



Small Signal Switching Diodes, High Voltage



MECHANICAL DATA

Case: SOD-323

Weight: approx. 4.3 mg

Packaging codes/options:

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

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

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 to BAV21, the MiniMELF case with the type designation BAV100 to 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
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT

PARTS TABLE					
PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
BAV19WS-V	$V_R = 100\text{ V}$	BAV19WS-V-GS18 or BAV19WS-V-GS08	A8	Single diode	Tape and reel
BAV20WS-V	$V_R = 150\text{ V}$	BAV20WS-V-GS18 or BAV20WS-V-GS08	A9	Single diode	Tape and reel
BAV21WS-V	$V_R = 200\text{ V}$	BAV21WS-V-GS18 or BAV21WS-V-GS08	AA	Single diode	Tape and reel

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^\circ\text{C}$, 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 ⁽¹⁾			I_F	250	mA
Rectified current (average) half wave rectification with resistive load ⁽¹⁾			$I_{F(AV)}$	200	mA
Repetitive peak forward current ⁽¹⁾	$f \geq 50\text{ Hz}$, $\theta = 180\text{ }^\circ\text{C}$		I_{FRM}	625	mA
Surge forward current	$t < 1\text{ s}$, $T_J = 25\text{ }^\circ\text{C}$		I_{FSM}	1	A
Power dissipation ⁽¹⁾			P_{tot}	200	mW

Note

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

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air ⁽¹⁾		R_{thJA}	650	K/W
Junction temperature ⁽¹⁾		T_J	150	$^\circ\text{C}$
Storage temperature range ⁽¹⁾		T_{stg}	- 65 to + 175	$^\circ\text{C}$

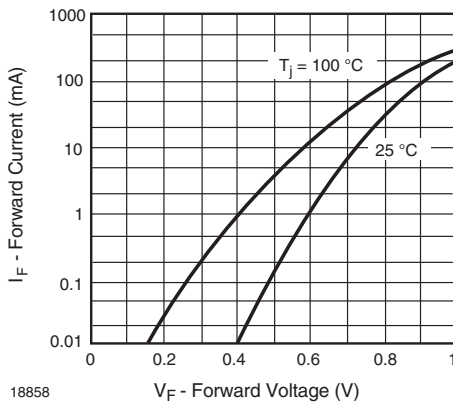
Note

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



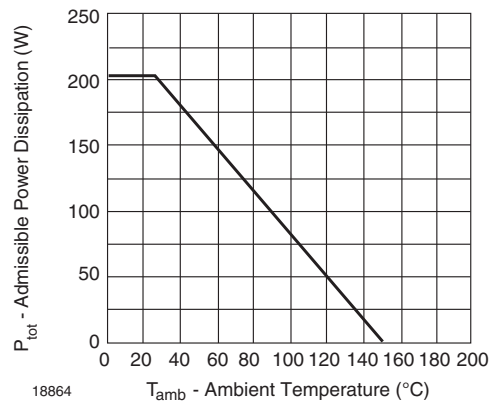
ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I _F = 100 mA		V _F			1	V
	I _F = 200 mA		V _F			1.25	V
Repetitive peak reverse voltage	V _R = 100 V	BAV19WS-V	I _R			100	nA
	V _R = 100 V, T _J = 100 °C	BAV20WS-V	I _R			15	μA
	V _R = 150 V	BAV21WS-V	I _R			100	nA
	V _R = 150 V, T _J = 100 °C	BAV19WS-V	I _R			15	μA
	V _R = 200 V	BAV20WS-V	I _R			100	nA
	V _R = 200 V, T _J = 100 °C	BAV21WS-V	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)



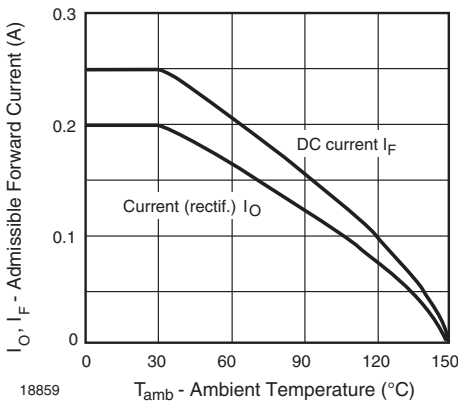
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Fig. 1 - Forward Current vs. Forward Voltage



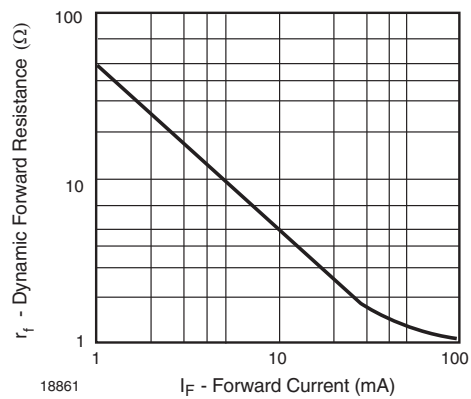
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Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature



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Fig. 2 - Admissible Forward Current vs. Ambient Temperature



18861

Fig. 4 - Dynamic Forward Resistance vs. Forward Current

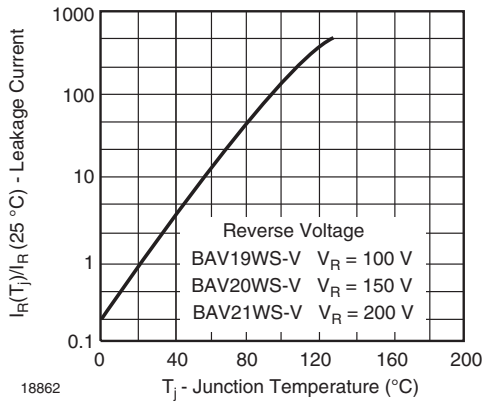


Fig. 5 - Leakage Current vs. Junction Temperature

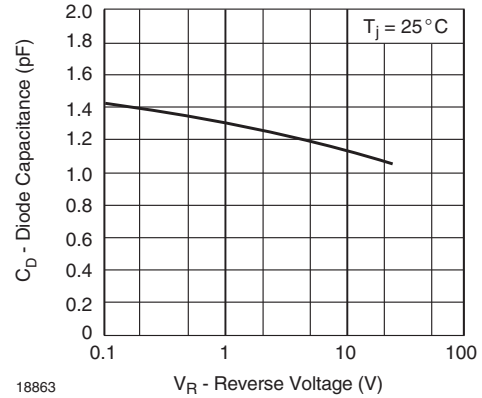
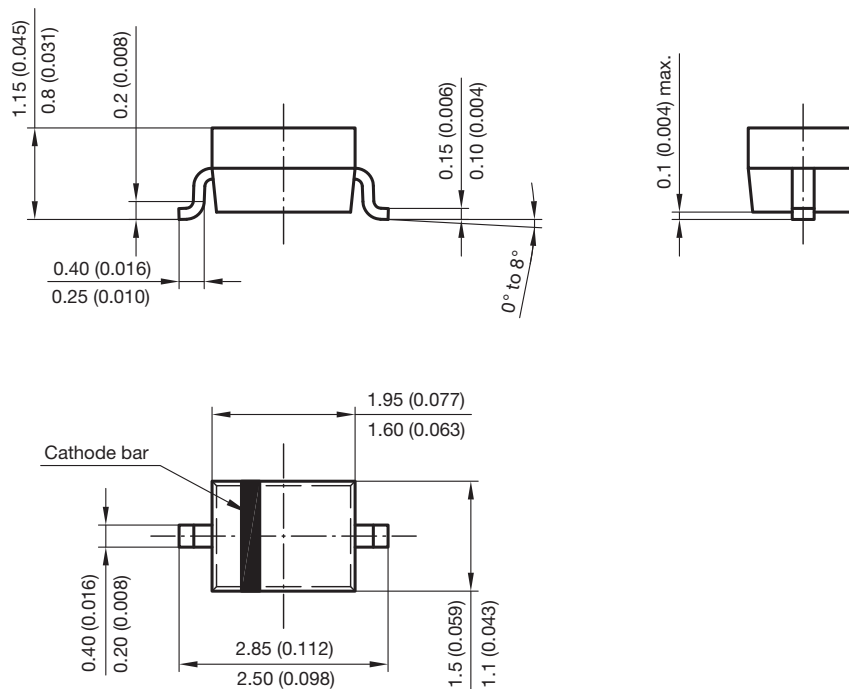
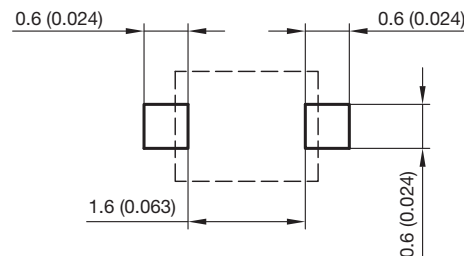


Fig. 6 - Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): SOD-323



Foot print recommendation:



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 17443



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