

BAV19W-G, BAV20W-G, BAV21W-G

Vishay Semiconductors

Small Signal Switching Diodes, High Voltage



FEATURES

- Silicon epitaxial planar diodes
- For general purpose
- AEC-Q101 qualified
- Base P/N-G3 green, commercial grade
- Material categorization:
 For definitions of compliance please see www.vishay.com/doc?99912





ROHS COMPLIANT HALOGEN FREE

GREEN (5-2008)

MECHANICAL DATA

Case: SOD-123

Weight: approx. 9.4 mg
Packaging codes/options:

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

PARTS TABLE						
PART	TYPE ORDERING CODE		TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS	
BAV19W-G	V _R = 100 V	BAV19W-G3-08 or BAV19W-G3-18	AS	Single diode	Tape and reel	
BAV20W-G	V _R = 150 V	BAV20W-G3-08 or BAV20W-G3-18	AT	Single diode	Tape and reel	
BAV21W-G	V _R = 200 V	BAV21W-G3-08 or BAV21W-G3-18	AU	Single diode	Tape and reel	

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	TEST CONDITION PART		VALUE	UNIT	
		BAV19W-G	V _R	100	V	
Continuous reverse voltage		BAV20W-G	V_{R}	150	V	
		BAV21W-G	V_{R}	200	V	
		BAV19W-G	V_{RRM}	120	V	
Repetitive peak reverse voltage		BAV20W-G	V_{RRM}	200	V	
		BAV21W-G	V_{RRM}	250	V	
DC Forward current (1)			I _F	250	mA	
Rectified current (average) half wave rectification with resist. load ⁽¹⁾			I _{F(AV)}	200	mA	
Repetitive peak forward current (1)	f ≥ 50 Hz		I _{FRM}	625	mA	
Surge forward current	t < 1 s		I _{FSM}	1	А	
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		
Junction temperature (1)		T _j	150	°C		
Storage temperature range (1)		T _{stg}	- 65 to + 150	°C		
Operating temperature range		T _{op}	- 55 to + 150	°C		

Note

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



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ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I _F = 100 mA		V _F			1	V
Forward voltage	I _F = 200 mA		V _F			1250	mV
	V _R = 100 V	BAV19W-G	I _R			100	nA
	V _R = 100 V, T _j = 100 °C	BAV19W-G	I _R			15	μA
Leakage current	V _R = 150 V	BAV20W-G	I _R			100	nA
Leakage current	V _R = 150 V, T _j = 100 °C	BAV20W-G	I _R			15	μΑ
	V _R = 200 V	BAV21W-G	I _R			100	nA
	V _R = 200 V, T _j = 100 °C	BAV21W-G	I _R			15	μΑ
Dynamic forward resistance	I _F = 10 mA		r _f		5		Ω
Diode capacitance	V _R = 0, f = 1 MHz		C _D		1.5		pF
Reverse recovery time	$I_F = 30 \text{ mA}, I_R = 30 \text{ mA}, I_R = 3 \text{ mA}, R_L = 100 \Omega$		t _{rr}			50	ns

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

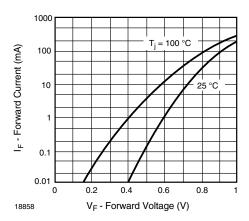


Fig. 1 - Forward Current vs. Forward Voltage

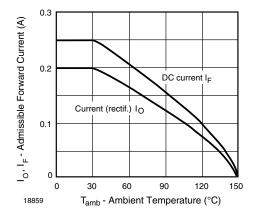


Fig. 2 - Admissible Forward Current vs. Ambient Temperature

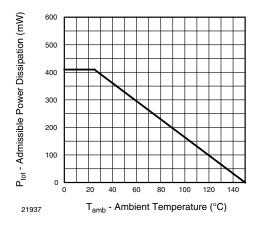


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

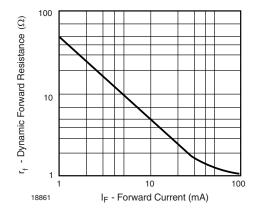
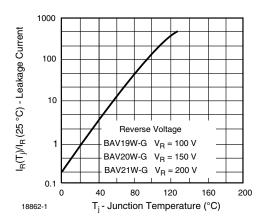
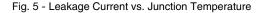


Fig. 4 - Dynamic Forward Resistance vs. Forward Current

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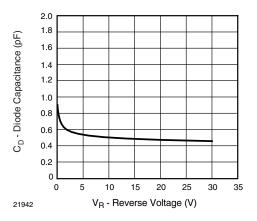


Fig. 6 - Diodes Capacitance vs. Reverse Voltage

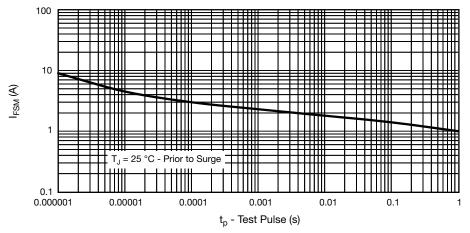
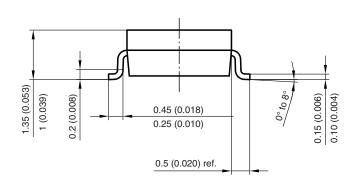
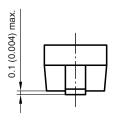


Fig. 7 - Non-Repetitive Peak Forward Current vs. Pulse Duration Maximum Admissible Values of Square Pulses

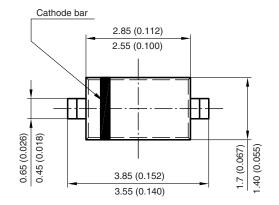
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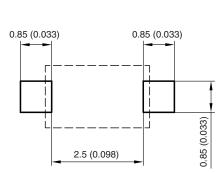
PACKAGE DIMENSIONS in millimeters (inches): SOD-123





Mounting Pad Layout





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

17432



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Revision: 13-Jun-16 1 Document Number: 91000