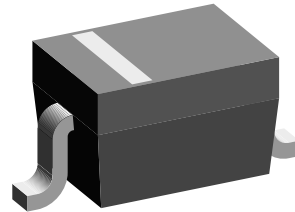


Small Signal Fast Switching Diode

Features

- These diodes are also available in other case styles including the DO-35 case with the type designation 1N4448, the MiniMELF case with the type designation LL4448, and the SOT-23 case with the type designation IMBD4448-V
- Silicon Epitaxial Planar Diode
- Fast switching diodes
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



20145

Mechanical Data

Case: SOD-323

Weight: approx. 4.3 mg

Packaging Codes/Options:

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

GS08/3 k per 7" reel (8 mm tape), 15 k/box

Parts Table

Part	Ordering code	Type Marking	Remarks
1N4448WS-V	1N4448WS-V-GS18 or 1N4448WS-V-GS08	A3	Tape and reel

Absolute Maximum Ratings

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Reverse voltage		V_R	75	V
Peak reverse voltage		V_{RM}	100	V
Average rectified current half wave rectification with resistive load	$f \geq 50\text{ Hz}$	$I_{F(AV)}$	150 ¹⁾	mA
Surge forward current	$t < 1\text{ s}$ and $T_j = 25\text{ }^{\circ}\text{C}$	I_{FSM}	350	mA
Power dissipation		P_{tot}	200 ¹⁾	mW

¹⁾ Valid provided that electrodes are kept at ambient temperature.

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	650 ¹⁾	K/W
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

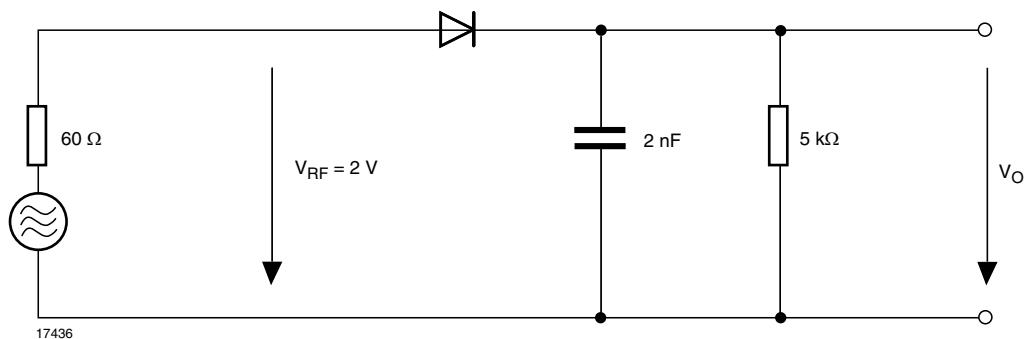
¹⁾ Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F = 5\text{ mA}$	V_F	620		720	mV
	$I_F = 100\text{ mA}$	V_F			1000	mV
Leakage current	$V_R = 20\text{ V}$	I_R			25	nA
	$V_R = 75\text{ V}$	I_R			5	μA
	$V_R = 20\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$	I_R			50	μA
Diode capacitance	$V_F = V_R = 0\text{ V}$	C_D			4	pF
Reverse recovery time	$I_F = 10\text{ mA}, I_R = 1\text{ mA}, V_R = 6\text{ V}, R_L = 100\text{ }\Omega$	t_{rr}			4	ns
Rectification efficiency	$f = 100\text{ MHz}, V_{RF} = 2\text{ V}$	η_V	0.45			

Rectification Efficiency Measurement Circuit



Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

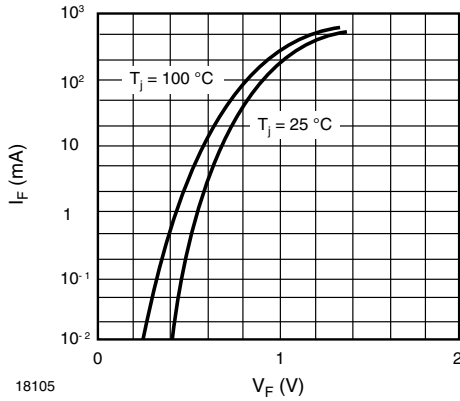


Figure 1. Forward Characteristics

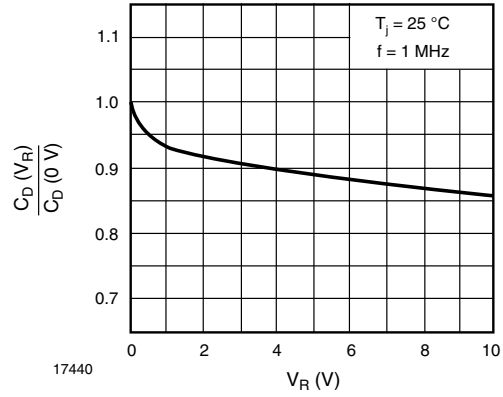


Figure 4. Relative Capacitance vs. Reverse Voltage

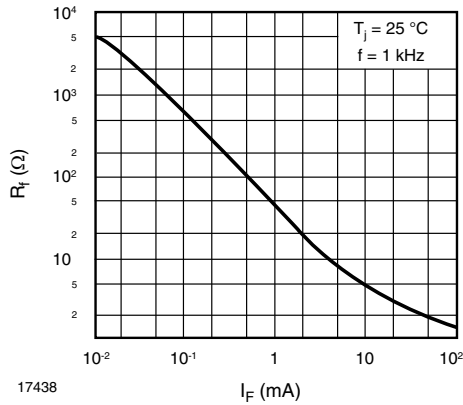


Figure 2. Dynamic Forward Resistance vs. Forward Current

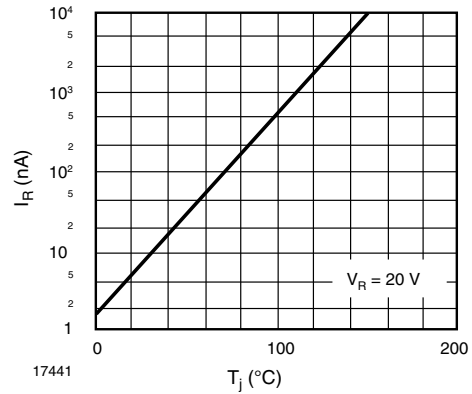


Figure 5. Leakage Current vs. Junction Temperature

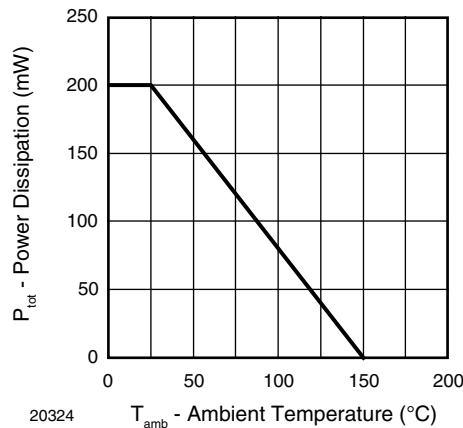


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

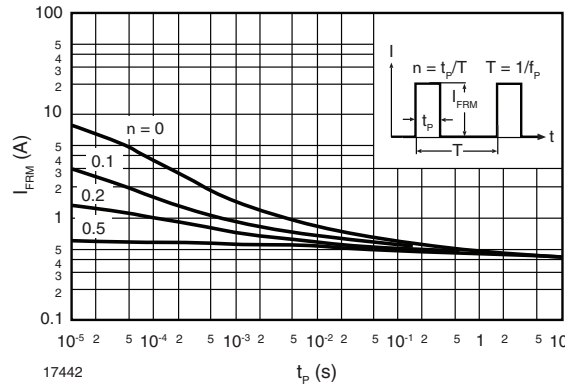
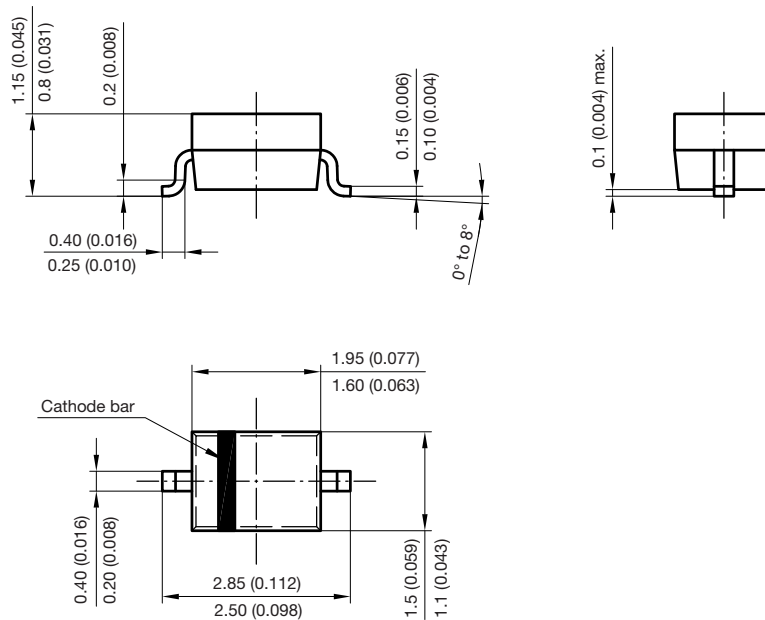
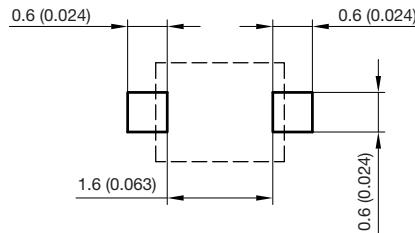


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

Package Dimensions in millimeters (inches): SOD-323



Foot print recommendation:



Document no.:S8-V-3910.02-001 (4)
 Created - Date: 24.August.2004
 Rev. 5 - Date: 23.Sept.2009
 17443



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.