

Vishay Semiconductors



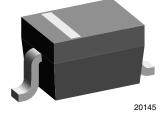
Small Signal Fast Switching Diode

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



COMPLIANT



- 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

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 $T_j = 25 \degree C$	I _{FSM}	350	mA
Power dissipation		P _{tot}	200 ¹⁾	mW

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

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Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R _{thJA}	650 ¹⁾	K/W
Junction temperature		Тj	150	°C
Storage temperature		T _{stg}	- 65 to + 150	°C

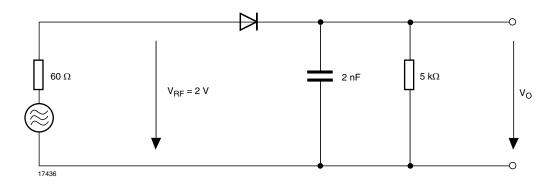
¹⁾ Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics

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

Parameter	Test condition	Symbol	Min.	Тур.	Max.	Unit
Forward voltage	I _F = 5 mA	V _F	620		720	mV
	I _F = 100 mA	V _F			1000	mV
Leakage current	V _R = 20 V	I _R			25	nA
	V _R = 75 V	I _R			5	μA
	V _R = 20 V, T _j = 150 °C	I _R			50	μA
Diode capacitance	$V_F = V_R = 0 V$	CD			4	pF
Reverse recovery time	$I_{F} = 10 \text{ mA}, I_{R} = 1 \text{ mA}, V_{R} = 6 \text{ V},$ $R_{L} = 100 \ \Omega$	t _{rr}			4	ns
Rectification efficiency	f = 100 MHz, V _{RF} = 2 V	ην	0.45			

Rectification Efficiency Measurement Circuit





1N4448WS-V

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Typical Characteristics (T_{amb} = 25 °C, unless otherwise specified)

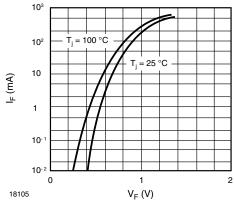


Figure 1. Forward Characteristics

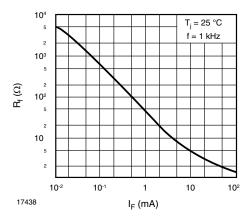


Figure 2. Dynamic Forward Resistance vs. Forward Current

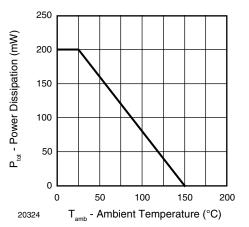


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

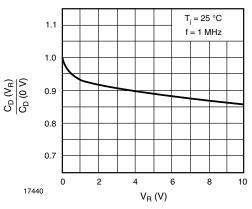


Figure 4. Relative Capacitance vs. Reverse Voltage

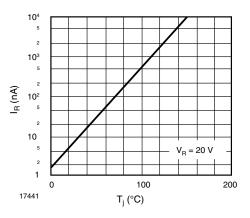


Figure 5. Leakage Current vs. Junction Temperature

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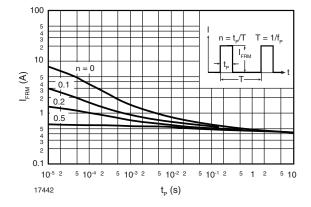
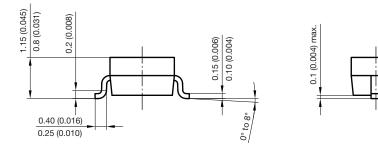
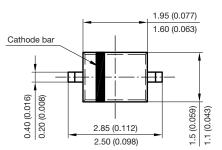
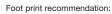


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

Package Dimensions in millimeters (inches): SOD-323











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