

Small Signal Schottky Diode

Features

- Integrated protection ring against static discharge
- Very low forward voltage
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



RoHS
COMPLIANT
HALOGEN
FREE



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Applications

- Applications where a very low forward voltage is required

Mechanical Data

Case: DO-35

Weight: approx. 125 mg

Cathode band color: black

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	Ordering code	Type Marking	Remarks
BAT85S	BAT85S-TR or BAT85S-TAP	BAT85S	Tape and Reel/Ammopack

Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Reverse voltage		V_R	30	V
Peak forward surge current	$t_p \leq 10\text{ ms}$	I_{FSM}	5	A
Repetitive peak forward current	$t_p \leq 1\text{ s}$	I_{FRM}	300	mA
Forward continuous current		I_F	200	mA
Average forward current	PCB mounting, $l = 4\text{ mm}$; $V_{RWM} = 25\text{ V}$, $T_{amb} = 50\text{ }^{\circ}\text{C}$	I_{FAV}	200	mA

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air	$l = 4\text{ mm}$, $T_L = \text{constant}$	R_{thJA}	350	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			240	mV
	$I_F = 1\text{ mA}$	V_F			320	mV
	$I_F = 10\text{ mA}$	V_F			400	mV
	$I_F = 30\text{ mA}$	V_F			500	mV
	$I_F = 100\text{ mA}$	V_F			800	mV
Reverse current	$V_R = 25\text{ V}$	I_R			2	μA
Diode capacitance	$V_R = 1\text{ V}, f = 1\text{ MHz}$	C_D			10	pF
Reverse Recovery Time	$I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}$ to $i_R = 1\text{ mA}$	t_{rr}			5	ns

Typical Characteristics

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

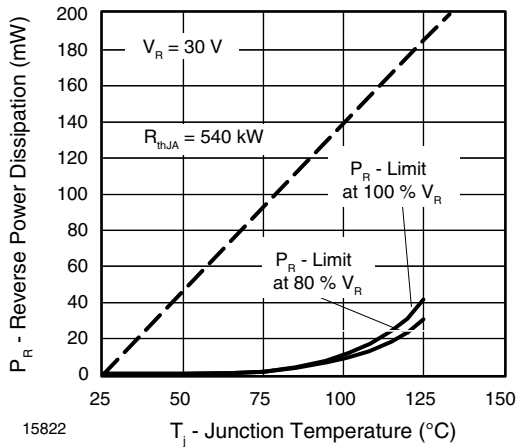


Figure 1. Max. Reverse Power Dissipation vs. Junction Temperature

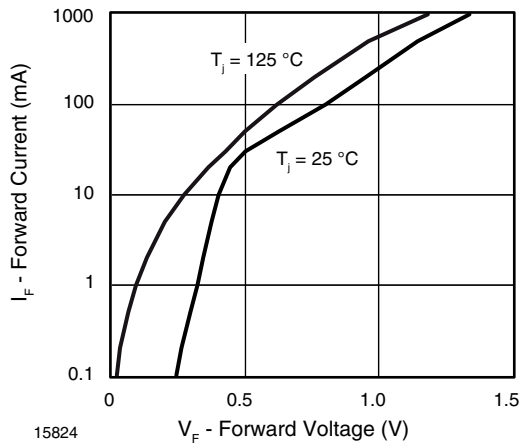


Figure 3. Forward Current vs. Forward Voltage

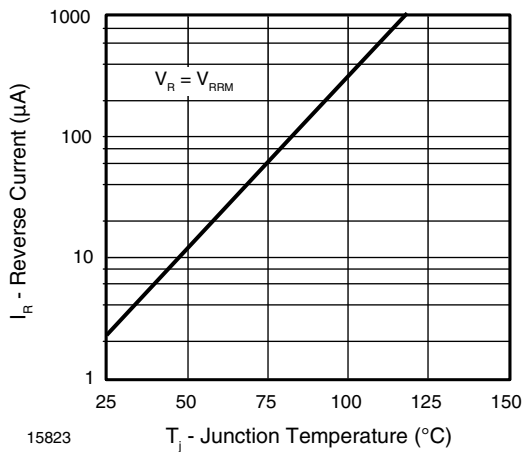


Figure 2. Reverse Current vs. Junction Temperature

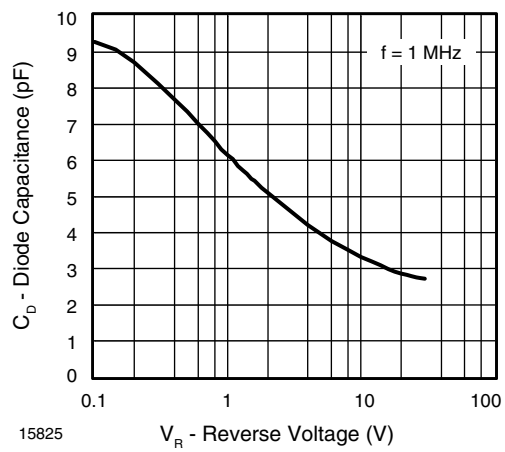
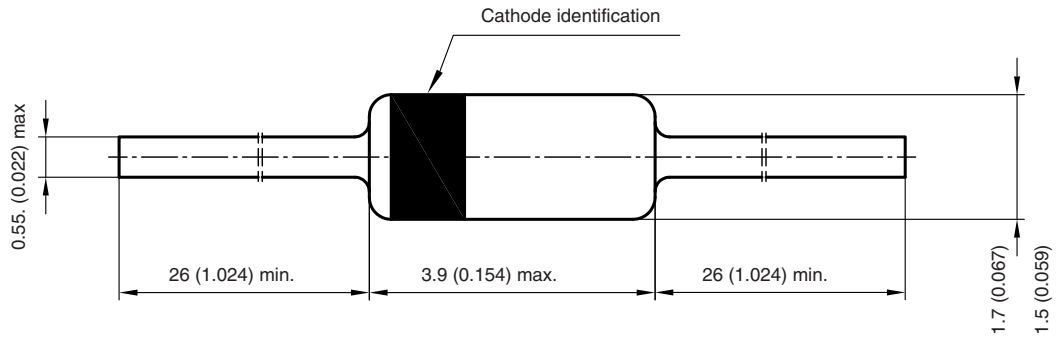
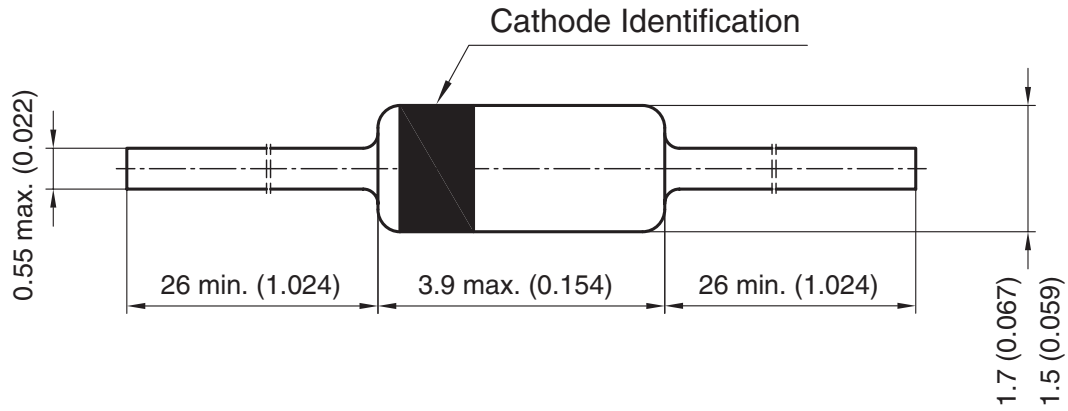


Figure 4. Diode Capacitance vs. Reverse Voltage

Package Dimensions in millimeters (inches): **DO-35**



Rev. 6 - Date: 29. January 2007
 Document no.: 6.560-5004.02-4
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DO35**Package Dimensions in mm (Inches)**

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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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