Small Signal Fast Switching Diode

Features

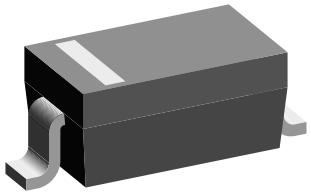
- Silicon epitaxial planar diode
- Fast switching diode
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb-free

e3

RoHS COMPLIANT

GREEN (5-2008)**



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Mechanical Data

Case: SOD-123

Weight: approx. 9.4 mg

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

Parts Table

Part	Ordering code	Marking	Remarks
1N4148W-V-G	1N4148W-V-G-18 or 1N4148W-V-G-08	AH	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}	500	mA
Power dissipation		P_{tot}	350 [1]	mW

Note:

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

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	357 [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.

** Please see document “Vishay Material Category Policy”: www.vishay.com/doc?99902

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

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

Typical Characteristics

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

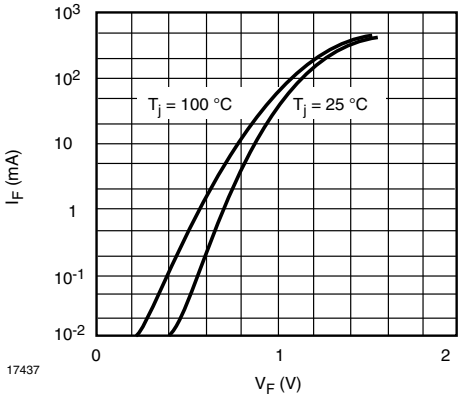

Figure 1. Forward characteristics

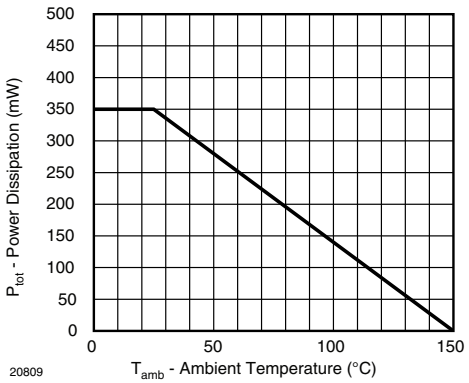

Figure 3. Admissible Power Dissipation vs. Ambient Temperature

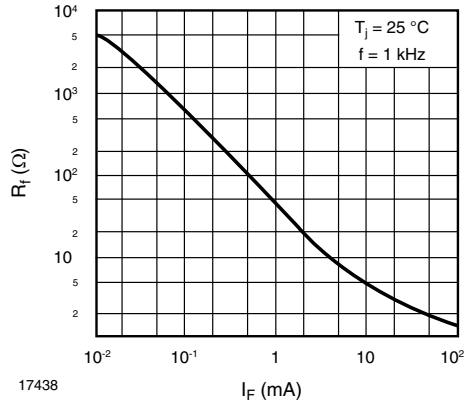

Figure 2. Dynamic Forward Resistance vs. Forward Current

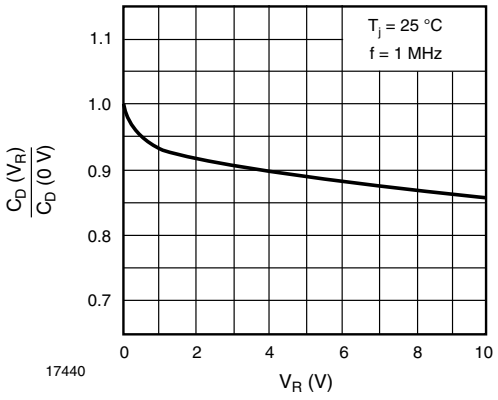

Figure 4. Relative Capacitance vs. Reverse Voltage

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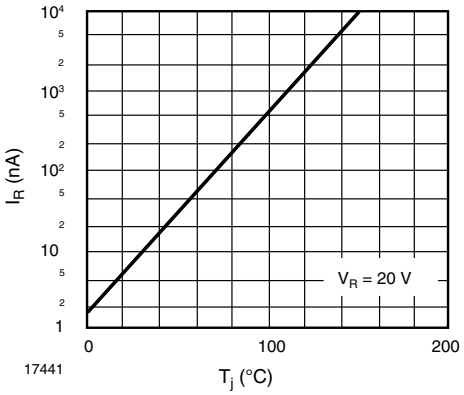


Figure 5. Leakage Current vs. Junction Temperature

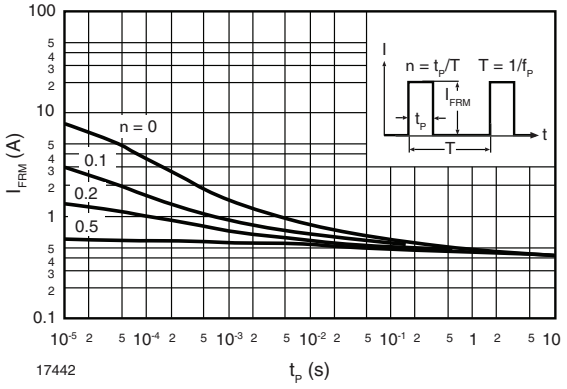
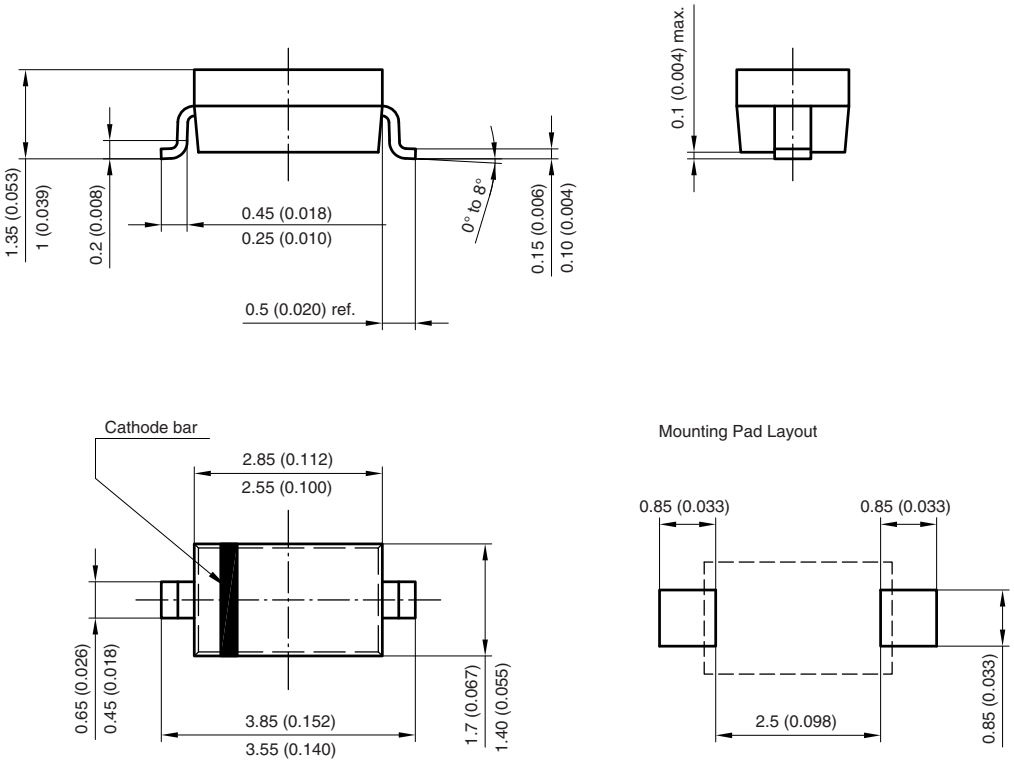


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

Package Dimensions in millimeters (inches): **SOD-123**



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