BAV100, BAV101, BAV102, BAV103

94 9371



Vishay Semiconductors

Small Signal Switching Diodes, High Voltage

Features

- · Silicon epitaxial planar diodes
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC







Applications

· General purposes

Mechanical Data

Case: MiniMELF SOD-80
Weight: approx. 31 mg
Cathode band color: black
Packaging codes/options:

GS18/10 k per 13" reel (8 mm tape), 10 k/box GS08/2.5 k per 7" reel (8 mm tape), 12.5 k/box

Parts Table

Part	Type differentiation	Ordering code	Type Marking	Remarks	
BAV100	V _{RRM} = 60 V	BAV100-GS18 or BAV100-GS08	-	Tape and Reel	
BAV101	V _{RRM} = 120 V	BAV101-GS18 or BAV101-GS08	-	Tape and Reel	
BAV102	V _{RRM} = 200 V	BAV102-GS18 or BAV102-GS08	-	Tape and Reel	
BAV103	V _{RRM} = 250 V	BAV103-GS18 or BAV103-GS08	-	Tape and Reel	

Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
		BAV100	V _{RRM}	60	V
Repetitive peak reverse voltage		BAV101	V _{RRM}	120	V
		BAV102	V _{RRM}	200	V
		BAV103	V _{RRM}	250	V
Reverse voltage		BAV100	V _R	50	V
		BAV101	V _R	100	V
		BAV102	V _R	150	V
		BAV103	V _R	200	V
Peak forward surge current	t _p = 1 s		I _{FSM}	1	Α
Repetitive peak forward current			I _{FRM}	625	mA
Forward continuous current			I _F	250	mA
Power dissipation			P _{tot}	500	mW

BAV100, BAV101, BAV102, BAV103

Vishay Semiconductors



Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit	
Junction lead		R_{thJL}	350	K/W	
Thermal resistance junction to ambient air	On PC board 50 mm x 50 mm x 1.6 mm	R _{thJA}	500	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.	Тур.	Max.	Unit
Forward voltage	I _F = 100 mA		V _F			1000	mV
Reverse current	V _R = 50 V	BAV100	I _R			100	nA
	V _R = 100 V	BAV101	I _R			100	nA
	V _R = 150 V	BAV102	I _R			100	nA
	V _R = 200 V	BAV103	I _R			100	nA
	$T_j = 100 ^{\circ}\text{C}, V_R = 50 \text{V}$	BAV100	I _R			15	μΑ
	$T_j = 100 ^{\circ}\text{C}, V_R = 100 ^{\circ}\text{V}$	BAV101	I _R			15	μΑ
	$T_j = 100 ^{\circ}\text{C}, V_R = 150 ^{\circ}\text{V}$	BAV102	I _R			15	μΑ
	$T_j = 100 ^{\circ}\text{C}, V_R = 200 ^{\circ}\text{V}$	BAV103	I _R			15	μΑ
Breakdown voltage	$I_R = 100 \mu A, t_p/T = 0.01,$ $t_p = 0.3 \text{ ms}$	BAV100	V _(BR)	60			V
	$I_R=100 \mu A, t_p/T = 0.01,$ $t_p = 0.3 \text{ ms}$	BAV101	V _(BR)	120			V
	$I_R = 100 \mu A, t_p/T = 0.01,$	BAV102	V _(BR)	200			V
	$t_p = 0.3 \text{ ms}$	BAV103	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	$I_F = I_R = 30 \text{ mA}, i_R = 3 \text{ mA},$ $R_L = 100 \Omega$		t _{rr}			50	ns

Typical Characteristics

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

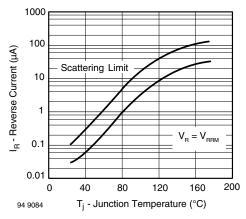


Figure 1. Reverse Current vs. Junction Temperature

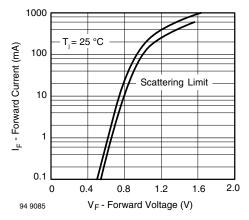


Figure 2. Forward Current vs. Forward Voltage

2

Vishay Semiconductors

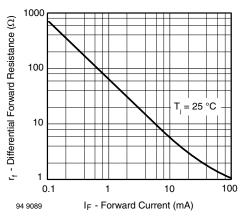
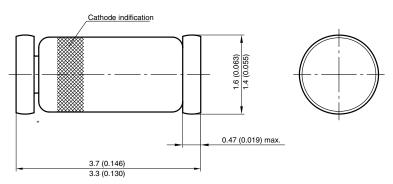
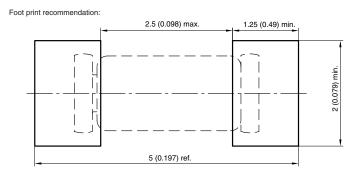


Figure 3. Differential Forward Resistance vs. Forward Current

Package Dimensions in millimeters (inches): MiniMELF SOD-80



* The gap between plug and glass can be either on cathode or anode side



Document no.:6.560-5005.01-4 Rev. 8 - Date: 07.June.2006 96 12070



Legal Disclaimer Notice

Vishay

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 and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. 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.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.