Small Signal Fast Switching Diode

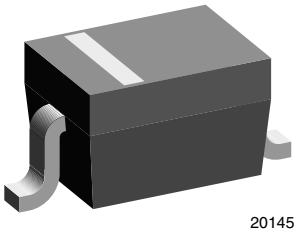
Features

- These diodes are also available in other case styles including the DO-35 case with the type designation 1N4148, the MiniMELF case with the type designation LL4148, and the SOT-23 case with the type designation IMBD4148-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

Pb-free

e3

RoHS COMPLIANT



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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
1N4148WS-V	1N4148WS-V-GS18 or 1N4148WS-V-GS08	A2	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
Repetitive peak reverse voltage		V_{RRM}	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

Note:

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

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

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		T_j	150	°C
Storage temperature		T_{stg}	- 65 to + 150	°C

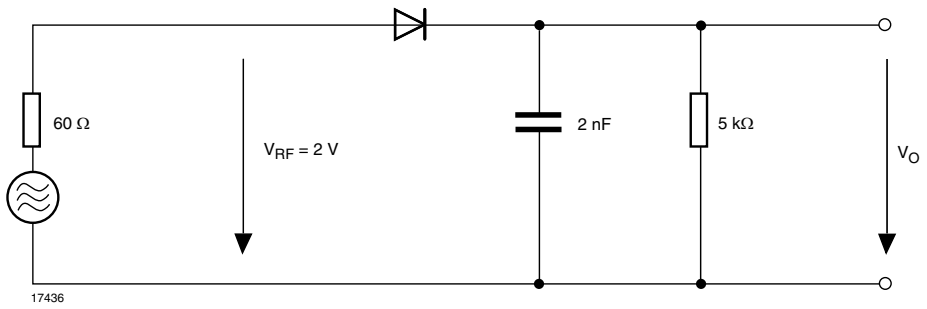
Note:
[1)] Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics

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

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	I_F = 10 mA	V_F			1000	mV
	I_F = 100 mA	V_F			1200	mV
Leakage current	V_R = 20 V	I_R			25	nA
	V_R = 75 V	I_R			5	µA
	V_R = 100 V	I_R			100	µA
	V_R = 20 V, T_j = 150 °C	I_R			50	µA
Diode capacitance	$V_F = V_R$ = 0 V	C_D			4	pF
Voltage rise when switching ON (tested with 50 mA pulses)	Tested with 50 mA pulses, t_p = 0.1 µs, rise time < 30 ns, f_p = (5 to 100) kHz	V_{fr}			2.5	V
Reverse recovery time	I_F = 10 mA, I_R = 1 mA, V_R = 6 V, R_L = 100 Ω	t_{rr}			4	ns
Rectification efficiency	f = 100 MHz, V_{RF} = 2 V	ηv	0.45			

Rectification Efficiency Measurement Circuit



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Typical Characteristics

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

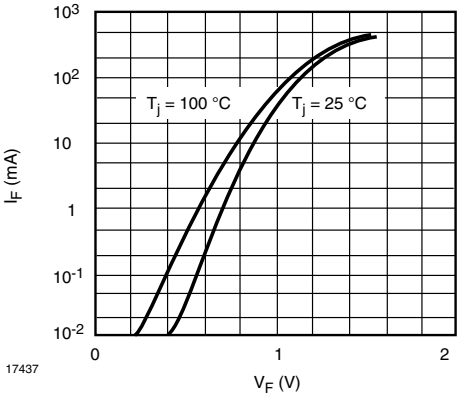


Figure 1. Forward characteristics

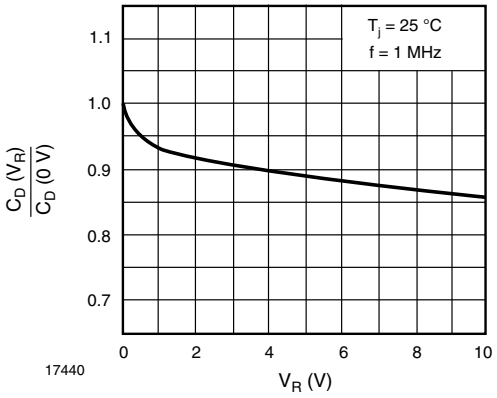


Figure 4. Relative Capacitance vs. Reverse Voltage

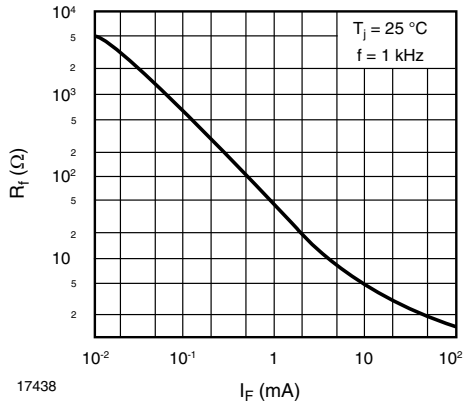


Figure 2. Dynamic Forward Resistance vs. Forward Current

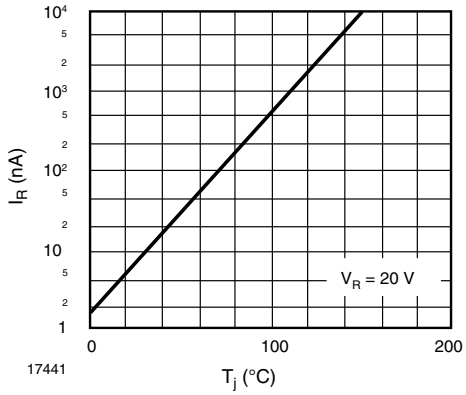


Figure 5. Leakage Current vs. Junction Temperature

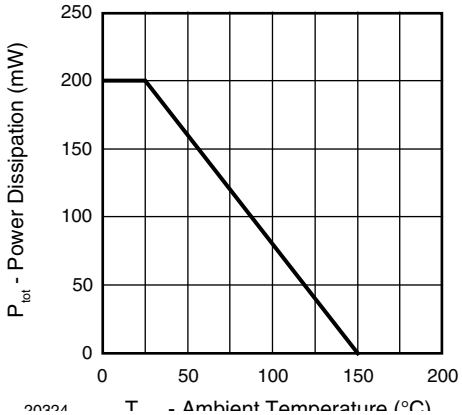


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

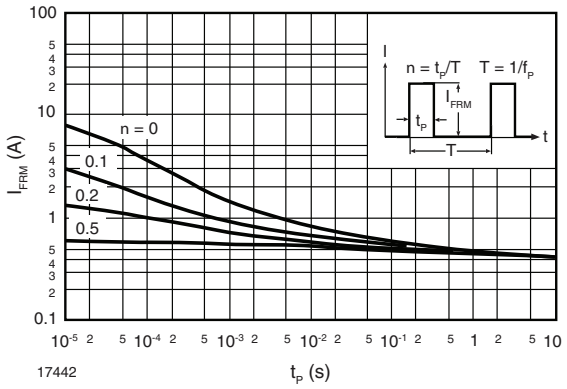
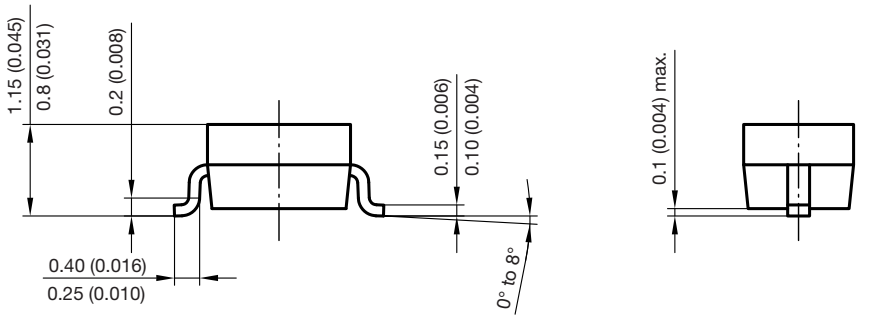
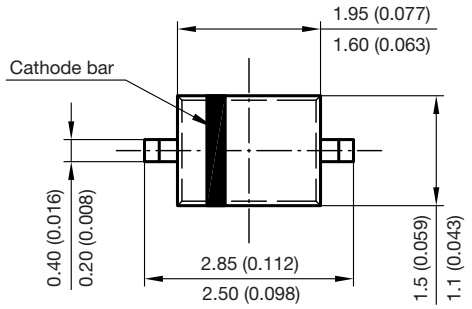


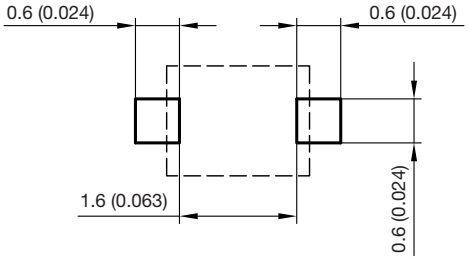
Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

Package Dimensions in millimeters (inches)**: SOD-323**





Foot print recommendation:



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