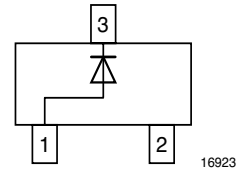
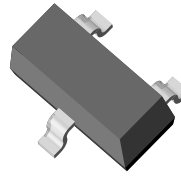


Small Signal Switching Diodes, High Voltage

Features

- Silicon Epitaxial Planar Diode
- Fast switching diode in case SOT-23, especially suited for automatic insertion.
- These diodes are also available in other case styles including: the SOD-123 case with the type designations BAV19W-V to BAV21W-V, the Mini-MELF case with the type designation BAV101 to BAV103, the DO-35 case with the type designations BAV19-V to BAV21-V and the SOD-323 case with type designation BAV19WS-V to BAV21WS-V.
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



Mechanical Data

Case: SOT-23 Plastic case

Weight: approx. 8.8 mg

Packaging Codes/Options:

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

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

Parts Table

Part	Type differentiation	Ordering code	Marking	Remarks
BAS19-V	$V_{RRM} = 120\text{ V}$	BAS19-V-GS18 or BAS19-V-GS08	A8	Tape and Reel
BAS20-V	$V_{RRM} = 200\text{ V}$	BAS20-V-GS18 or BAS20-V-GS08	A81	Tape and Reel
BAS21-V	$V_{RRM} = 250\text{ V}$	BAS21-V-GS18 or BAS21-V-GS08	A82	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		BAS19-V	V_R	100	V
		BAS20-V	V_R	150	V
		BAS21-V	V_R	200	V
Repetitive peak reverse voltage		BAS19-V	V_{RRM}	120	V
		BAS20-V	V_{RRM}	200	V
		BAS21-V	V_{RRM}	250	V
Non-repetitive peak forward current	$t = 1\text{ }\mu\text{s}$		I_{FSM}	2.5	A
Non-repetitive peak forward surge current	$t = 1\text{ s}$		I_{FSM}	0.5	A
Maximum average forward rectified current	(av. over any 20 ms period)		$I_{F(AV)}$	200 ¹⁾	mA
DC forward current	$T_{amb} = 25\text{ }^{\circ}\text{C}$		I_F	200 ²⁾	mA
Repetitive peak forward current			I_{FRM}	625	mA
Power dissipation	$T_{amb} = 25\text{ }^{\circ}\text{C}$		P_{tot}	250 ²⁾	mW

¹⁾ Measured under pulse conditions; Pulse time = $T_p \leq 0.3\text{ ms}$

²⁾ Device on fiberglass substrate, see layout on next page

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}	430 ¹⁾	$^{\circ}\text{C}$
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature range		T_S	- 65 to + 150	$^{\circ}\text{C}$

¹⁾ Device on fiberglass substrate, see layout on next page

Electrical Characteristics

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

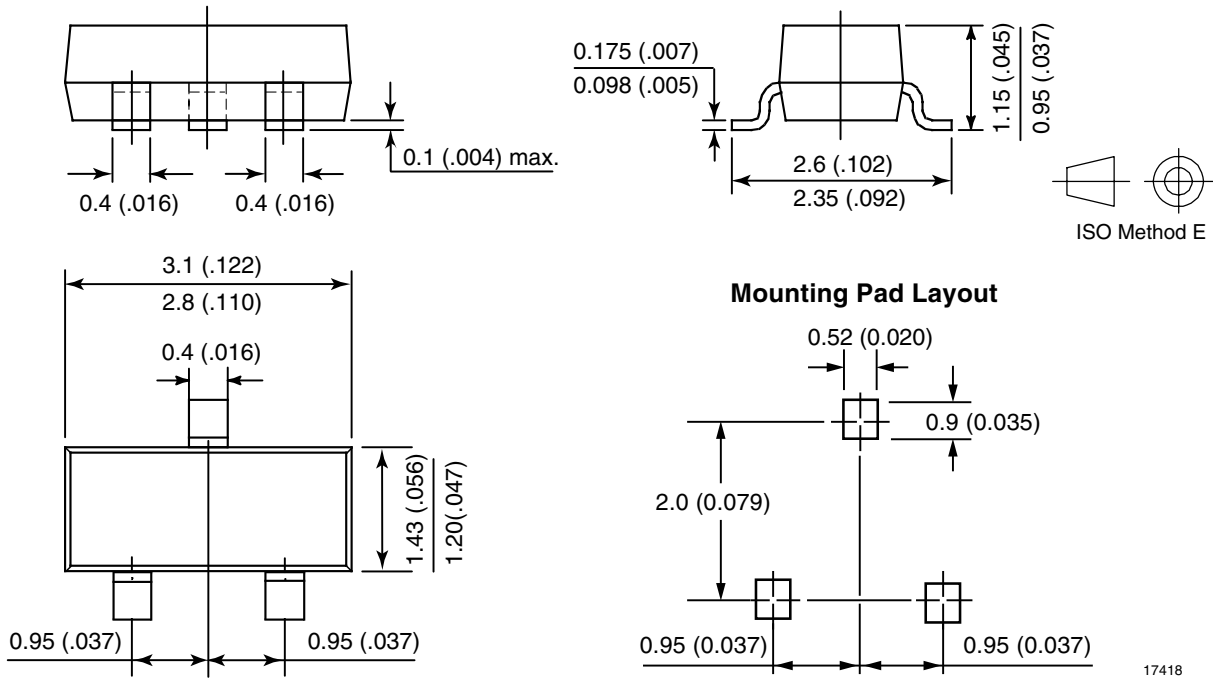
Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	$I_F = 100\text{ mA}$	V_F			1.0	V
	$I_F = 200\text{ mA}$	V_F			1.25	V
Leakage current	$V_R = V_{Rmax}$	I_R			100	nA
	$V_R = V_{Rmax}, T_j = 150\text{ }^{\circ}\text{C}$	I_R			100	μA
Dynamic forward resistance	$I_F = 10\text{ mA}$	r_f		5		Ω
Diode capacitance	$V_R = 0, f = 1\text{ MHz}$	C_{tot}			5	pF
Reverse recovery time	$I_F = I_R = 30\text{ mA}, R_L = 100\text{ }\Omega,$ $I_{rr} = 3\text{ mA}$	t_{rr}			50	ns

BAS19-V / 20-V / 21-V



Vishay Semiconductors

Package Dimensions in mm (Inches)



17418