

Small Signal Fast Switching Diode





LINKS TO ADDITIONAL RESOURCES











MECHANICAL DATA

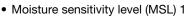
Case: SOD-123

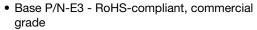
Weight: approx. 10.6 mg Packaging codes / options:

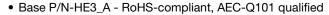
18/10K per 13" reel (8 mm tape), 10K/box 08/3K per 7" reel (8 mm tape), 15K/box

FEATURES

- · Silicon epitaxial planar diode
- Fast switching diodes (t_{rr} ≤ 4ns)
- AEC-Q101 qualified available
- Molding compound meets UL 94 V-0 flammability rating







• Material categorization: for definitions of compliance please see www.vishav.com/doc?99912











PARTS TABLE							
PART	ORDERING CODE	AEC-Q101 QUALIFIED	TYPE MARKING	CIRCUIT CONFIGURATION	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY	
	1N4148W-E3-08	no	АН	AH Single	3 000	15 000	
1N4148W	1N4148W-HE3_A-08	yes			(8 mm tape on 7" reel)		
111414011	1N4148W-E3-18	no			10 000	10 000	
	1N4148W-HE3 A-18	ves			(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 (1)	f ≥ 50 Hz	I _{F(AV)}	250	mA		
Continuous froward current (1)		I _F	300	mA		
Surge forward current (1)	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 heatsink]	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	
Compared voltage	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	
Lookogo ourrent	V _R = 75 V	I _R	1	μΑ	
Leakage current	V _R = 100 V	I _R	100	μΑ	
	V _R = 20 V, T _J = 150 °C	I _R	50	μΑ	
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 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)

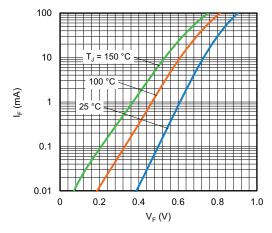


Fig. 1 - Typical Forward Current vs. Forward Voltage

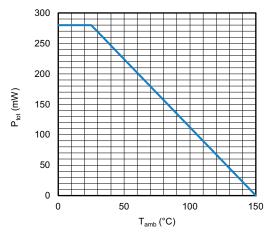


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

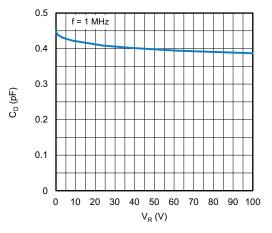


Fig. 3 - Typical Capacitance vs. Reverse Voltage

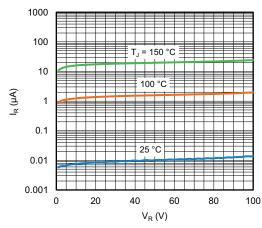
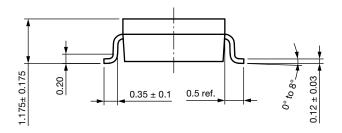
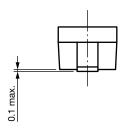


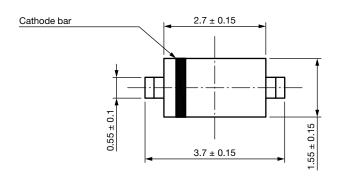
Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage

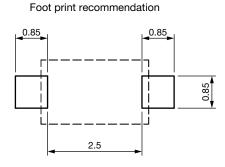


PACKAGE DIMENSIONS in millimeters (inches): SOD-123









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

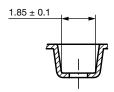
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CARRIER TAPE SOD-123

0.203 ± 0.013

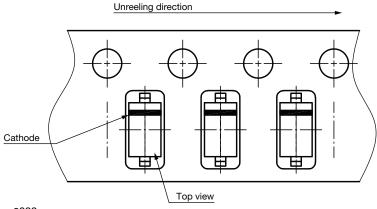
B - B section



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

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ORIENTATION IN CARRIER TAPE SOD-123



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