BAV19WS-V-G, BAV20WS-V-G, BAV21WS-V-G

Vishay Semiconductors

Small Signal Switching Diodes, High Voltage

Features

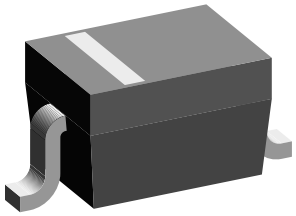
- Silicon epitaxial planar diodes
- For general purpose
- AEC-Q101 qualified
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb-free

e3

RoHS COMPLIANT

GREEN (5-2008)**



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Mechanical Data

Case: SOD-323

Weight: approx. 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 differentiation	Ordering code	Type Marking	Remarks
BAV19WS-V-G	V_R = 100 V	BAV19WS-V-G-18 or BAV19WS-V-G-08	AS	Tape and reel
BAV20WS-V-G	V_R = 150 V	BAV20WS-V-G-18 or BAV20WS-V-G-08	AT	Tape and reel
BAV21WS-V-G	V_R = 200 V	BAV21WS-V-G-18 or BAV21WS-V-G-08	AU	Tape and reel

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Continuous reverse voltage		BAV19WS-V-G	V_R	100	V
		BAV20WS-V-G	V_R	150	V
		BAV21WS-V-G	V_R	200	V
Repetitive peak reverse voltage		BAV19WS-V-G	V_{RRM}	120	V
		BAV20WS-V-G	V_{RRM}	200	V
		BAV21WS-V-G	V_{RRM}	250	V
Forward continuous current			I_F	250 [1]	mA
Rectified current (average) half wave rectification with resist. load			$I_{F(AV)}$	200 [1]	mA
Repetitive peak forward current	f ≥ 50 Hz, θ = 180°		I_{FRM}	625 [1]	mA
Surge forward current	t < 1 s, T_j = 25 °C		I_{FSM}	1	A
Power dissipation			P_{tot}	200 [1]	mW

Note

[1] Valid provided that leads are kept at ambient temperature

** Please see document “Vishay Material Category Policy”: www.vishay.com/doc?99902

Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	650 [1]	K/W
Junction temperature		T_j	150 [1]	°C
Storage temperature range		T_{stg}	- 65 to + 150 [1]	°C

Note

[1] Valid provided that leads are kept at ambient temperature

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
	I_F = 200 mA		V_F			1.25	V
Leakage current	V_R = 100 V	BAV19WS-V-G	I_R			100	nA
	V_R = 100 V, T_j = 100 °C	BAV19WS-V-G	I_R			15	µA
	V_R = 150 V	BAV20WS-V-G	I_R			100	nA
	V_R = 150 V, T_j = 100 °C	BAV20WS-V-G	I_R			15	µA
	V_R = 200 V	BAV21WS-V-G	I_R			100	nA
	V_R = 200 V, T_j = 100 °C	BAV21WS-V-G	I_R			15	µA
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 mA, I_R = 30 mA, i_R = 3 mA, R_L = 100 Ω		t_{rr}			50	ns

Typical Characteristics

T_{amb} = 25 °C, unless otherwise specified

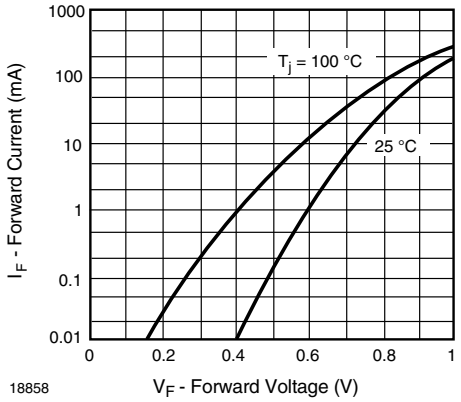

Figure 1. Forward Current vs. Forward Voltage

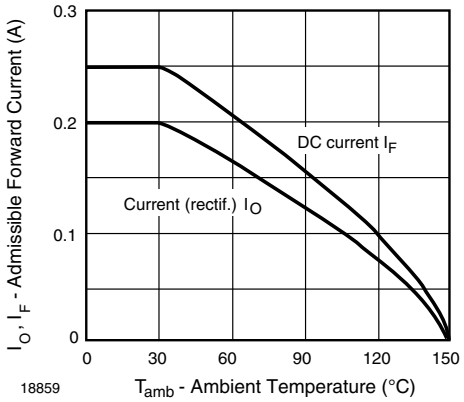

Figure 2. Admissible Forward Current vs. Ambient Temperature

For technical questions within your region, please contact one of the following:
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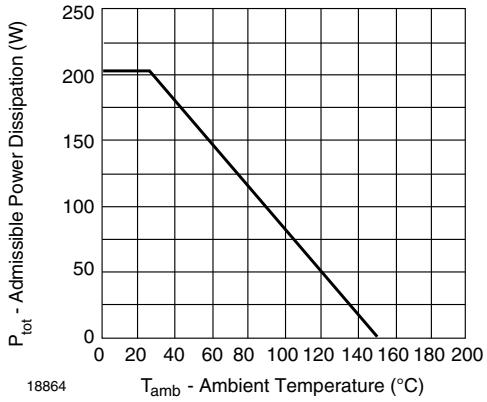


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

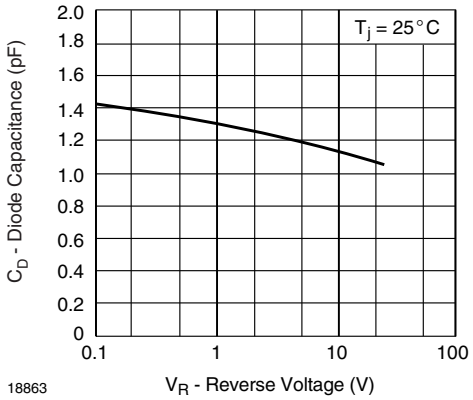


Figure 6. Capacitance vs. Reverse Voltage

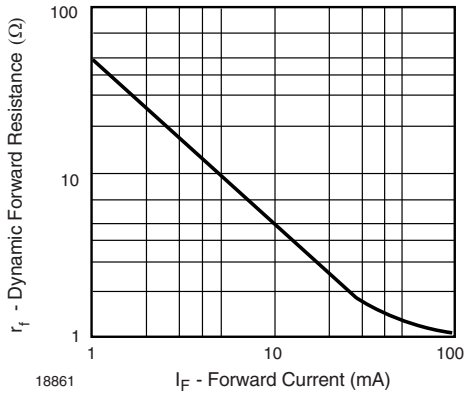


Figure 4. Dynamic Forward Resistance vs. Forward Current

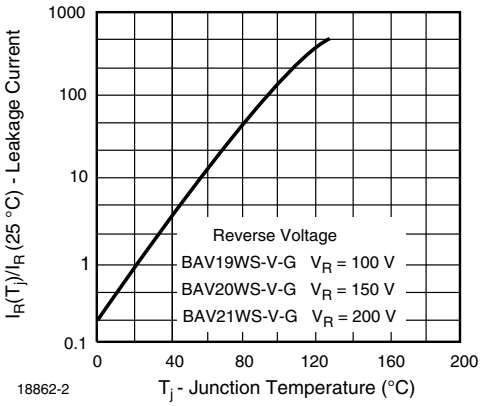
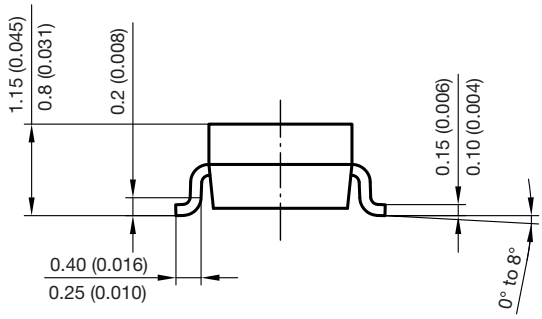
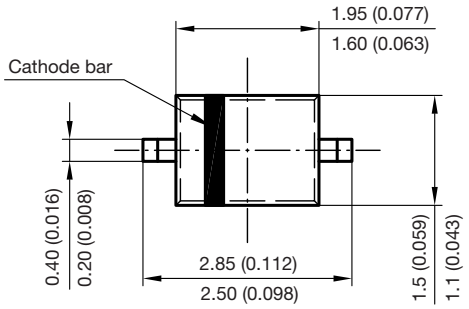


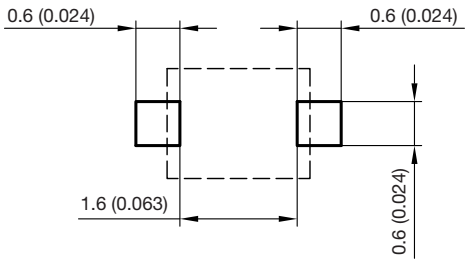
Figure 5. Leakage Current vs. Junction Temperature

Package Dimensions in millimeters (inches): SOD-323





Foot print recommendation:



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