



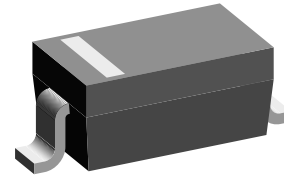
## Small Signal Switching Diodes, High Voltage

### Features

- Silicon epitaxial planar diodes
- For general purpose
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- AEC-Q101 qualified



RoHS  
COMPLIANT  
**GREEN**  
(5-2008)\*\*



17431

### Mechanical Data

**Case:** SOD-123

**Weight:** approx. 9.4 mg

#### Packaging codes/options:

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

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

### Parts Table

Part	Type differentiation	Ordering code	Marking	Remarks
BAV19W-V-G	$V_R = 100\text{ V}$	BAV19W-V-G-18 or BAV19W-V-G-08	AS	Tape and Reel
BAV20W-V-G	$V_R = 150\text{ V}$	BAV20W-V-G-18 or BAV20W-V-G-08	AT	Tape and Reel
BAV21W-V-G	$V_R = 200\text{ V}$	BAV21W-V-G-18 or BAV21W-V-G-08	AU	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		BAV19W-V-G	$V_R$	100	V
		BAV20W-V-G	$V_R$	150	V
		BAV21W-V-G	$V_R$	200	V
Repetitive peak voltage		BAV19W-V-G	$V_{RRM}$	120	V
		BAV20W-V-G	$V_{RRM}$	200	V
		BAV21W-V-G	$V_{RRM}$	250	V
DC Forward current			$I_F$	250 <sup>1)</sup>	mA
Rectified current (average) half wave rectification with resist. load			$I_{F(AV)}$	200 <sup>1)</sup>	mA
Repetitive peak forward current	$f \geq 50\text{ Hz}$		$I_{FRM}$	625 <sup>1)</sup>	mA
Surge forward current	$t < 1\text{ s}$		$I_{FSM}$	1	A
Power dissipation			$P_{tot}$	410 <sup>1)</sup>	mW

#### Note

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

\*\* Please see document "Vishay Material Category Policy" [www.vishay.com/doc?99902](http://www.vishay.com/doc?99902)

### Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		$R_{thJA}$	375 <sup>1)</sup>	K/W
Junction temperature		$T_j$	150 <sup>1)</sup>	°C
Storage temperature range		$T_{stg}$	- 65 to + 150 <sup>1)</sup>	°C

#### Note

<sup>1)</sup> 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	$I_F = 100\text{ mA}$		$V_F$			1000	mV
	$I_F = 200\text{ mA}$		$V_F$			1250	mV
Leakage current	$V_R = 100\text{ V}$	BAV19W-V-G	$I_R$			100	nA
	$V_R = 100\text{ V}, T_j = 100\text{ °C}$	BAV19W-V-G	$I_R$			15	μA
	$V_R = 150\text{ V}$	BAV20W-V-G	$I_R$			100	nA
	$V_R = 150\text{ V}, T_j = 100\text{ °C}$	BAV20W-V-G	$I_R$			15	μA
	$V_R = 200\text{ V}$	BAV21W-V-G	$I_R$			100	nA
	$V_R = 200\text{ V}, T_j = 100\text{ °C}$	BAV21W-V-G	$I_R$			15	μA
Dynamic forward resistance	$I_F = 10\text{ mA}$		$r_f$		5		Ω
Diode capacitance	$V_R = 0, f = 1\text{ MHz}$		$C_D$		0.9		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

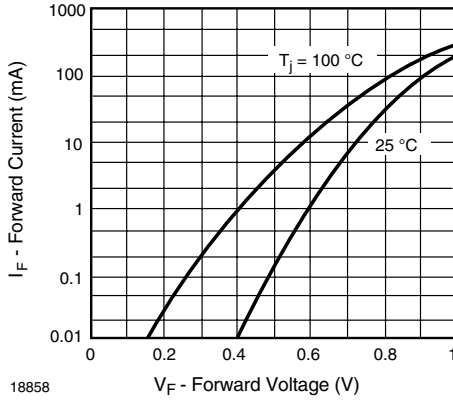


Figure 1. Forward Current vs. Forward Voltage

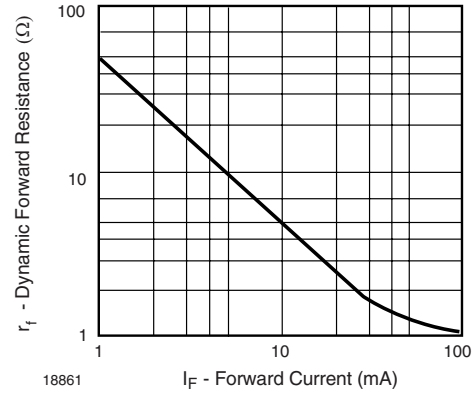


Figure 4. Dynamic Forward Resistance vs. Forward Current

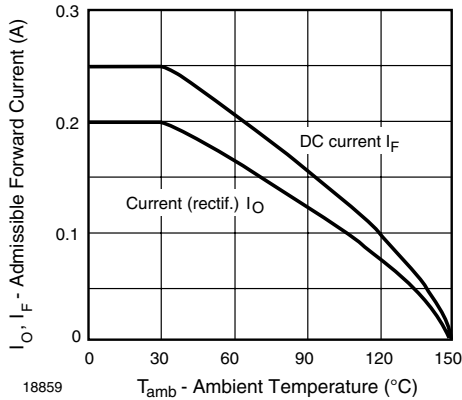


Figure 2. Admissible Forward Current vs. Ambient Temperature

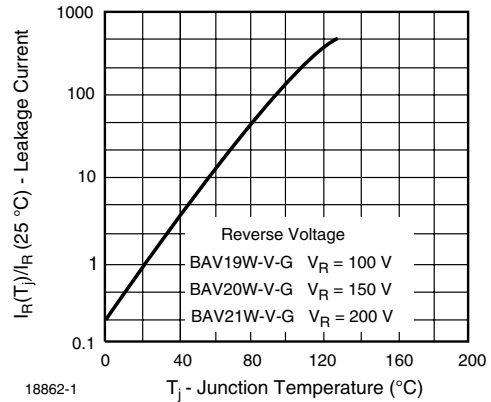


Figure 5. Leakage Current vs. Junction Temperature

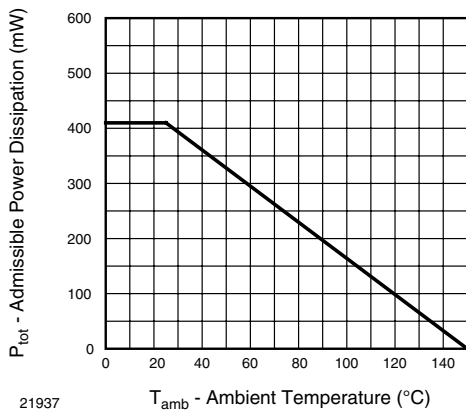


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

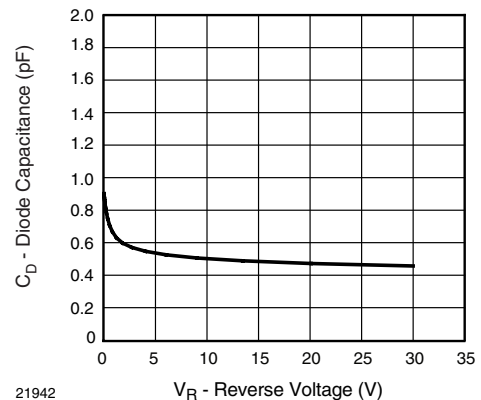


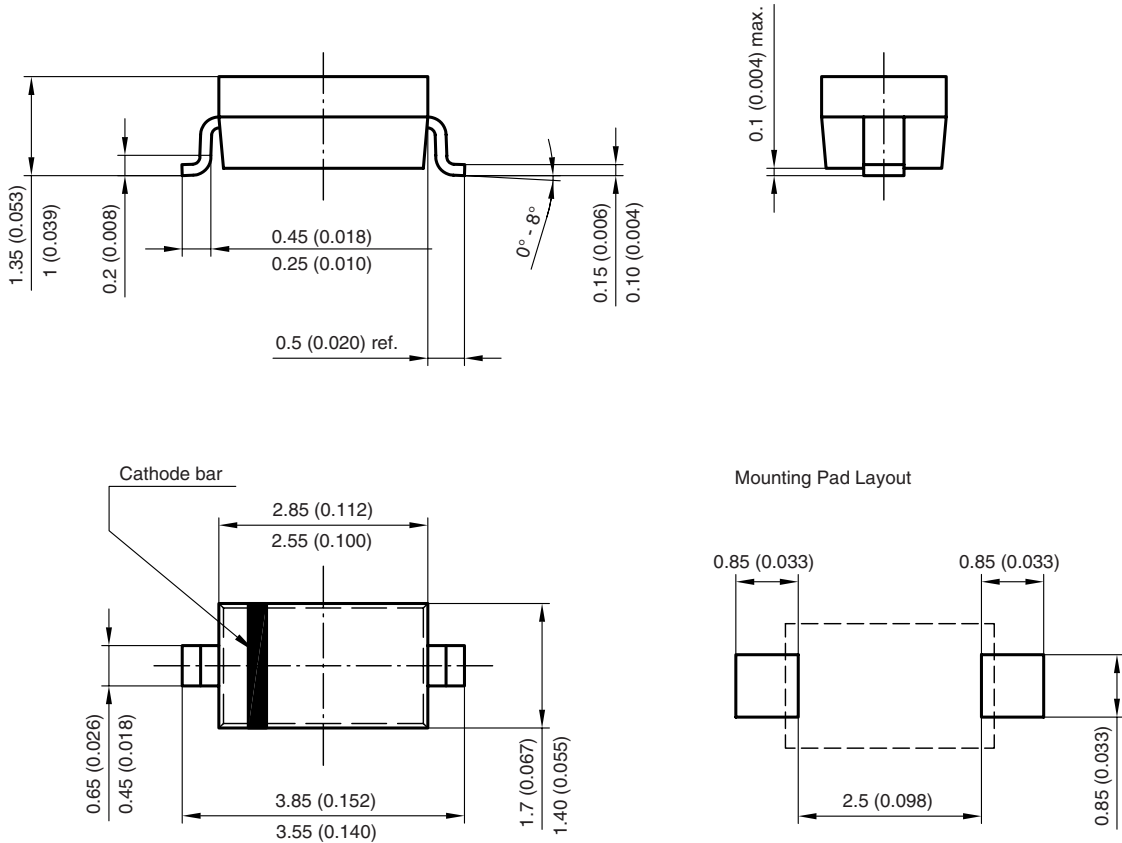
Figure 6. Diodes Capacitance vs. Reverse Voltage

# BAV19W-V-G, BAV20W-V-G, BAV21W-V-G



Vishay Semiconductors

Package Dimensions in millimeters (inches): **SOD-123**



Rev. 04 - Date: 24. Sep. 2009  
Document no.: S8-V-3910.01-001 (4)  
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