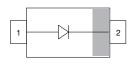


Small Signal Fast Switching Diode





LINKS TO ADDITIONAL RESOURCES











MECHANICAL DATA

Case: SOD-123

Weight: approx. 10.6 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} ≤ 4ns)
- AEC-Q101 qualified available
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level (MSL) 1
- Base P/N-G3-green, commercial grade
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912









PARTS TABLE							
PART	ORDERING CODE	AEC-Q101 QUALIFIED	TYPE MARKING	CIRCUIT CONFIGURATION	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY	
	1N4148W-G3-08	No		NG CONFIGURATION PER 3 (8 mm tap) 10 10	3 000	15 000	
1N4148W-G	1N4148W-HG3_A-08	Yes	AH		(8 mm tape on 7" reel)		
11N4146W-G	1N4148W-G3-18	No	АП		10 000	10 000	
	1N4148W-HG3_A-18	Yes			(8 mm tape on 13" reel)	10 000	

PACKAGE				
PACKAGE NAME	WEIGHT	MOLDING COMPOUND	MOISTURE SENSITIVITY	SOLDERING CONDITIONS
SOD-123	10.6 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	f ≥ 50 Hz	I _{F(AV)}	250	mA	
Continuous froward current (1)		I _F	300	mA	
0	t _p < 1 s	I _{FSM}	500	mA	
Surge forward current	t _p = 1 μs	I _{FSM}	2	Α	
Power dissipation	On FR-4 board with recommended soldering footprint	P _{tot}	280	mW	
·	Infinite heat sink		380	mW	

Note

(1) Infinite heatsink



THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	According to JEDEC® 51-3 on FR-4 board with recommended soldering footprint	R _{thJA}	440	K/W
Thermal resistance junction to lead	Infinite heat sink	R _{thJL}	330	K/W
Junction temperature		T _j	150	°C
Storage temperature range		T _{stg}	-65 to +150	°C
Operating temperature range		T _{op}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	MAX.	UNIT
Frank aller	I _F = 10 mA	V _F	1	V
Forward voltage	I _F = 100 mA	V _F	1.2	V
	V _R = 20 V	I _R	25	nA
Leakage current	$V_R = 75 \text{ V}$	I _R	1	μΑ
	V _R = 100 V	I _R	100	μΑ
	V _R = 20 V, T _J = 150 °C	I _R	50	μA
Diode capacitance	$V_F = V_R = 0 V$	C _D	1.5	pF
Voltage rise when switching ON	Tested with 50 mA pulses, $t_p = 0.1 \mu s$, rise time < 30 ns, $f_p = (5 \text{ to } 100) \text{ kHz}$	V _{fr}	2.5	V
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

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

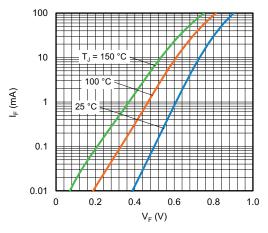


Fig. 1 - Typical Forward Current vs. Forward Voltage

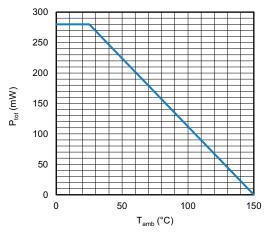


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

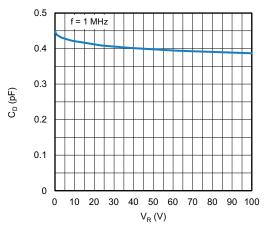


Fig. 3 - Typical Capacitance vs. Reverse Voltage

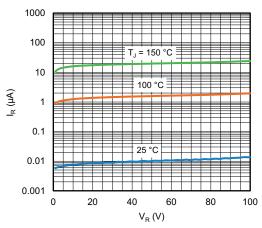
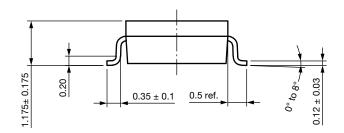
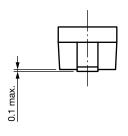


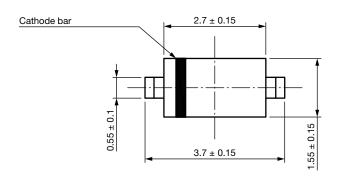
Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage

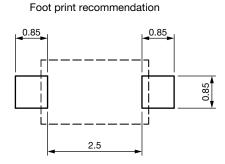


PACKAGE DIMENSIONS in millimeters (inches): SOD-123









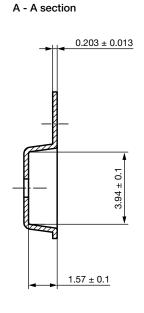
Rev. 01 - Date: 18. Jan. 2022 Document no.: S8-V-3910.01-003 (4)

23223

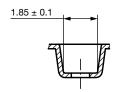


CARRIER TAPE SOD-123

2 ± 0.05 Ø1.55 ± 0.05 Ø1 *0.25 Ø1 *0.25 B B A 4 ± 0.1



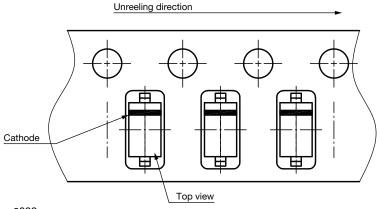
B - B section



Rev. 02 - Date: 21. Jan. 2014 Document no.: S8-V-3717.10-002 (4)

23224

ORIENTATION IN CARRIER TAPE SOD-123



Rev. 02 - Date: 07. Nov. 2022 Document no.: S8-V-3717.10-003 (4)

23225



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