1N4148WS

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Vishay Semiconductors

Small Signal Fast Switching Diode



LINKS TO ADDITIONAL RESOURCES



MECHANICAL DATA

Case: SOD-323

Weight: approx. 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

FEATURES

- · Silicon epitaxial planar diode
- Fast switching diodes ($t_{rr} \le 4ns$)
- AEC-Q101 qualified available
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level (MSL) 1
- Base P/N-E3 RoHS-compliant, commercial grade
- Base P/N-HE3_A RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

PARTS TABLE							
PART	ORDERING CODE	AEC-Q101 QUALIFIED	TYPE MARKING	CIRCUIT CONFIGURATION	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY	
	1N4148WS-E3-08	No	2A	Single	3000	15 000	
1N4148WS	1N4148WS-HE3_A-08	Yes			(8 mm tape on 7" reel)		
	1N4148WS-E3-18	No			10 000	10 000	
	1N4148WS-HE3_A-18	Yes			(8 mm tape on 13" reel)	10 000	

PACKAGE						
PACKAGE NAME	WEIGHT	MOLDING COMPOUND	MOISTURE SENSITIVITY	SOLDERING CONDITIONS		
SOD-323	4 mg	UL 94 V-0	MSL 1 (according J-STD-020)	Peak temperature max. 260 °C		

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 ⁽¹⁾	f ≥ 50 Hz	I _{F(AV)}	150	mA
Continuous froward current ⁽¹⁾		I _F	250	mA
Surge forward current (1)	t _p < 1 s	I _{FSM}	350	mA
	t _p = 1 μs	I _{FSM}	2	A
Power dissipation ⁽¹⁾		P _{tot}	200	mW

Note

⁽¹⁾ Infinite heatsink

THERMAL CHARACTERISTICS ($T_{amb} = 25 \text{ °C}$, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to lead	Infinite heat sink	R _{thJL}	625	K/W	
Junction temperature		Тj	150	°C	
Storage temperature range		T _{stg}	-65 to +150	°C	
Operating temperature range		T _{op}	-55 to +150	С°	

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ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	MAX.	UNIT	
Forward voltage	I _F = 10 mA	V _F	1	V	
Forward voltage	I _F = 100 mA	V _F 1.2 I _R 25	V		
	V _R = 20 V	I _R	25	nA	
Leakage current	V _R = 75 V	I _R	1	μA	
	V _R = 100 V	I _R	100	μA	
	V _R = 20 V, T _J = 150 °C	I _R	50	μA	
Diode capacitance	$V_F = V_R = 0 V$	CD	1.5	pF	
Voltage rise when switching ON	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)

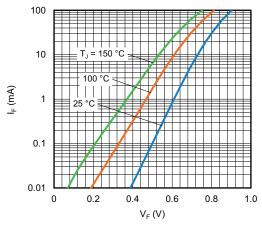


Fig. 1 - Typical Forward Current vs. Forward Voltage

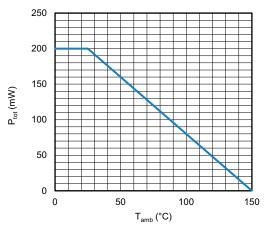


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

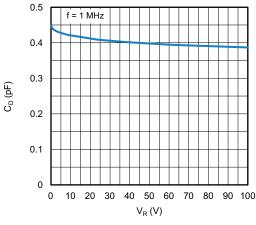


Fig. 3 - Typical Capacitance vs. Reverse Voltage

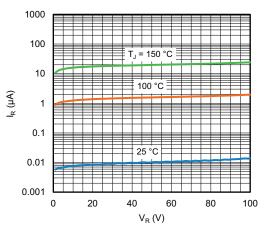


Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage

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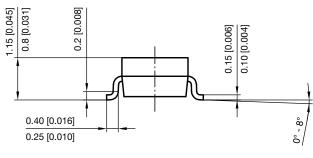
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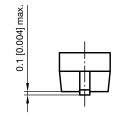
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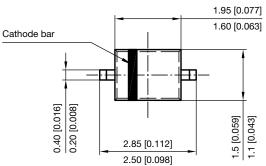
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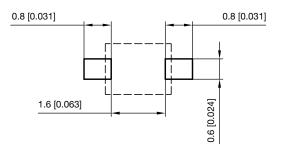
PACKAGE DIMENSIONS in millimeters (inches) SOD-323







Footprint recommendation:



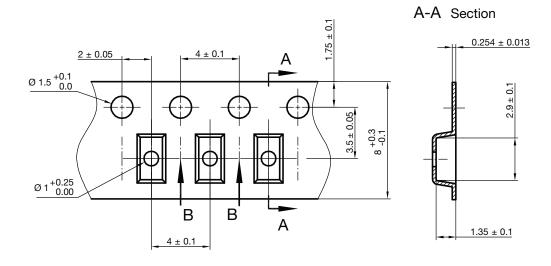
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CARRIER TAPE SOD-323

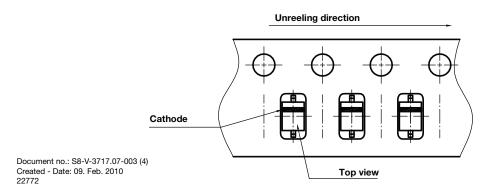


B-B Section



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ORIENTATION IN CARRIER TAPE SOD-323





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