Small Signal Fast Switching Diode

Features

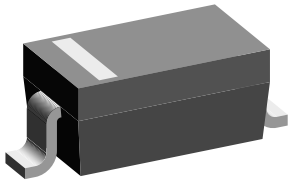
- Silicon epitaxial planar diode
- Fast switching diode
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb-free

e3

RoHS COMPLIANT

GREEN (5-2008)**



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Mechanical Data

Case: SOD-123 plastic case

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

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

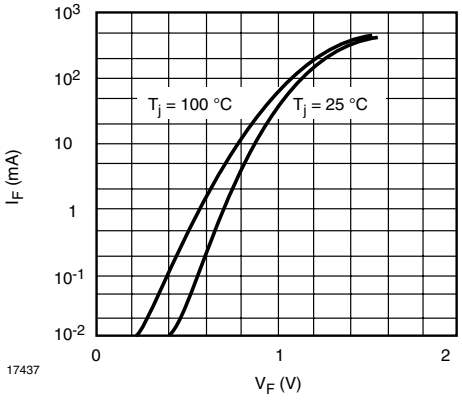


Figure 1. Forward characteristics

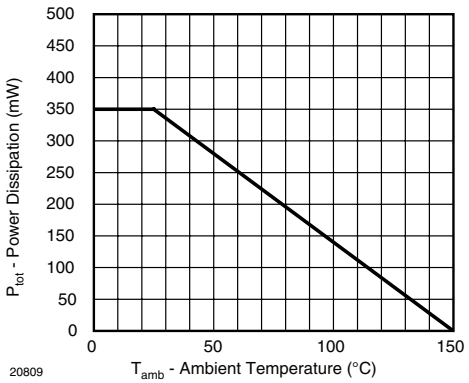


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

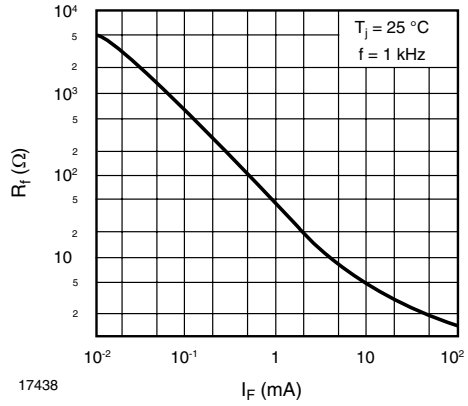


Figure 2. Dynamic Forward Resistance vs. Forward Current

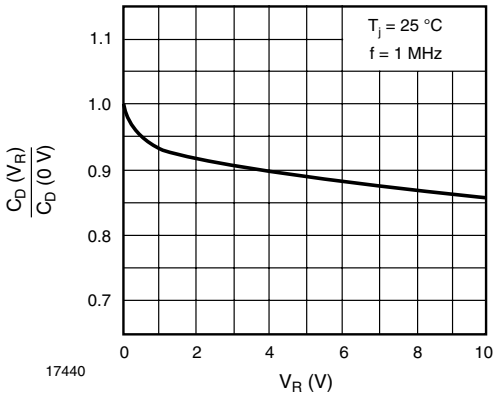


Figure 4. Relative Capacitance vs. Reverse Voltage

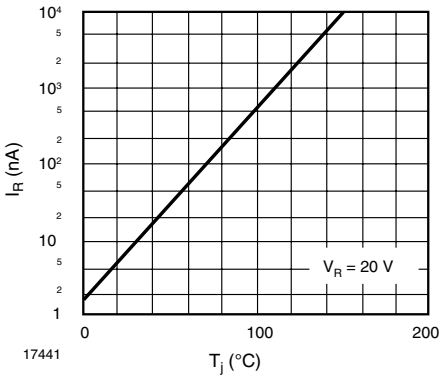


Figure 5. Leakage Current vs. Junction Temperature

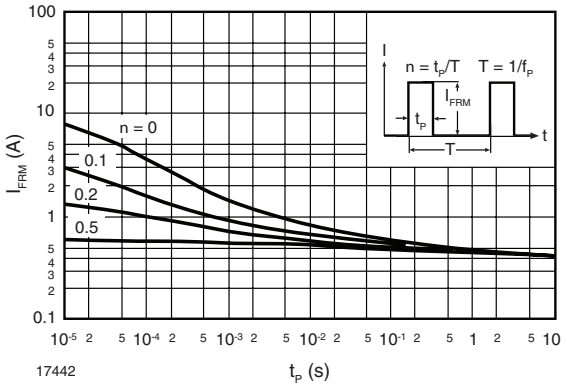
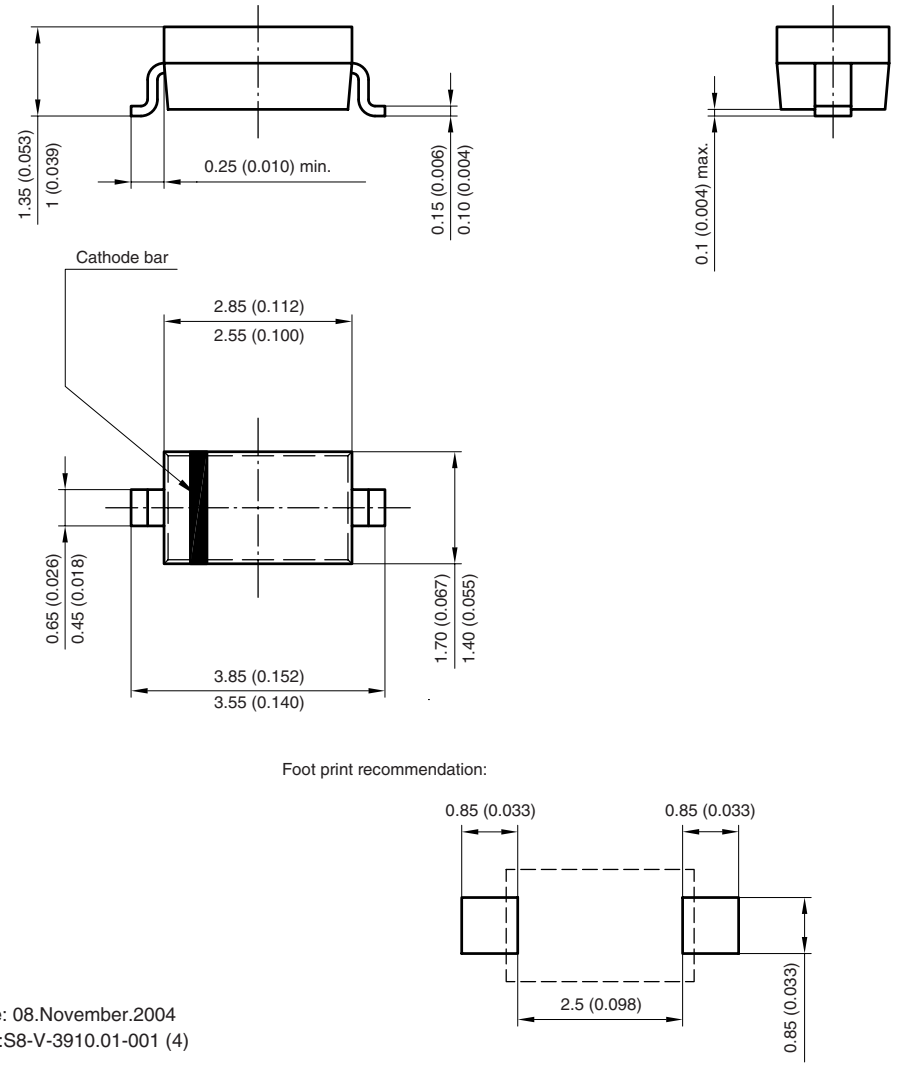


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

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



Foot print recommendation:

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Document no.:S8-V-3910.01-001 (4)
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