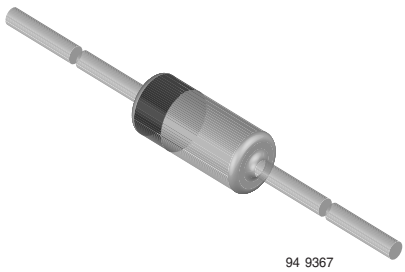
Schottky Diodes

Features

- For general purpose applications
- The SD103 series is a Metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring.
- The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching and low logic level applications.



- Other applications are click suppression, efficient full wave bridges in telephone subsets, and blocking diodes in rechargeable low voltage battery systems.
- These diodes are also available in the SOD-123 case with type designations SD103AW...SD103CW and in the MiniMELF case with type designations LL103A thru LL103C.
- Integrated

Applications

HF-Detector

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

Mechanical Data

Case: DO-35 Glass Case
Weight: approx. 130 mg
Packaging Codes/Options:
D7/10 K per 13 " reel (52 mm tape), 20 K/box
D8/10 K per Ammo tape (52 mm tape), 20 K/box

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Peak inverse voltage		SD103A	V_R	40	V
		SD103B	V_R	30	V
		SD103C	V_R	20	V
Power dissipation (infinite heatsink)			P_{tot}	400[1)]	mW
Single cycle surge 60 Hz sine wave			I_{FSM}	15	A

[1)] Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature

Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		$R_{\theta JA}$	0.3[1)]	K/W
Junction temperature		T_j	125[1)]	°C
Storage temperature range		T_S	- 55 to + 150[1)]	°C

[1)] Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature

Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Reverse Breakdown Voltage	I_R = 50 µA	SD103A	$V_{(BR)R}$	40			V
		SD103B	$V_{(BR)R}$	30			V
		SD103C	$V_{(BR)R}$	20			V
Leakage current	V_R = 30 V	SD103A	I_R			5	µA
	V_R = 20 V	SD103B	I_R			5	µA
	V_R = 10 V	SD103C	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)

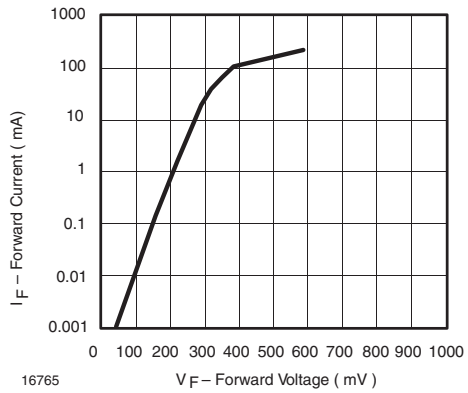


Fig. 1 Forward Current vs. Forward Voltage

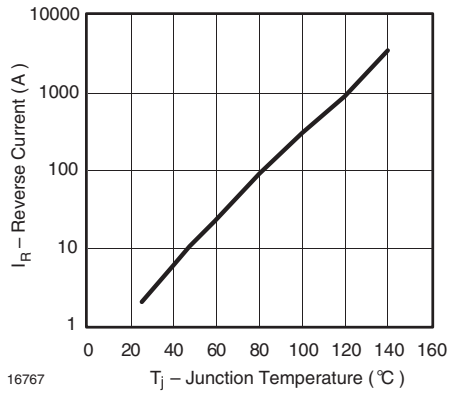


Fig. 3 Reverse Current vs. Junction Temperature

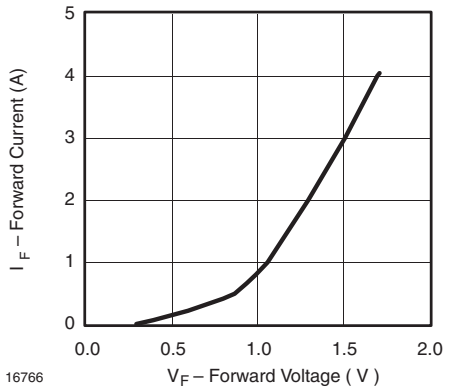


Fig. 2 Forward Current vs. Forward Voltage

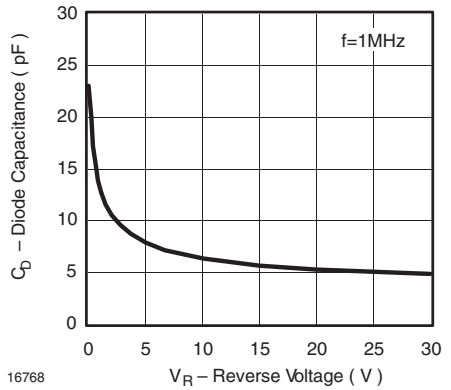


Fig. 4 Diode Capacitance vs. Reverse Voltage

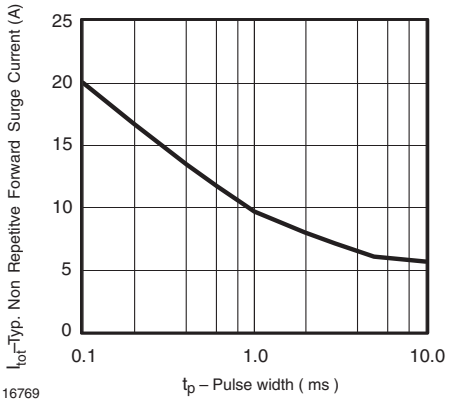
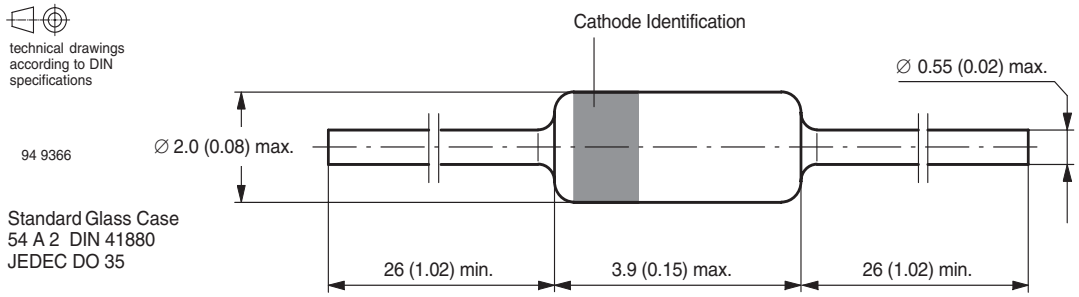


Fig. 5 Typ. Non Repetitive Forward Surge Current vs. Pulse width

Package Dimensions in mm (Inches)



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.

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