Small Signal Switching Diode, High Voltage

Features

- Silicon Epitaxial Planar Diode
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



Applications

- General purpose

Mechanical Data

Case: DO35 Glass case

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
BAY80	BAY80-TR or BAY80-TAP	BAY80	Tape and Reel/Ammopack

Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage		V_{RRM}	150	V
Reverse voltage		V_R	120	V
Peak forward surge current	t_p = 1 µs	I_{FSM}	1	A
Repetitive peak forward current		I_{FRM}	625	mA
Forward continuous current		I_F	250	mA
Average forward current		I_{FAV}	200	mA

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air	l = 4 mm, T_L = constant	R_{thJA}	350	K/W
Junction to ambient air		T_j	+ 175	°C
Storage temperature range		T_{stg}	- 65 to + 175	°C

Electrical Characteristics

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

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F = 0.1 mA	V_F	400		520	mV
	I_F = 10 mA	V_F	630		780	mV
	I_F = 50 mA	V_F	730		920	mV
	I_F = 100 mA	V_F	780		1000	mV
	I_F = 150 mA	V_F			1070	mV
Reverse current	V_R = 120 V	I_R			100	nA
	V_R = 120 V, T_j = 150 °C	I_R			100	µA
Breakdown voltage	I_R = 100 µA, t_p/T = 0.01, t_p = 0.3 ms	$V_{(BR)}$	150			V
Diode capacitance	V_R = 0, f = 1 MHz	C_D		1.5	5	pF
Differential forward resistance	I_F = 10 mA	r_f		5		Ω
Reverse recovery time	I_F = I_R = 30 mA, i_R = 3 mA, R_L = 100 Ω	t_{rr}			50	ns

Typical Characteristics

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

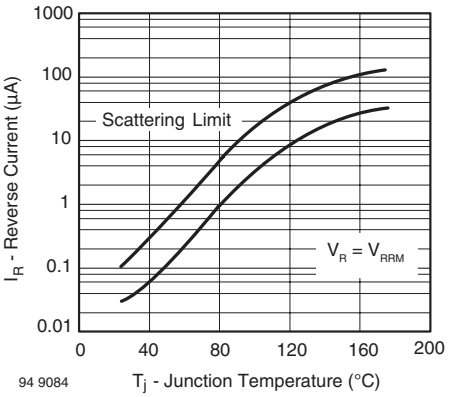


Figure 1. Reverse Current vs. Junction Temperature

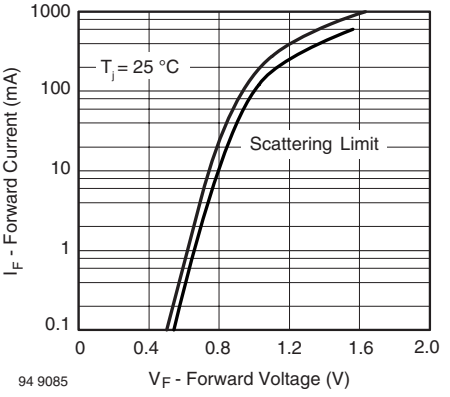
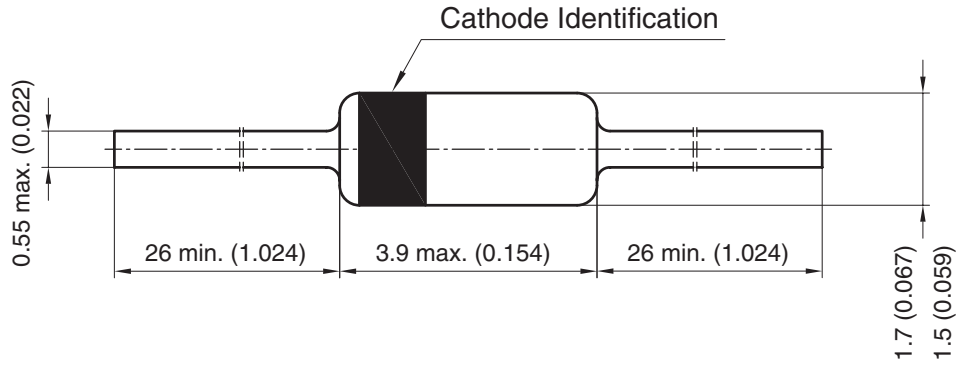


Figure 3. Differential Forward Resistance vs. Forward Current

Figure 2. Forward Current vs. Forward Voltage

Package Dimensions in millimeters (inches): DO35



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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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