Small Signal Switching Diodes, High Voltage

Features

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

94 9367

Applications

- General purposes

Mechanical Data

Case: DO35 Glass case
Weight: approx. 125 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
BAV17	V_{RRM} = 25 V, Single Diodes	BAV17-TAP or BAV17-TR	Ammopack / Tape and Reel
BAV18	V_{RRM} = 60 V, Single Diodes	BAV18-TAP or BAV18-TR	Ammopack / Tape and Reel
BAV19	V_{RRM} = 120 V, Single Diodes	BAV19-TAP or BAV19-TR	Ammopack / Tape and Reel
BAV20	V_{RRM} = 200 V, Single Diodes	BAV20-TAP or BAV20-TR	Ammopack / Tape and Reel
BAV21	V_{RRM} = 250 V, Single Diodes	BAV21-TAP or BAV21-TR	Ammopack / Tape and Reel

Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
Peak reverse voltage		BAV17	V_{RRM}	25	V
		BAV18	V_{RRM}	60	V
		BAV19	V_{RRM}	120	V
		BAV20	V_{RRM}	200	V
		BAV21	V_{RRM}	250	V
Reverse voltage		BAV17	V_R	20	V
		BAV18	V_R	50	V
		BAV19	V_R	100	V
		BAV20	V_R	150	V
		BAV21	V_R	200	V
Forward continuous current			I_F	250	mA
Peak forward surge current	t_p = 1 s, T_j = 25 °C		I_{FSM}	1	A
Forward peak current	f = 50 Hz		I_{FRM}	625	mA
Power dissipation			P_{tot}	500	mW

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Junction to ambient air	l = 4 mm, T_L = constant	R_{thJA}	300	K/W
Junction temperature		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	Part	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F = 100 mA		V_F			1000	mV
Reverse current	V_R = 20 V	BAV17	I_R			100	nA
	V_R = 50 V	BAV18	I_R			100	nA
	V_R = 100 V	BAV19	I_R			100	nA
	V_R = 150 V	BAV20	I_R			100	nA
	V_R = 200 V	BAV21	I_R			100	nA
	T_j = 100 °C, V_R = 20 V	BAV17	I_R			15	µA
	T_j = 100 °C, V_R = 50 V	BAV18	I_R			15	µA
	T_j = 100 °C, V_R = 100V	BAV19	I_R			15	µA
	T_j = 100 °C, V_R = 150 V	BAV20	I_R			15	µA
	T_j = 100 °C, V_R = 200 V	BAV21	I_R			15	µA
Breakdown voltage	I_R = 100 µA, t_p/T = 0.01, t_p = 0.3 ms	BAV17	$V_{(BR)}$	25			V
		BAV18	$V_{(BR)}$	60			V
		BAV19	$V_{(BR)}$	120			V
		BAV20	$V_{(BR)}$	200			V
		BAV21	$V_{(BR)}$	250			V
Diode capacitance	V_R = 0, f = 1 MHz		C_D		1.5		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

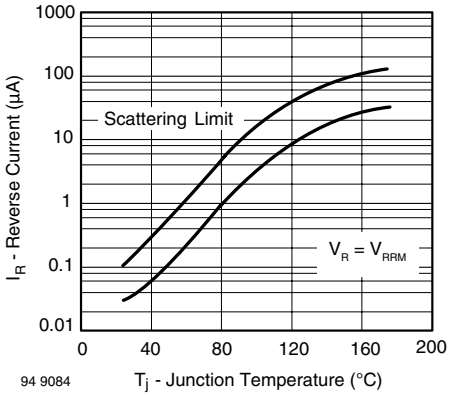


Figure 1. Reverse Current vs. Junction Temperature

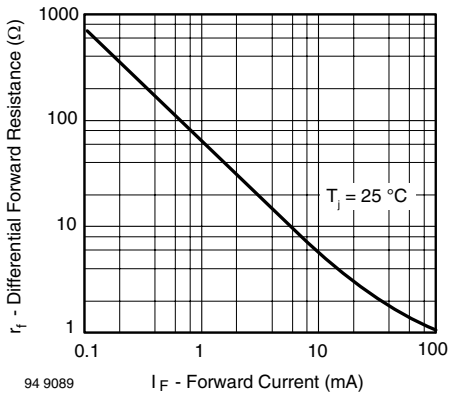


Figure 3. Differential Forward Resistance vs. Forward Current

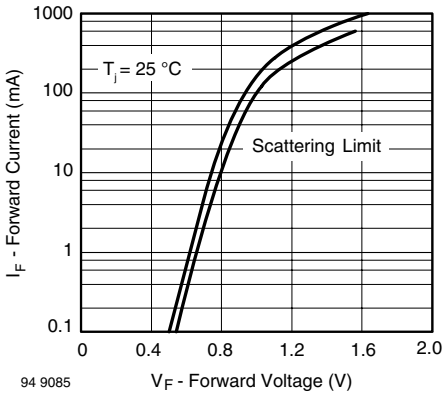
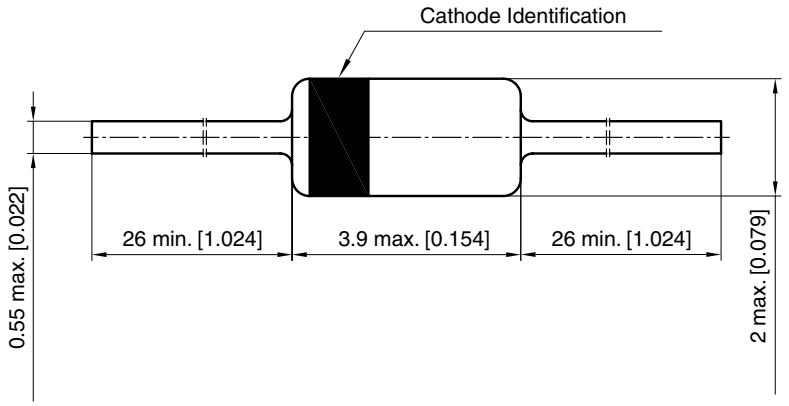


Figure 2. Forward Current vs. Forward Voltage

Package Dimensions in mm (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.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany

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