



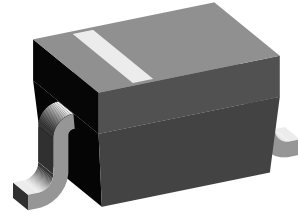
Small Signal Switching Diodes, High Voltage

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



RoHS
COMPLIANT
GREEN
(5-2008)**



20145

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	$V_R = 100\text{ V}$	BAV19WS-V-G-18 or BAV19WS-V-G-08	AS	Tape and reel
BAV20WS-V-G	$V_R = 150\text{ V}$	BAV20WS-V-G-18 or BAV20WS-V-G-08	AT	Tape and reel
BAV21WS-V-G	$V_R = 200\text{ V}$	BAV21WS-V-G-18 or BAV21WS-V-G-08	AU	Tape and reel

Absolute Maximum Ratings

$T_{amb} = 25\text{ °C}$, 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	$f \geq 50\text{ Hz}$, $\theta = 180^\circ$		I_{FRM}	625 ¹⁾	mA
Surge forward current	$t < 1\text{ s}$, $T_J = 25\text{ °C}$		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

$T_{amb} = 25\text{ }^{\circ}\text{C}$, 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⁾	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150 ¹⁾	$^{\circ}\text{C}$

Note

¹⁾ Valid provided that leads are kept at ambient temperature

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Part	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F = 100\text{ mA}$		V_F			1	V
	$I_F = 200\text{ mA}$		V_F			1.25	V
Leakage current	$V_R = 100\text{ V}$	BAV19WS-V-G	I_R			100	nA
	$V_R = 100\text{ V}, T_j = 100\text{ }^{\circ}\text{C}$	BAV19WS-V-G	I_R			15	μA
	$V_R = 150\text{ V}$	BAV20WS-V-G	I_R			100	nA
	$V_R = 150\text{ V}, T_j = 100\text{ }^{\circ}\text{C}$	BAV20WS-V-G	I_R			15	μA
	$V_R = 200\text{ V}$	BAV21WS-V-G	I_R			100	nA
	$V_R = 200\text{ V}, T_j = 100\text{ }^{\circ}\text{C}$	BAV21WS-V-G	I_R			15	μA
Dynamic forward resistance	$I_F = 10\text{ mA}$		r_f		5		Ω
Diode capacitance	$V_R = 0, f = 1\text{ MHz}$		C_D		1.5		pF
Reverse recovery time	$I_F = 30\text{ mA}, I_R = 30\text{ mA},$ $i_R = 3\text{ mA}, R_L = 100\text{ }\Omega$		t_{rr}			50	ns

Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

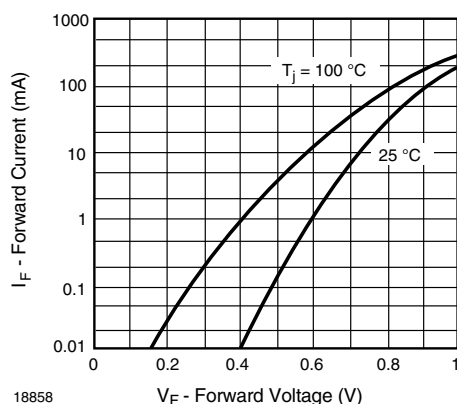


Figure 1. Forward Current vs. Forward Voltage

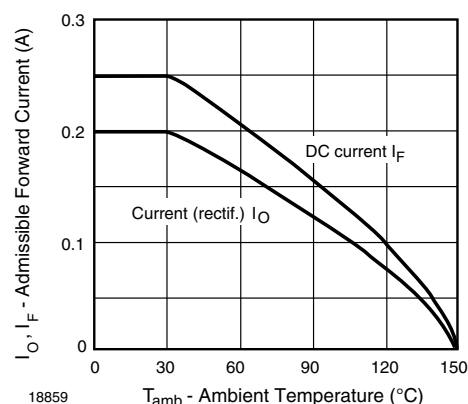


Figure 2. Admissible Forward Current vs. Ambient Temperature



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

Vishay Semiconductors

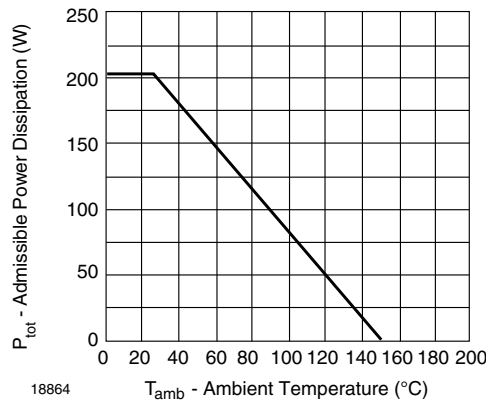


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

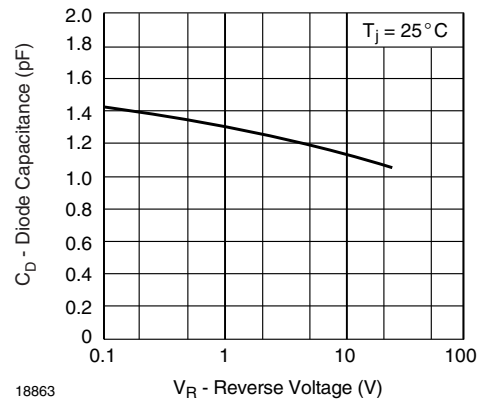


Figure 6. Capacitance vs. Reverse Voltage

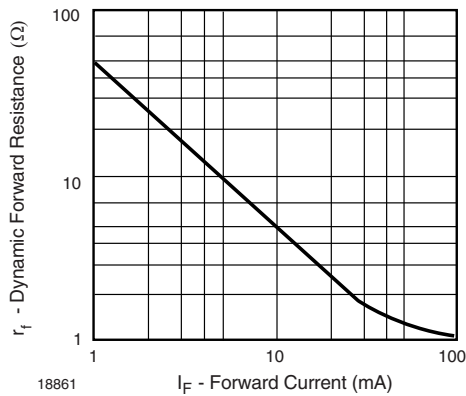


Figure 4. Dynamic Forward Resistance vs. Forward Current

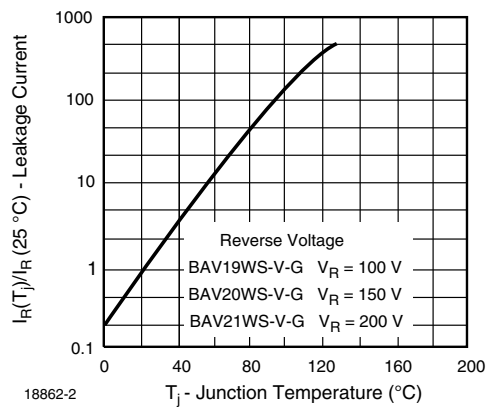
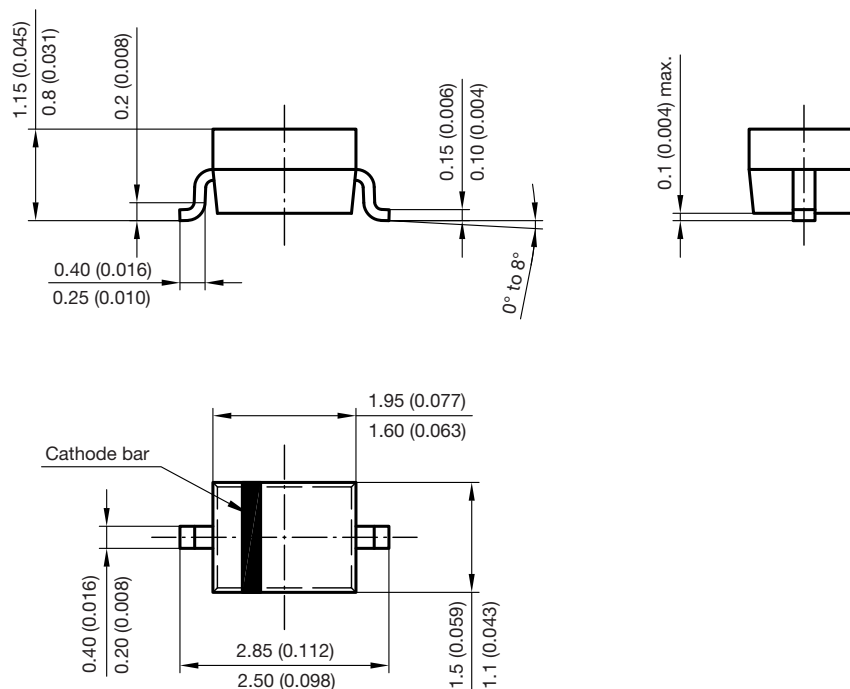
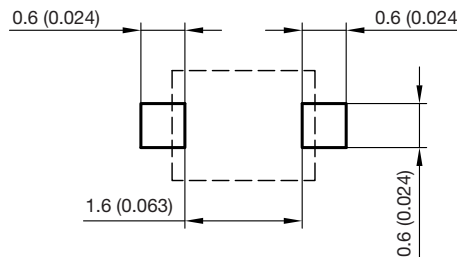


Figure 5. Leakage Current vs. Junction Temperature

Package Dimensions in millimeters (inches): SOD-323



Foot print recommendation:



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17443



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