Small Signal Switching Diodes, High Voltage

FEATURES

- Silicon epitaxial planar diodes
- AEC-Q101 qualified
- Material categorization:
  For definitions of compliance please see www.vishay.com/doc?99912

Pb
e2
RoHS COMPLIANT
HALOGEN FREE

APPLICATIONS

- General purposes

MECHANICAL DATA

Case: DO-35
Weight: approx. 125 mg
Cathode band color: black
Packaging codes/options:
TR/10K per 13" reel (52 mm tape), 50K/box
TAP/10K per ammopack (52 mm tape), 50K/box

PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
BAV17	V_{RRM} = 25 V	BAV17-TR or BAV17-TAP	BAV17	Single diode	Tape and reel/ammopack
BAV18	V_{RRM} = 60 V	BAV18-TR or BAV18-TAP	BAV18	Single diode	Tape and reel/ammopack
BAV19	V_{RRM} = 120 V	BAV19-TR or BAV19-TAP	BAV19	Single diode	Tape and reel/ammopack
BAV20	V_{RRM} = 200 V	BAV20-TR or BAV20-TAP	BAV20	Single diode	Tape and reel/ammopack
BAV21	V_{RRM} = 250 V	BAV21-TR or BAV21-TAP	BAV21	Single diode	Tape and reel/ammopack

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitve 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

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

sales@prom-elec.com / ООО ПРОМЭЛЕКТРОНИКА

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}	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			1	V
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 = 100 V	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 = 5 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 V, 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)

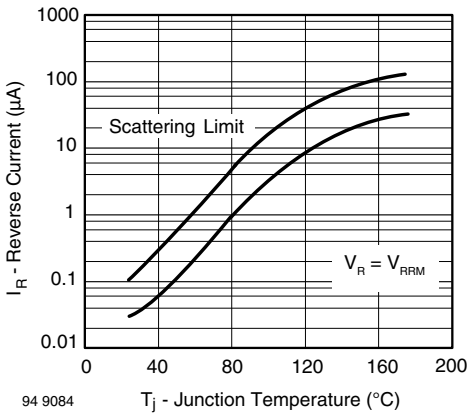


Fig. 1 - Reverse Current vs. Junction Temperature

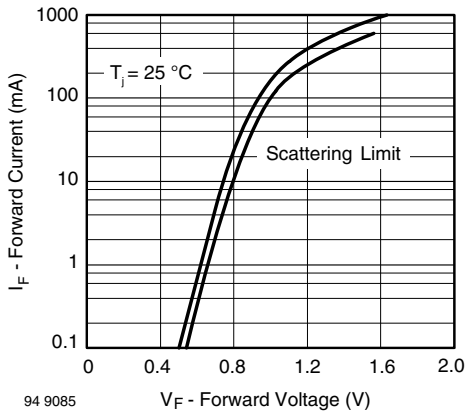


Fig. 2 - Forward Current vs. Forward Voltage

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

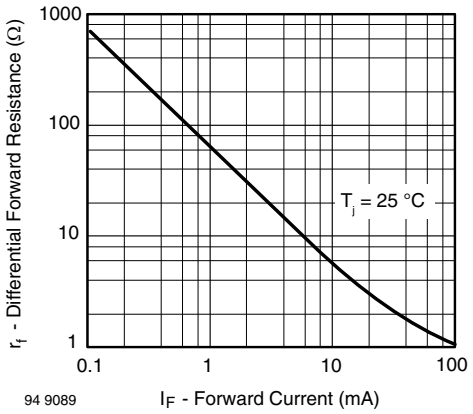
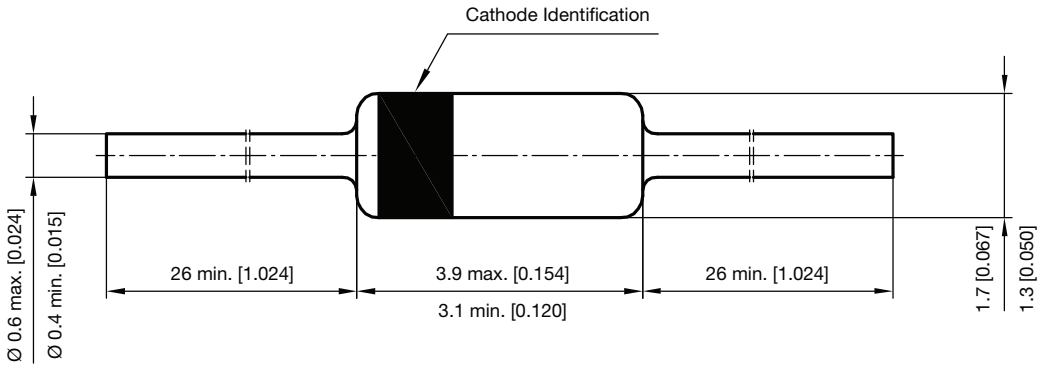


Fig. 3 - Differential Forward Resistance vs. Forward Current

PACKAGE DIMENSIONS in millimeters (inches): **DO-35**



Rev. 6 - Date: 19. December 2011
Document no.: SB-V-3906.04-031(4)
94 9366

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.