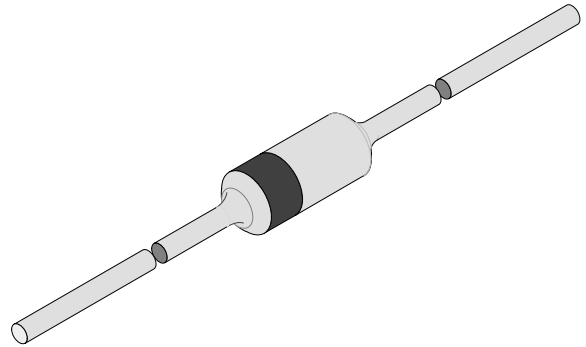


Small Signal Schottky Barrier Diodes

Features

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



94 9367

Applications

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

Order Instruction

Type	Type Differentiation	Ordering Code	Remarks
SD103A	$V_R=40\text{ V}$, $V_F@I_F20\text{mA max. } 0.37\text{ V}$	SD103A–TAP	Ammopack
		SD103A–TR	Tape and Reel
SD103B	$V_R=30\text{ V}$, $V_F@I_F20\text{mA max. } 0.37\text{ V}$	SD103B–TAP	Ammopack
		SD103B–TR	Tape and Reel
SD103C	$V_R=20\text{ V}$, $V_F@I_F20\text{mA max. } 0.37\text{ V}$	SD103C–TAP	Ammopack
		SD103C–TR	Tape and Reel

Absolute Maximum Ratings

$T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Reverse voltage		SD103A	V_R	40	V
		SD103B	V_R	30	V
		SD103C	V_R	20	V
Peak forward surge current	$t_p=300\mu\text{s}$, square pulse		I_{FSM}	15	A
Power dissipation	$l=4\text{ mm}$, $T_L=\text{constant}$		P_{tot}	400	mW
Junction temperature			T_j	125	$^\circ\text{C}$
Storage temperature range			T_{stg}	–65...+150	$^\circ\text{C}$

Maximum Thermal Resistance

$T_j = 25^\circ\text{C}$

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

Electrical Characteristics

$T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$I_R = 10\mu\text{A}$	SD103A	$V_{(BR)R}$	40			V
		SD103B	$V_{(BR)R}$	30			V
		SD103C	$V_{(BR)R}$	20			V
Leakage current	$V_R = 30\text{ V}$	SD103A	I_R			5	μA
	$V_R = 20\text{ V}$	SD103B	I_R			5	μA
	$V_R = 10\text{ V}$	SD103C	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_D		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

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

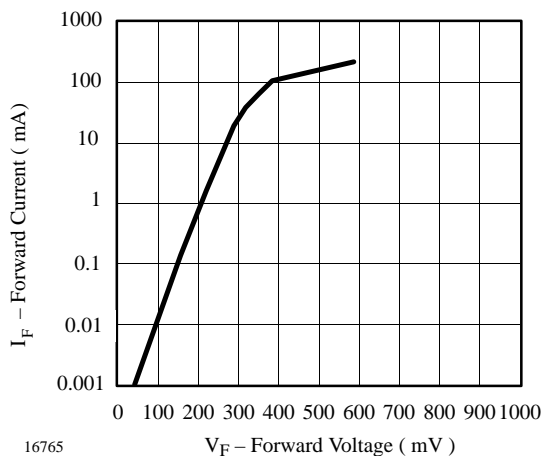


Figure 1. Forward Current vs. Forward Voltage

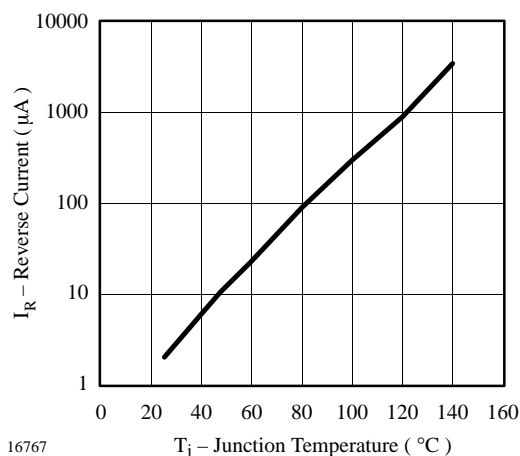


Figure 3. Reverse Current vs. Junction Temperature

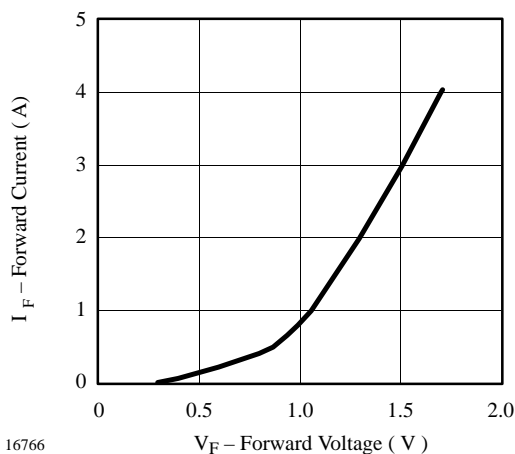


Figure 2. Forward Current vs. Forward Voltage

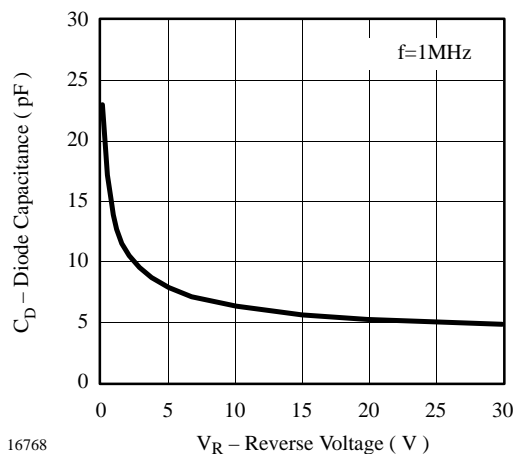


Figure 4. Diode Capacitance vs. Reverse Voltage

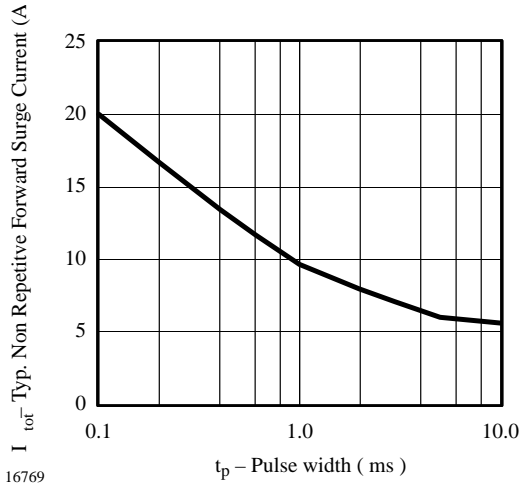


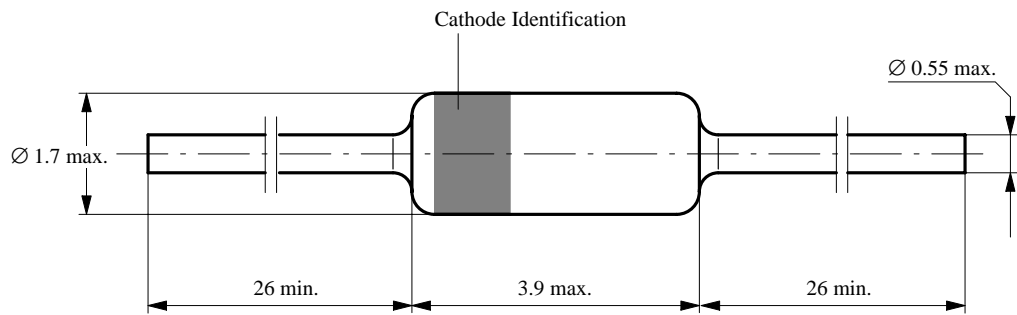
Figure 5. Typ. Non Repetitive Forward Surge Current vs. Pulse width

Dimensions in mm

technical drawings according to DIN specifications

94 9366

Standard Glass Case
54 A 2 DIN 41880
JEDEC DO 35
Weight max. 0.3 g



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.

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