

Vishay Semiconductors

Small Signal Fast Switching Diode



FEATURES

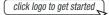
- Silicon epitaxial planar diode
- · For general purpose and switching
- AEC-Q101 qualified available
- Base P/N-E3 RoHS-compliant, commercial grade



RoHS

- Base P/N-HE3 RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see <u>www.vishav.com/doc?99912</u>

DESIGN SUPPORT TOOLS





MECHANICAL DATA

Case: SOD-123

Weight: approx. 10.3 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	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS	
1N4150W	1N4150W-E3-08 or 1N4150W-E3-18	A4	Single	Tape and reel	
	1N4150W-HE3-08 or 1N4150W-HE3-18	A4	Single		

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Repetitive peak reverse voltage		V_{RRM}	50	V	
Maximum average forward rectified current		I _{F(AV)}	200	mA	
Maximum power dissipation (1)		P _{tot}	410	mW	

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air (1)		R _{thJA}	375	K/W	
Maximum junction temperature		Tj	150	°C	
Storage temperature range		T _{stg}	-65 to +150	°C	
Operating temperature range		T _{op}	-55 to +150	°C	

Note

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

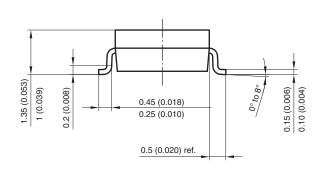


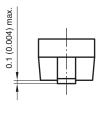
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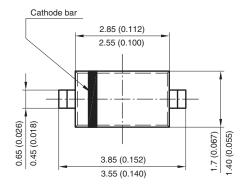
ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
	I _F = 1 mA	V _F	0.540		0.620	V
	I _F = 10 mA	V _F	0.660		0.740	V
Forward voltage	I _F = 50 mA	V _F	0.760		0.860	V
	I _F = 100 mA	V _F	0.820		0.920	V
	I _F = 200 mA	V _F	0.870		1	V
Reverse current	V _R = 50 V	I _R			100	nA
neverse current	$V_R = 50 \text{ V}, T_j = 150 ^{\circ}\text{C}$	I _R			100	μΑ
Diode capacitance	$V_R = 0$, $f = 1$ MHz, $V_{HF} = 50$ mV	C _D			2.5	pF
Reverse recovery time	$I_F = I_R = (10 \text{ to } 100) \text{ mA}$ $I_R = 0.1 \text{ x } I_R, R_L = 100 \Omega$	t _{rr}			4	ns

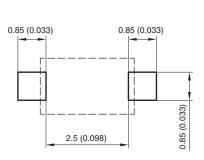
PACKAGE DIMENSIONS in millimeters (inches): SOD-123





Mounting Pad Layout





Rev. 4 - Date: 24. Sep. 2009 Document no.: S8-V-3910.01-001 (4)



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