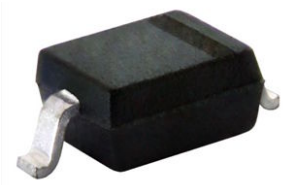
Small Signal Switching Diodes, High Voltage



DESIGN SUPPORT TOOLS click logo to get started

3D Models Available

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

Pb-free

e3

RoHS COMPLIANT

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

PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS
BAV19WS	V_R = 100 V	BAV19WS-E3-08 or BAV19WS-E3-18 BAV19WS-HE3-08 or BAV19WS-HE3-18	A8	Single	Tape and reel
BAV20WS	V_R = 150 V	BAV20WS-E3-08 or BAV20WS-E3-18 BAV20WS-HE3-08 or BAV20WS-HE3-18	A9	Single	Tape and reel
BAV21WS	V_R = 200 V	BAV21WS-E3-08 or BAV21WS-E3-18 BAV21WS-HE3-08 or BAV21WS-HE3-18	AA	Single	Tape and reel

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °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 ≥ 50 Hz, θ = 180°		I_{FRM}	625	mA
Surge forward current	t < 1 s, T_J = 25 °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 °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	°C
Storage temperature range		T_{stg}	-65 to +150	°C
Operating temperature range		T_{op}	-55 to +150	°C

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
Reverse leakage current	V_R = 100 V	BAV19WS	I_R			100	nA
	V_R = 100 V, T_J = 100 °C	BAV19WS	I_R			15	µA
	V_R = 150 V	BAV20WS	I_R			100	nA
	V_R = 150 V, T_J = 100 °C	BAV20WS	I_R			15	µA
	V_R = 200 V	BAV21WS	I_R			100	nA
	V_R = 200 V, T_J = 100 °C	BAV21WS	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)

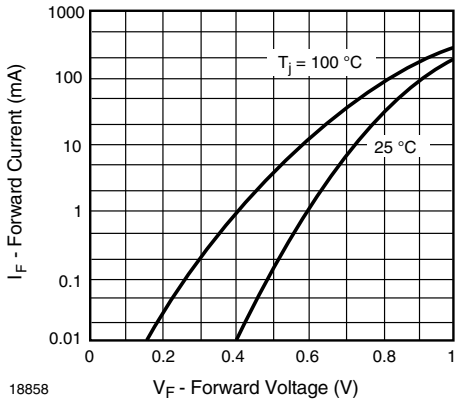


Fig. 1 - Forward Current vs. Forward Voltage

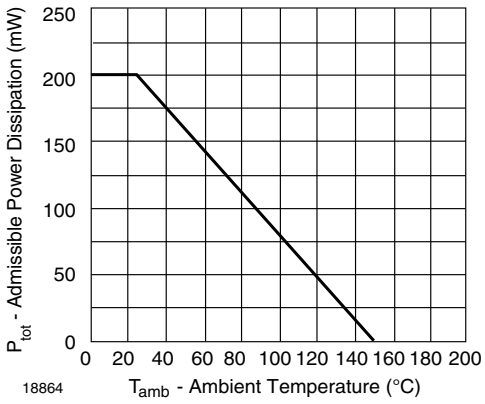


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

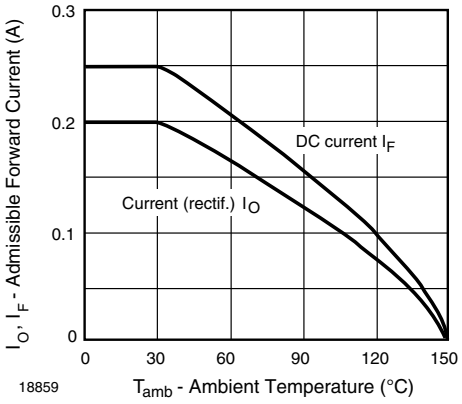


Fig. 2 - Admissible Forward Current vs. Ambient Temperature

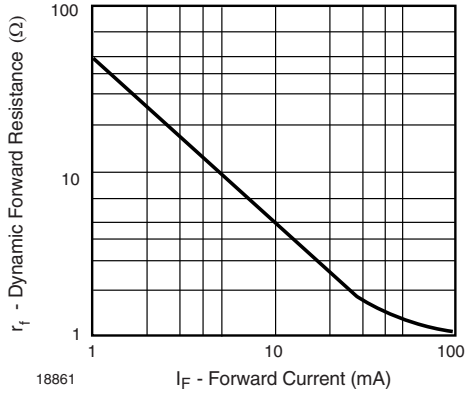


Fig. 4 - Dynamic Forward Resistance vs. Forward Current

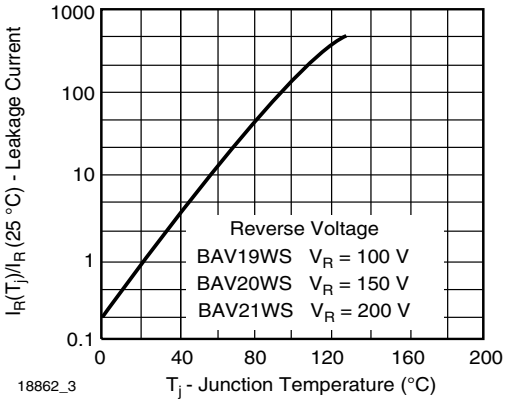


Fig. 5 - Leakage Current vs. Junction Temperature

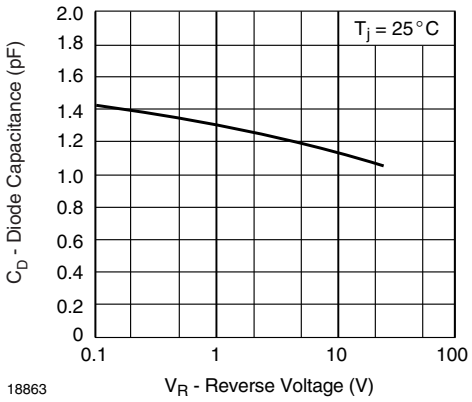
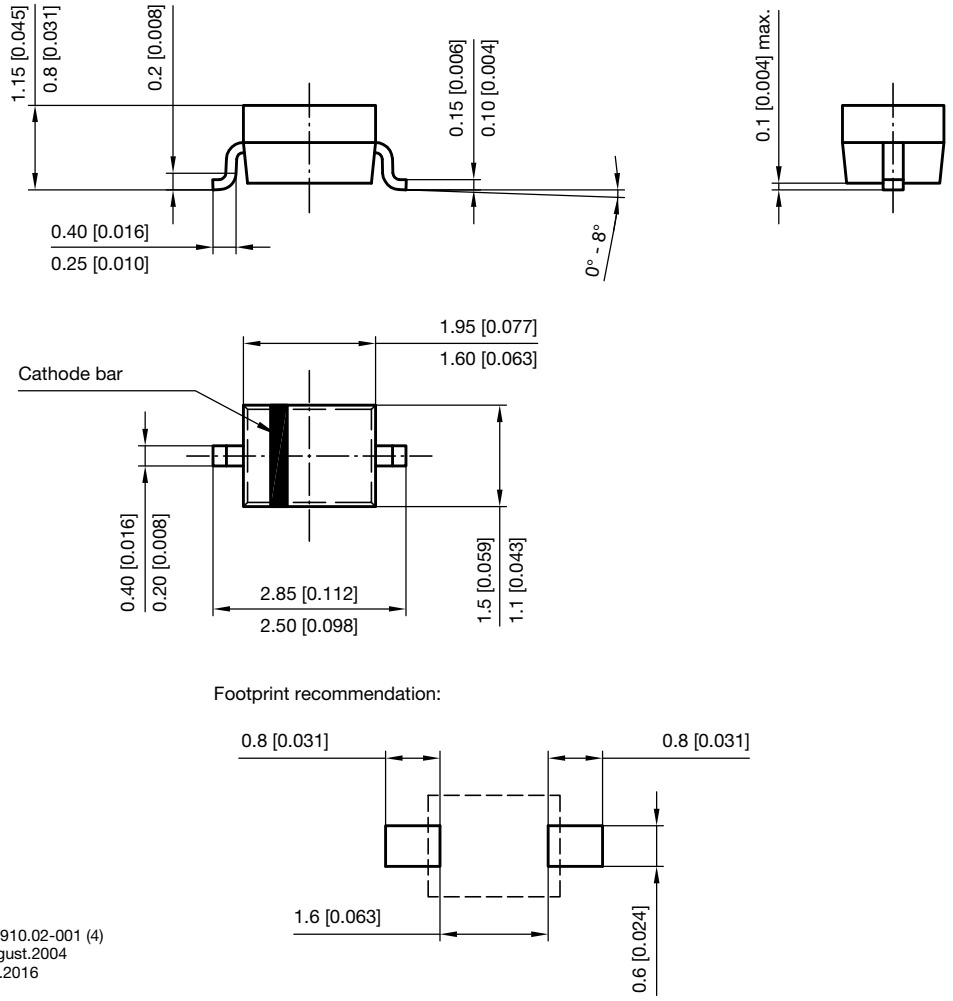


Fig. 6 - Capacitance vs. Reverse Voltage

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



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