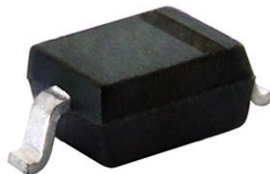




Small Signal Switching Diodes, High Voltage

**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

**RoHS**
COMPLIANT**PARTS TABLE**

PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
BAV19WS	$V_R = 100\text{ V}$	BAV19WS-E3-08 or BAV19WS-E3-18 BAV19WS-HE3-08 or BAV19WS-HE3-18	A8	Single diode	Tape and reel
BAV20WS	$V_R = 150\text{ V}$	BAV20WS-E3-08 or BAV20WS-E3-18 BAV20WS-HE3-08 or BAV20WS-HE3-18	A9	Single diode	Tape and reel
BAV21WS	$V_R = 200\text{ V}$	BAV21WS-E3-08 or BAV21WS-E3-18 BAV21WS-HE3-08 or BAV21WS-HE3-18	AA	Single diode	Tape and reel

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Continuous reverse voltage		BAV19WS	V_R	100	V
		BAV20WS	V_R	150	V
		BAV21WS	V_R	200	V
Repetitive peak reverse voltage		BAV19WS	V_{RRM}	120	V
		BAV20WS	V_{RRM}	200	V
		BAV21WS	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⁾	$f \geq 50\text{ Hz}$, $\theta = 180^{\circ}$		I_{FRM}	625	mA
Surge forward current	$t < 1\text{ s}$, $T_J = 25\text{ }^{\circ}\text{C}$		I_{FSM}	1	A
Power dissipation			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		R_{thJA}	625	K/W
Thermal resistance junction to lead		R_{thJL}	450	K/W
Junction temperature		T_J	150	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-65 to +150	$^{\circ}\text{C}$
Operating temperature range		T_{op}	-55 to +150	$^{\circ}\text{C}$



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
Reverse leakage current	$V_R = 100\text{ V}$	BAV19WS	I_R			100	nA
	$V_R = 100\text{ V}, T_J = 100\text{ }^{\circ}\text{C}$	BAV19WS	I_R			15	μA
	$V_R = 150\text{ V}$	BAV20WS	I_R			100	nA
	$V_R = 150\text{ V}, T_J = 100\text{ }^{\circ}\text{C}$	BAV20WS	I_R			15	μA
	$V_R = 200\text{ V}$	BAV21WS	I_R			100	nA
	$V_R = 200\text{ V}, T_J = 100\text{ }^{\circ}\text{C}$	BAV21WS	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)

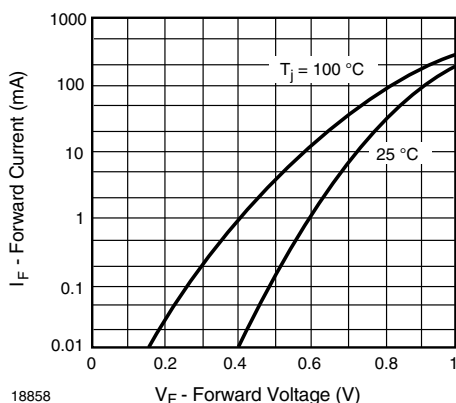


Fig. 1 - Forward Current vs. Forward Voltage

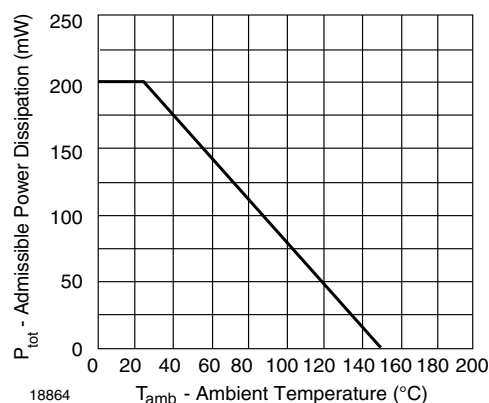


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

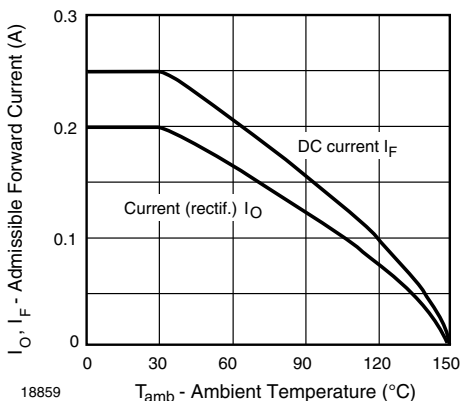


Fig. 2 - Admissible Forward Current vs. Ambient Temperature

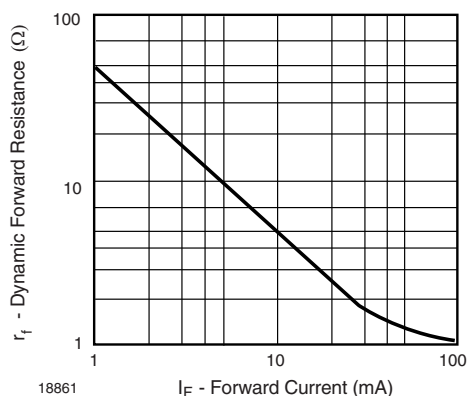


Fig. 4 - Dynamic Forward Resistance vs. Forward Current

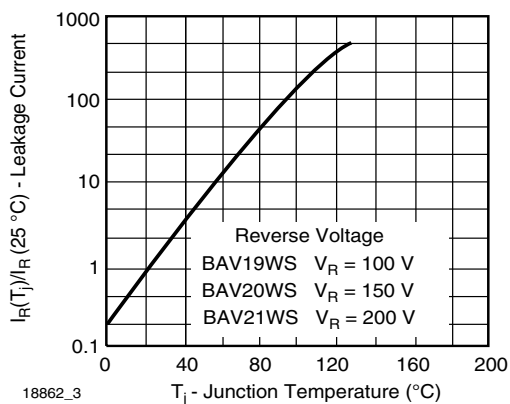


Fig. 5 - Leakage Current vs. Junction Temperature

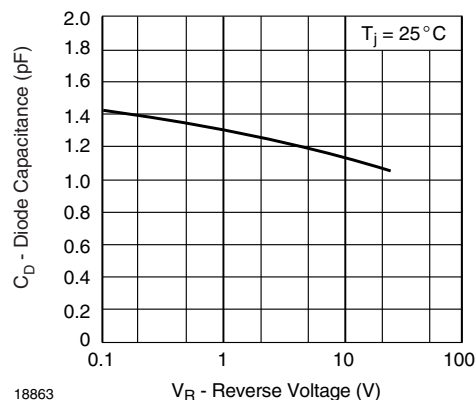
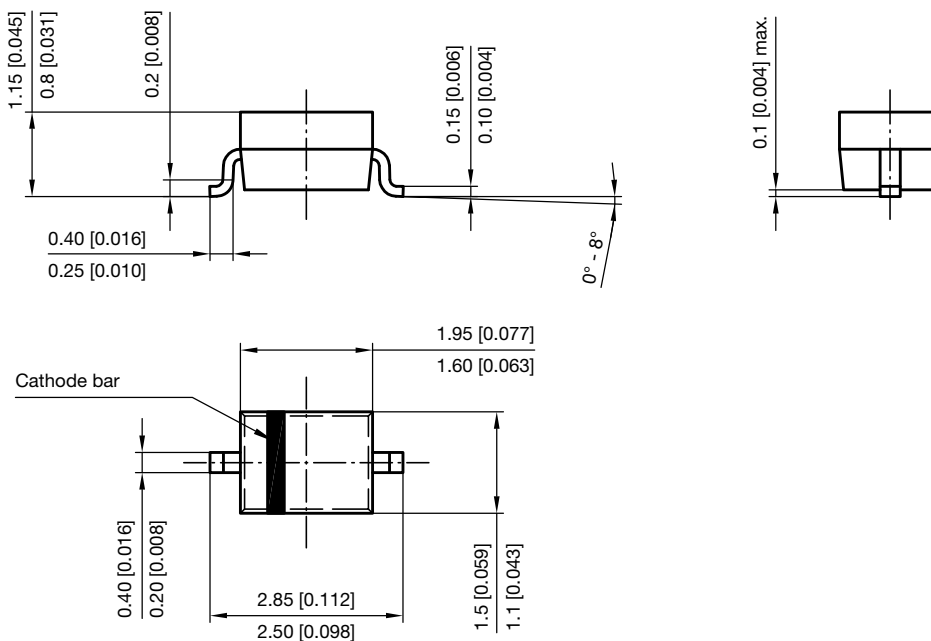
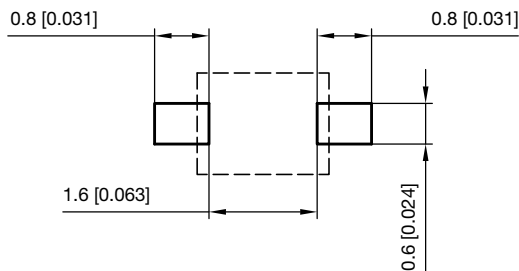


Fig. 6 - Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): SOD-323



Footprint recommendation:





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