

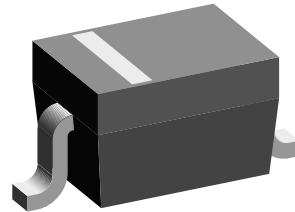
Small Signal Fast Switching Diode

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



RoHS
COMPLIANT



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 °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 ≥ 50 Hz	I _{F(AV)}	150 ¹⁾	mA
Surge forward current	t < 1 s and T _j = 25 °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	$^{\circ}\text{C}$

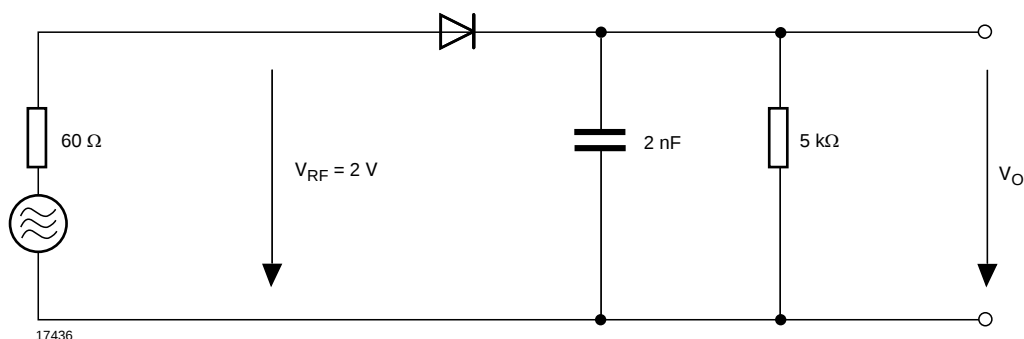
¹⁾ Valid provided that electrodes are kept at ambient temperature.

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)

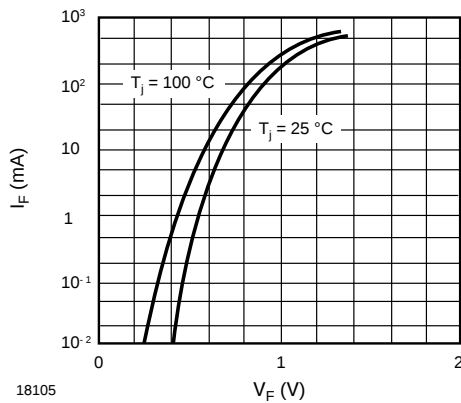


Figure 1. Forward Characteristics

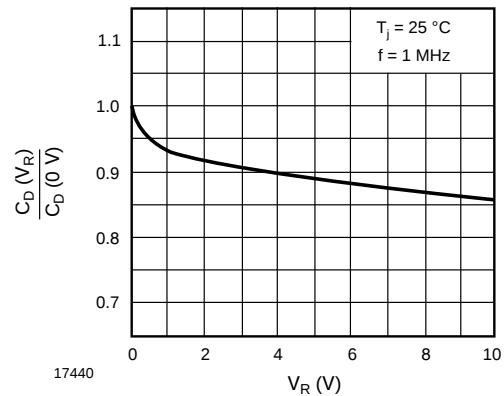


Figure 4. Relative Capacitance vs. Reverse Voltage

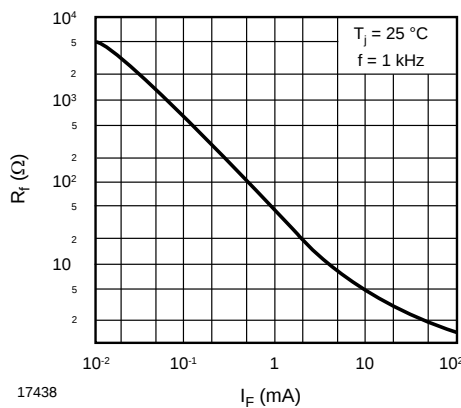


Figure 2. Dynamic Forward Resistance vs. Forward Current

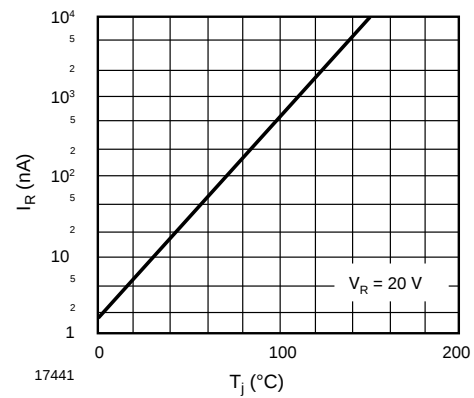


Figure 5. Leakage Current vs. Junction Temperature

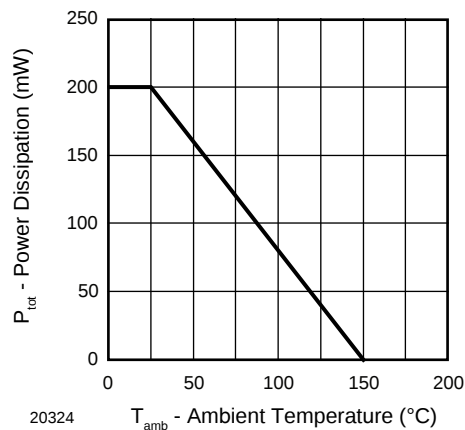


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

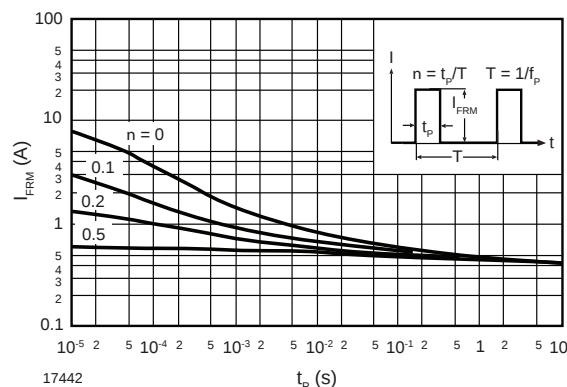
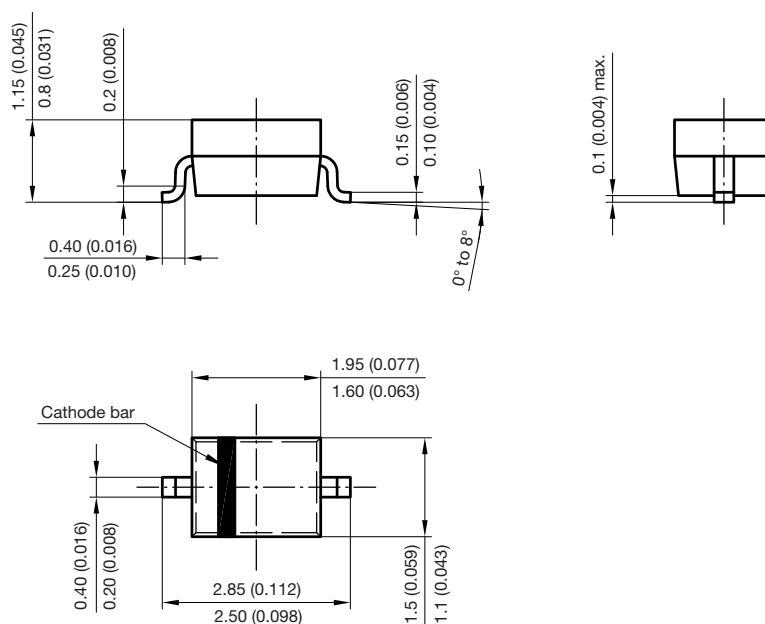
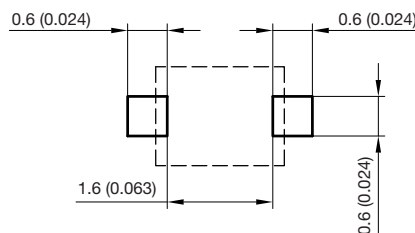


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

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 specifications and data are subject to change without notice.

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 herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

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.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.