

Small Signal Fast Switching Diode



FEATURES

- Silicon epitaxial planar diode
- Fast switching diodes
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

MARKING (example only)



22610

Bar = cathode marking
XY = type code

DESIGN SUPPORT TOOLS [click logo to get started](#)



MECHANICAL DATA

Case: SOD-323

Weight: approx. 4.3 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	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
1N4148WS	1N4148WS-E3-08 or 1N4148WS-E3-18	Single	A2	Tape and reel
	1N4148WS-HE3-08 or 1N4148WS-HE3-18			

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	75	V
Repetitive peak reverse voltage		V_{RRM}	100	
Average rectified current half wave rectification with resistive load ⁽¹⁾	$f \geq 50\text{ Hz}$	$I_{F(AV)}$	150	mA
Surge forward current	$t < 1\text{ s}$ and $T_j = 25\text{ }^{\circ}\text{C}$	I_{FSM}	350	
Power dissipation ⁽¹⁾		P_{tot}	200	mW

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature.

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air ⁽¹⁾		R_{thJA}	650	K/W
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-65 to +150	$^{\circ}\text{C}$
Operating temperature range		T_{op}	-55 to +150	$^{\circ}\text{C}$

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature



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			1	V
	I _F = 100 mA	V _F			1.2	V
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	
	V _R = 20 V, T _j = 150 °C	I _R			50	
Diode capacitance	V _F = V _R = 0 V	C _D			4	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 - Forward Characteristics



Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature



Fig. 2 - Dynamic Forward Resistance vs. Forward Current



Fig. 4 - Relative Capacitance vs. Reverse Voltage



Fig. 5 - Leakage Current vs. Junction Temperature



Fig. 6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration



PACKAGE DIMENSIONS in millimeters (inches): SOD-323



Footprint recommendation:



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 17443



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