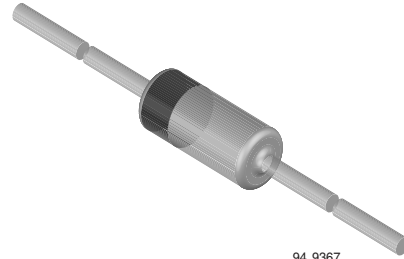


Small Signal Schottky Barrier Diodes

Features

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- Very low switching time



94 9367

Applications

General purpose and switching Schottky barrier diode

HF-Detector

Protection circuit

Diode for low currents with a low supply voltage

Small battery charger

Power supplies

DC / DC converter for notebooks

Mechanical Data

Case: DO-35 Glass Case

Weight: max. 130 mg

Packaging Codes/Options:

TR / 10 k per 13 " reel (52 mm tape), 50 k/box

TAP / 10 k per Ammopack (52 mm tape), 50 k/box

Parts Table

Part	Type differentiation	Ordering code	Remarks
BAT81S	$V_R = 40\text{ V}$	BAT81S-TAP or BAT81S-TR	Ammopack / Tape and Reel
BAT82S	$V_R = 50\text{ V}$	BAT82S-TAP or BAT82S-TR	Ammopack / Tape and Reel
BAT83S	$V_R = 60\text{ V}$	BAT83S-TAP or BAT83S-TR	Ammopack / 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		BAT81S	V_R	40	V
		BAT82S	V_R	50	V
		BAT83S	V_R	60	V
Forward current			I_F	30	mA
Peak forward surge current	$t_p \leq 10\text{ ms}$		I_{FSM}	500	mA
Repetitive peak forward current	$t_p \leq 1\text{ s}$		I_{FRM}	150	mA

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

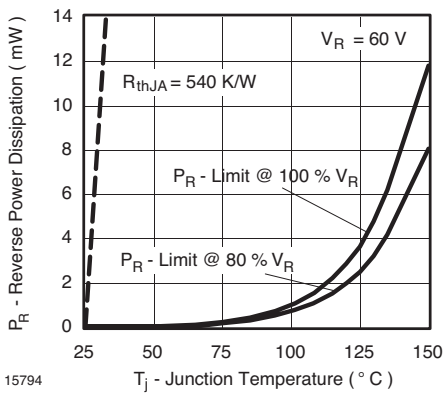
Parameter	Test condition	Symbol	Value	Unit
Junction ambient	$l = 4\text{ mm}$, $T_L = \text{constant}$	R_{thJA}	320	K/W
Junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

Electrical Characteristics

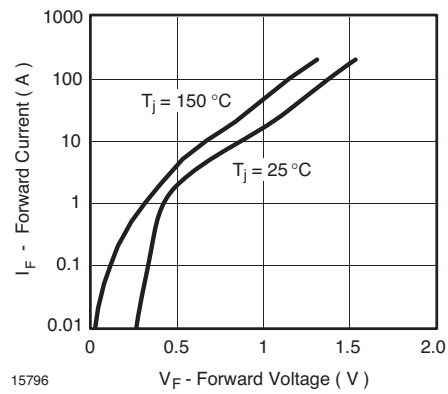
$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	$I_F = 0.1\text{ mA}$	V_F			330	mV
	$I_F = 1\text{ mA}$	V_F			410	mV
	$I_F = 15\text{ mA}$	V_F			1	V
Reverse current	$V_R = V_{Rmax}$	I_R			200	nA
Diode capacitance	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$	C_D			1.6	pF

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



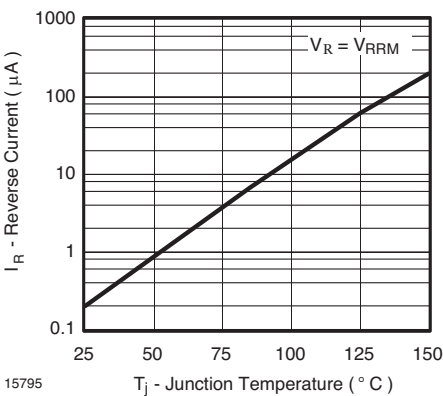
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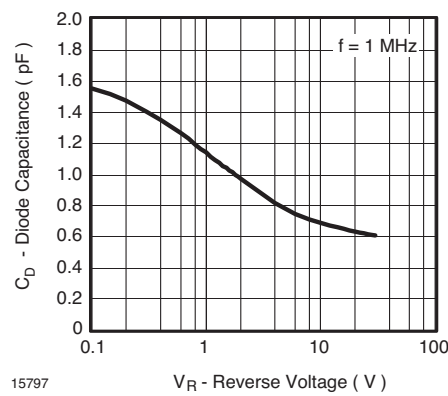
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Fig. 1 Max. Reverse Power Dissipation vs. Junction Temperature

Fig. 3 Forward Current vs. Forward Voltage



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Fig. 2 Reverse Current vs. Junction Temperature

Fig. 4 Diode Capacitance vs. Reverse Voltage

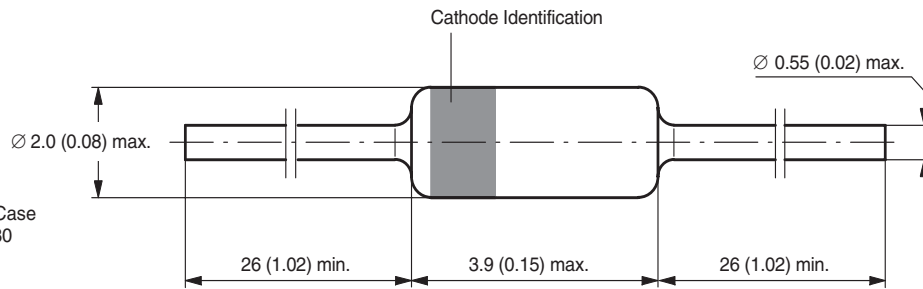
Package Dimensions in mm (Inches)



technical drawings
according to DIN
specifications

94 9366

Standard Glass Case
54 A 2 DIN 41880
JEDEC DO 35



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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