Small Signal Switching Diodes, Low Leakage Current

FEATURES

- Silicon planar diodes
- Very low reverse current
- Material categorization:
  For definitions of compliance please see www.vishay.com/doc?99912

Pb e2 RoHS COMPLIANT

APPLICATIONS

- Protection circuits, time delay circuits, peak follower circuits, logarithmic amplifiers

MECHANICAL DATA

Case: MiniMELF SOD-80

Weight: approx. 31 mg

Cathode band color: black

Packaging codes/options:

GS18/10K per 13" reel (8 mm tape), 10K/box

GS18/10K per 13" reel (8 mm tape), 10K/box

PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
BAQ33	V_{RRM} = 40 V	BAQ33-GS18 or BAQ33-GS08	-	Single diode	Tape and reel
BAQ34	V_{RRM} = 70 V	BAQ34-GS18 or BAQ34-GS08	-	Single diode	Tape and reel
BAQ35	V_{RRM} = 140 V	BAQ35-GS18 or BAQ35-GS08	-	Single diode	Tape and reel

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

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitve peak reverse voltage		BAQ33	V_{RRM}	40	V
		BAQ34	V_{RRM}	70	V
		BAQ35	V_{RRM}	140	V
Reverse voltage		BAQ33	V_R	30	V
		BAQ34	V_R	60	V
		BAQ35	V_R	125	V
Peak forward surge current	t_p = 1 µs		I_{FSM}	2	A
Forward continuous current			I_F	200	mA

THERMAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
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.**	**TYP.**	**MAX.**	**UNIT**
Forward voltage	I_F = 100 mA		V_F			1	V
Reverse current	E ≤ 300 lx, rated V_R		I_R		1	3	nA
	E ≤ 300 lx, rated V_R, Tj = 125 °C		I_R			0.5	µA
	E ≤ 300 lx, V_R = 15 V	BAQ33	I_R		0.5	1	nA
	E ≤ 300 lx, V_R = 30 V	BAQ34	I_R		0.5	1	nA
	E ≤ 300 lx, V_R = 60 V	BAQ35	I_R		0.5	1	nA
Breakdown voltage	I_R = 5 µA, t_p/T = 0.01, t_p = 0.3 ms	BAQ33	$V_{(BR)}$	40			V
	I_R = 5 µA, t_p/T = 0.01, t_p = 0.3 ms	BAQ34	$V_{(BR)}$	70			V
		BAQ35	$V_{(BR)}$	140			V
Diode capacitance	V_R = 0 V, f = 1 MHz		C_D			3	pF

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

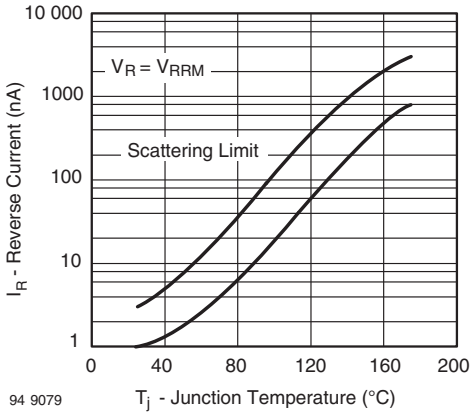


Fig. 1 - Reverse Current vs. Junction Temperature

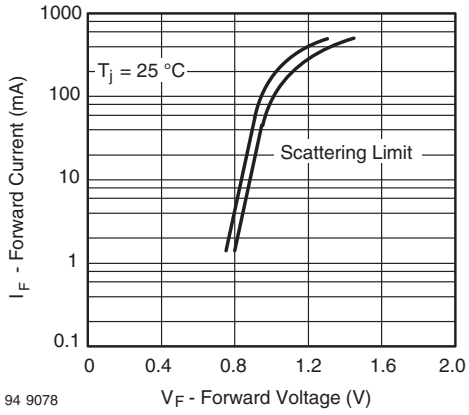
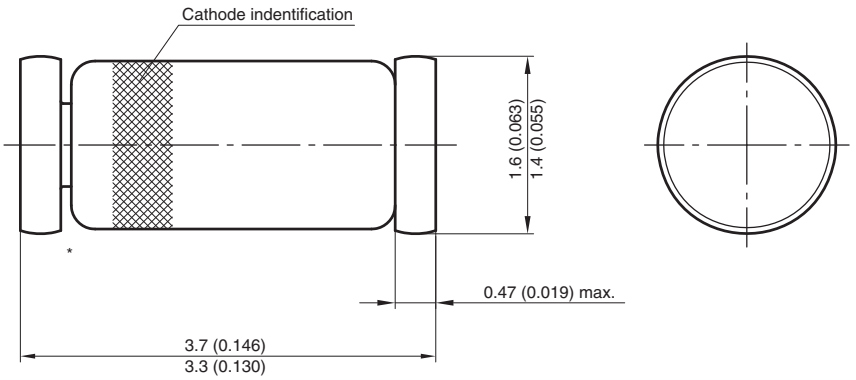


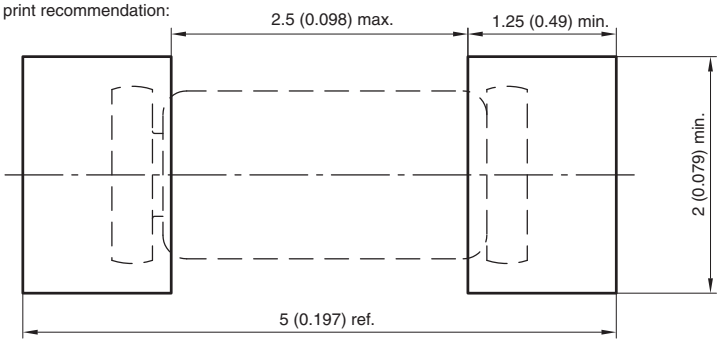
Fig. 2 - Forward Current vs. Forward Voltage

PACKAGE DIMENSIONS in millimeters (inches): **MiniMELF SOD-80**



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

Foot print recommendation:



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

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.

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.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.