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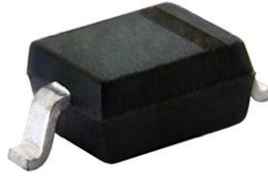
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## Small Signal Switching Diodes, High Voltage



### MECHANICAL DATA

Case: SOD-323

Weight: approx. 4.3 mg

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box

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

### FEATURES

- Silicon epitaxial planar diodes
- For general purpose
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

PARTS TABLE					
PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
BAV19WS	V <sub>R</sub> = 100 V	BAV19WS-E3-08 or BAV19WS-E3-18 BAV19WS-HE3-08 or BAV19WS-HE3-18	A8	Single diode	Tape and reel
BAV20WS	V <sub>R</sub> = 150 V	BAV20WS-E3-08 or BAV20WS-E3-18 BAV20WS-HE3-08 or BAV20WS-HE3-18	A9	Single diode	Tape and reel
BAV21WS	V <sub>R</sub> = 200 V	BAV21WS-E3-08 or BAV21WS-E3-18 BAV21WS-HE3-08 or BAV21WS-HE3-18	AA	Single diode	Tape and reel

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Continuous reverse voltage		BAV19WS	V <sub>R</sub>	100	V
		BAV20WS	V <sub>R</sub>	150	V
		BAV21WS	V <sub>R</sub>	200	V
Repetitive peak reverse voltage		BAV19WS	V <sub>RRM</sub>	120	V
		BAV20WS	V <sub>RRM</sub>	200	V
		BAV21WS	V <sub>RRM</sub>	250	V
Forward continuous current <sup>(1)</sup>			I <sub>F</sub>	250	mA
Rectified current (average) half wave rectification with resistive load <sup>(1)</sup>			I <sub>F(AV)</sub>	200	mA
Repetitive peak forward current <sup>(1)</sup>	f ≥ 50 Hz, θ = 180°		I <sub>FRM</sub>	625	mA
Surge forward current	t < 1 s, T <sub>J</sub> = 25 °C		I <sub>FSM</sub>	1	A
Power dissipation			P <sub>tot</sub>	200	mW

### Note

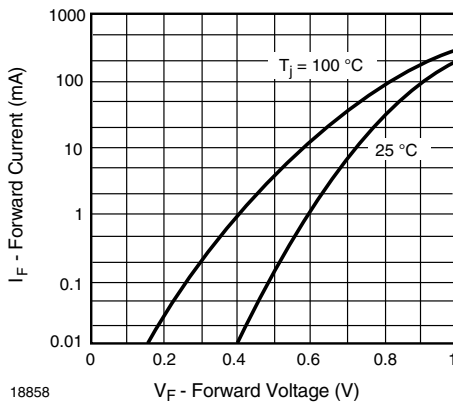
<sup>(1)</sup> Valid provided that leads are kept at ambient temperature

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air		R <sub>thJA</sub>	625	K/W
Thermal resistance junction to lead		R <sub>thJL</sub>	450	K/W
Junction temperature		T <sub>J</sub>	150	°C
Storage temperature range		T <sub>stg</sub>	-65 to +150	°C
Operating temperature range		T <sub>op</sub>	-55 to +150	°C



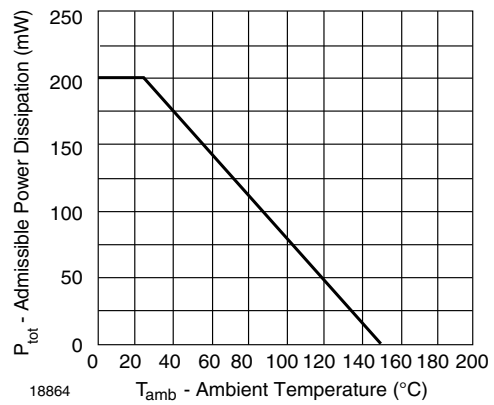
ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 100 mA		V <sub>F</sub>			1	V
	I <sub>F</sub> = 200 mA		V <sub>F</sub>			1.25	V
Reverse leakage current	V <sub>R</sub> = 100 V	BAV19WS	I <sub>R</sub>			100	nA
	V <sub>R</sub> = 100 V, T <sub>J</sub> = 100 °C	BAV19WS	I <sub>R</sub>			15	μA
	V <sub>R</sub> = 150 V	BAV20WS	I <sub>R</sub>			100	nA
	V <sub>R</sub> = 150 V, T <sub>J</sub> = 100 °C	BAV20WS	I <sub>R</sub>			15	μA
	V <sub>R</sub> = 200 V	BAV21WS	I <sub>R</sub>			100	nA
	V <sub>R</sub> = 200 V, T <sub>J</sub> = 100 °C	BAV21WS	I <sub>R</sub>			15	μA
Dynamic forward resistance	I <sub>F</sub> = 10 mA		r <sub>f</sub>		5		Ω
Diode capacitance	V <sub>R</sub> = 0, f = 1 MHz		C <sub>D</sub>			1.5	pF
Reverse recovery time	I <sub>F</sub> = 30 mA, I <sub>R</sub> = 30 mA, i <sub>R</sub> = 3 mA, R <sub>L</sub> = 100 Ω		t <sub>rr</sub>			50	ns

**TYPICAL CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)



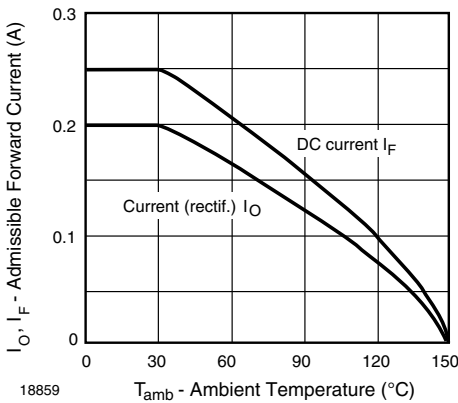
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Fig. 1 - Forward Current vs. Forward Voltage



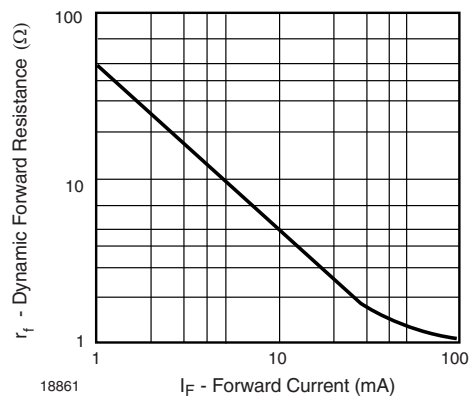
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Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature



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Fig. 2 - Admissible Forward Current vs. Ambient Temperature



18861

Fig. 4 - Dynamic Forward Resistance vs. Forward Current

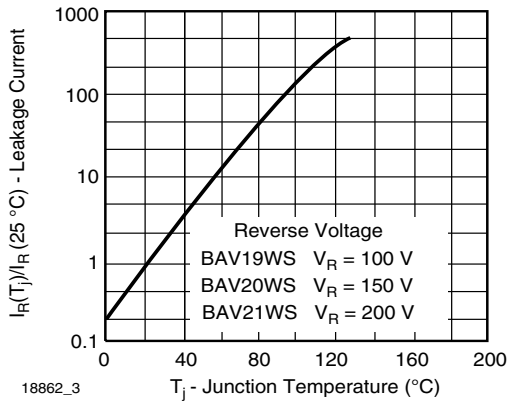


Fig. 5 - Leakage Current vs. Junction Temperature

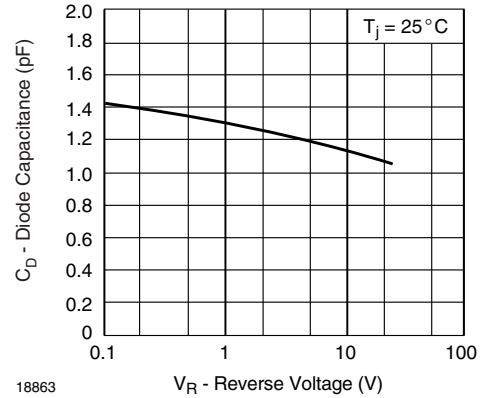
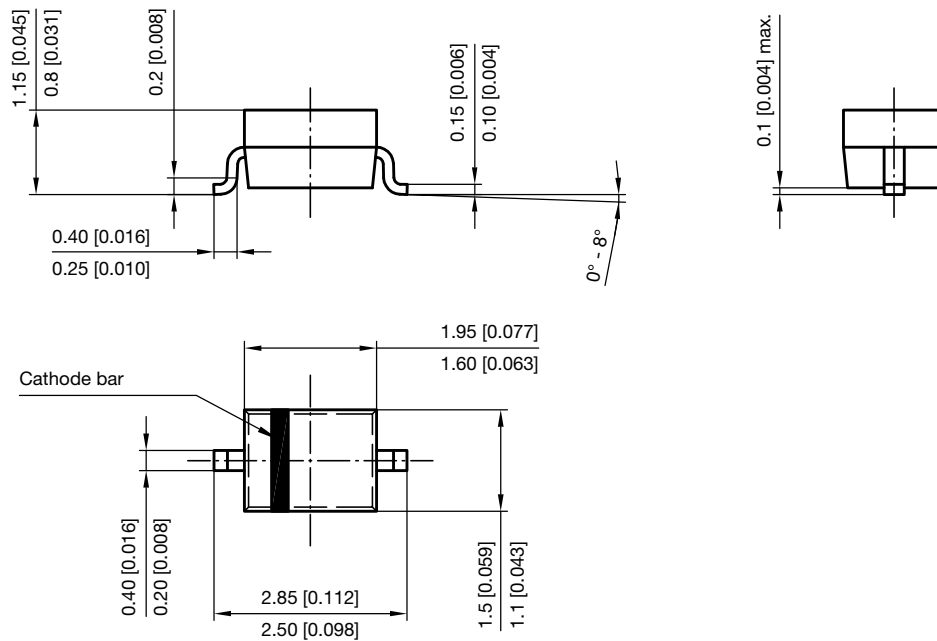
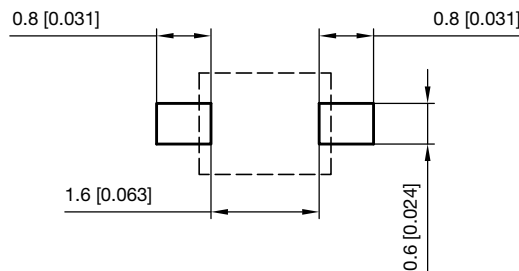


Fig. 6 - Capacitance vs. Reverse Voltage

## PACKAGE DIMENSIONS in millimeters (inches): SOD-323



Footprint recommendation:



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 17443



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