



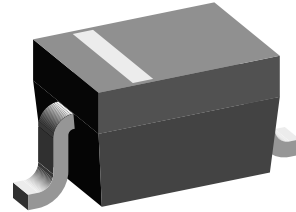
Small Signal Switching Diodes, High Voltage

Features

- Silicon Epitaxial Planar Diodes
- For general purpose
- These diodes are also available in other case styles including: the DO-35 case with the type designation BAV19 - BAV21, the MiniMELF case with the type designation BAV100 - BAV103, the SOT-23 case with the type designation BAS19 to BAS21 and the SOD-123 case with the type designation BAV19W-V to BAV21W-V
- AEC-Q101 qualified
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS
COMPLIANT



20145

Mechanical Data

Case: SOD-323

Weight: approx. 5 mg

Packaging Codes/Options:

GS18/10K per 13" reel (8 mm tape), 10K/box

GS08/3K per 7" reel (8 mm tape), 15K/box

Parts Table

Part	Type differentiation	Ordering code	Type Marking	Remarks
BAV19WS-V	$V_R = 100\text{ V}$	BAV19WS-V-GS18 or BAV19WS-V-GS08	A8	Tape and reel
BAV20WS-V	$V_R = 150\text{ V}$	BAV20WS-V-GS18 or BAV20WS-V-GS08	A9	Tape and reel
BAV21WS-V	$V_R = 200\text{ V}$	BAV21WS-V-GS18 or BAV21WS-V-GS08	AA	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	V_R	100	V
		BAV20WS-V	V_R	150	V
		BAV21WS-V	V_R	200	V
Repetitive peak reverse voltage		BAV19WS-V	V_{RRM}	120	V
		BAV20WS-V	V_{RRM}	200	V
		BAV21WS-V	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

Thermal Characteristics

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

Note

¹⁾ Valid provided that leads are kept at ambient temperature

Electrical Characteristics

$T_{amb} = 25\text{ °C}$, 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	I_R			100	nA
	$V_R = 100\text{ V}$, $T_j = 100\text{ °C}$	BAV19WS-V	I_R			15	μA
	$V_R = 150\text{ V}$	BAV20WS-V	I_R			100	nA
	$V_R = 150\text{ V}$, $T_j = 100\text{ °C}$	BAV20WS-V	I_R			15	μA
	$V_R = 200\text{ V}$	BAV21WS-V	I_R			100	nA
	$V_R = 200\text{ V}$, $T_j = 100\text{ °C}$	BAV21WS-V	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	$I_F = 30\text{ mA}$, $I_R = 30\text{ mA}$, $i_R = 3\text{ mA}$, $R_L = 100\text{ Ω}$		t_{rr}			50	ns



Typical Characteristics

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

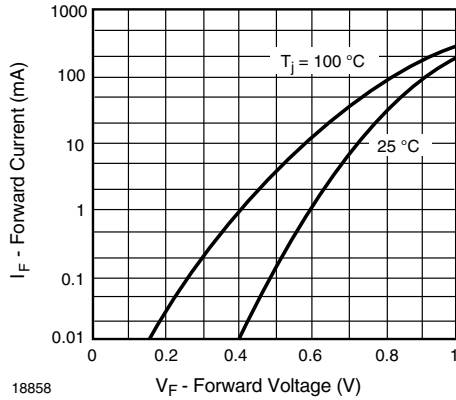


Figure 1. Forward Current vs. Forward Voltage

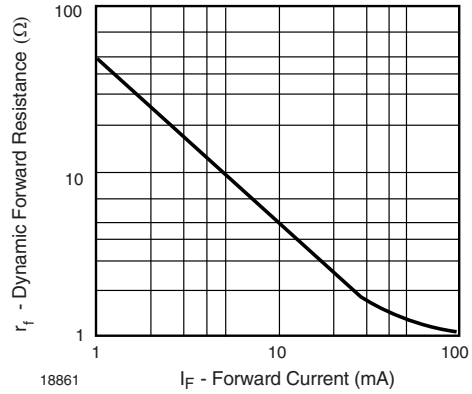


Figure 4. Dynamic Forward Resistance vs. Forward Current

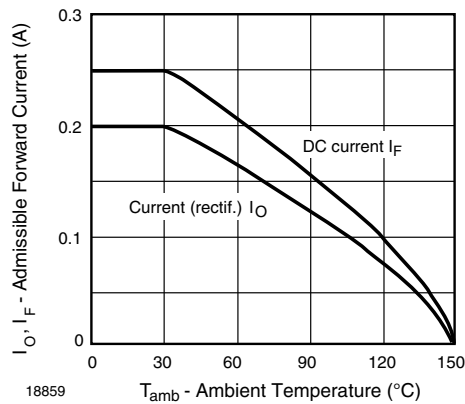


Figure 2. Admissible Forward Current vs. Ambient Temperature

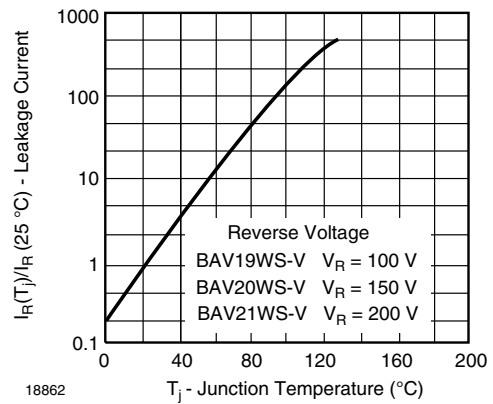


Figure 5. Leakage Current vs. Junction Temperature

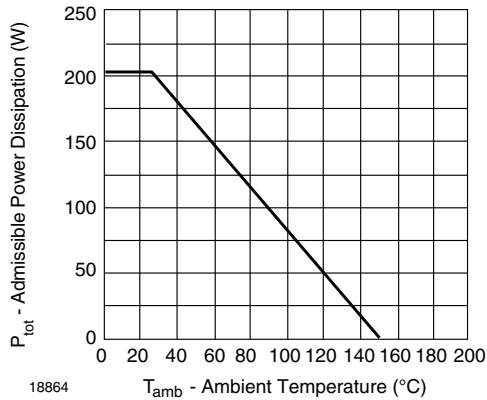


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

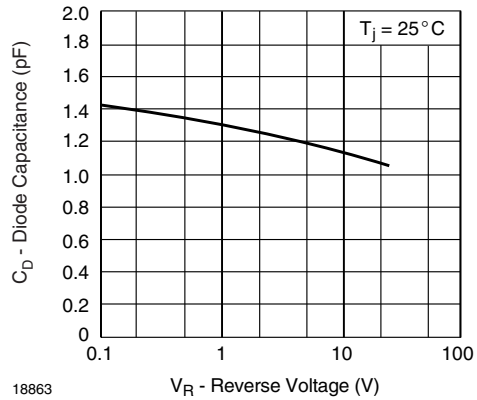


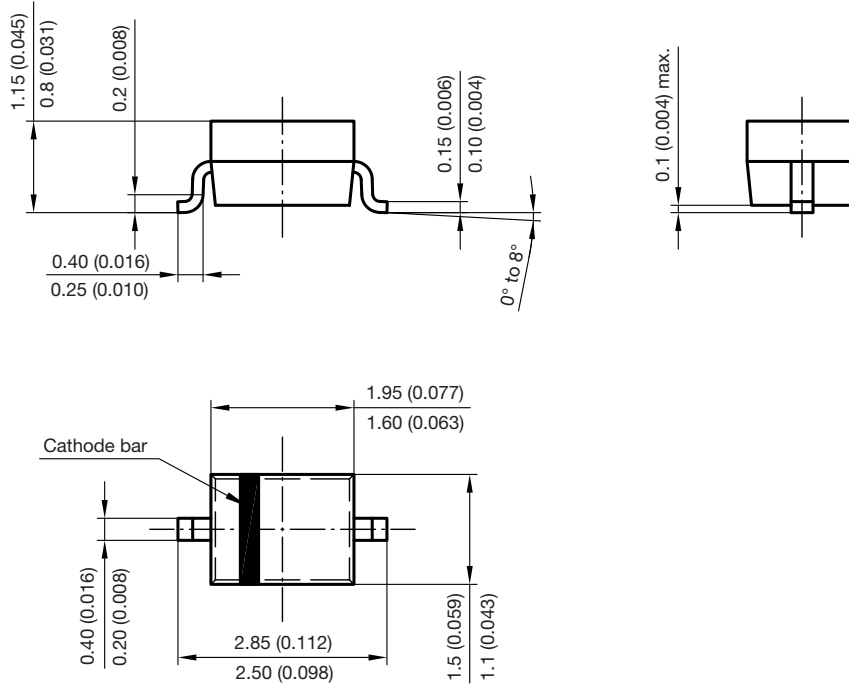
Figure 6. Capacitance vs. Reverse Voltage

BAV19WS-V, BAV20WS-V, BAV21WS-

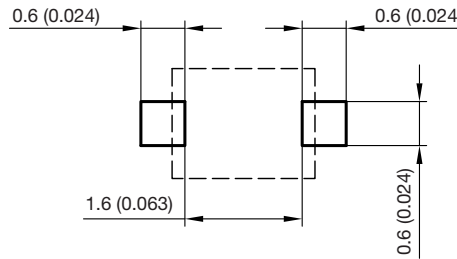


Vishay Semiconductors

Package Dimensions in millimeters (inches): **SOD-323**



Foot print recommendation:



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17443



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