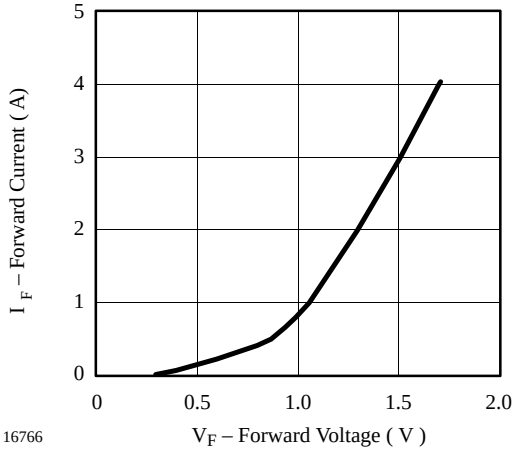


Figure 2. Forward Current vs. Forward Voltage

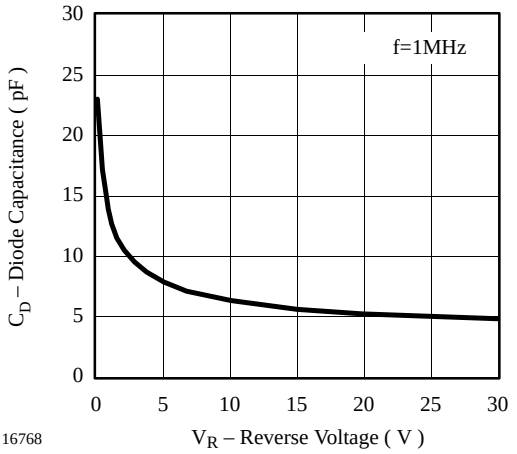


Figure 4. Diode Capacitance vs. Reverse Voltage

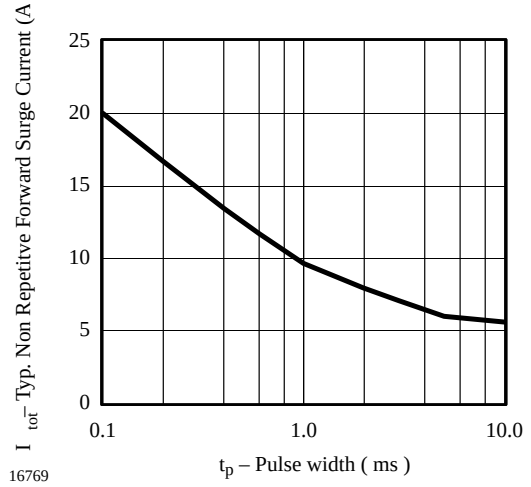
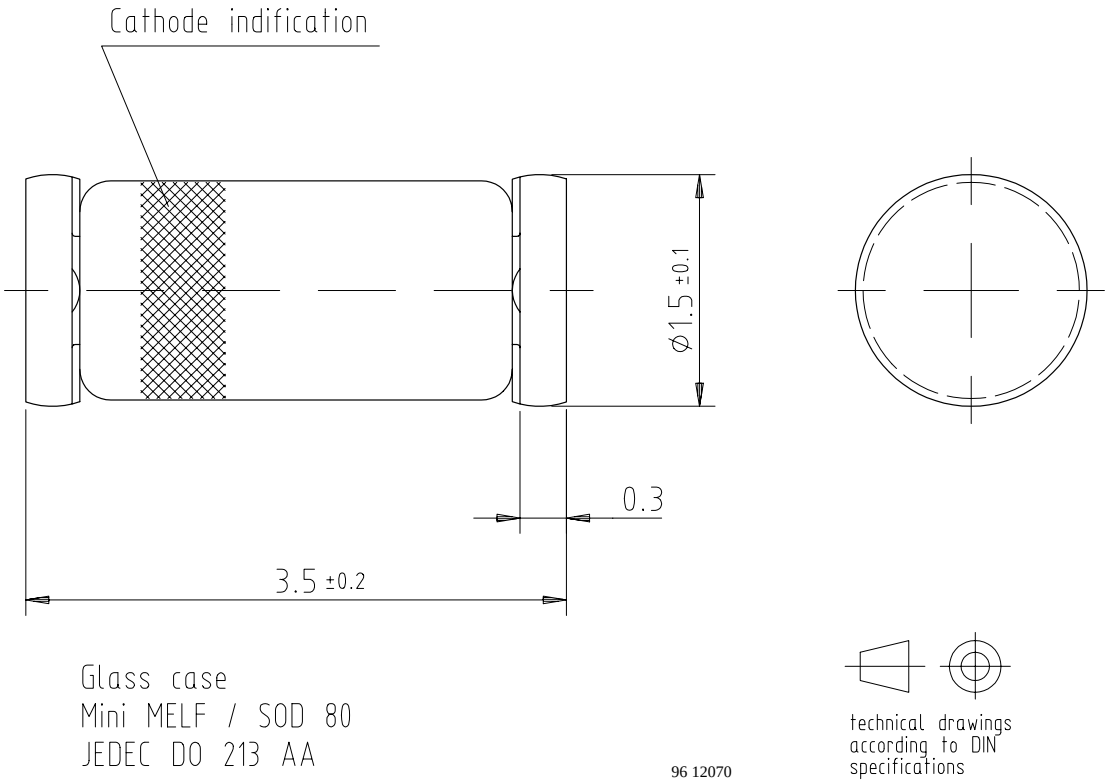


Figure 5. Typ. Non Repetitive Forward Surge Current vs. Pulse width

Dimensions in mm



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.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany
Telephone: 49 (0)7131 67 2831, Fax number: 49 (0)7131 67 2423