

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.
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

MECHANICAL DATA

Case: SOT-23

Weight: approx. 8.8 mg

Packaging codes/options:

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

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

PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
BAS19-V	$V_{RRM} = 120\text{ V}$	BAS19-V-GS18 or BAS19-V-GS08	A8	Single diode	Tape and reel
BAS20-V	$V_{RRM} = 200\text{ V}$	BAS20-V-GS18 or BAS20-V-GS08	A81	Single diode	Tape and reel
BAS21-V	$V_{RRM} = 250\text{ V}$	BAS21-V-GS18 or BAS21-V-GS08	A82	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		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 ⁽¹⁾	(av. over any 20 ms period)		$I_{F(AV)}$	200	mA
DC forward current ⁽²⁾			I_F	200	mA
Repetitive peak forward current			I_{FRM}	625	mA
Power dissipation ⁽²⁾			P_{tot}	250	mW

Notes

⁽¹⁾ Measured under pulse conditions; Pulse time = $T_p \geq 0.3\text{ ms}$
⁽²⁾ Device on fiberglass substrate, see layout on next page



THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air		R _{thJA} ⁽¹⁾	430	°C
Junction temperature		T _j	150	°C
Storage temperature range		T _{stg}	- 65 to + 150	°C

Note

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

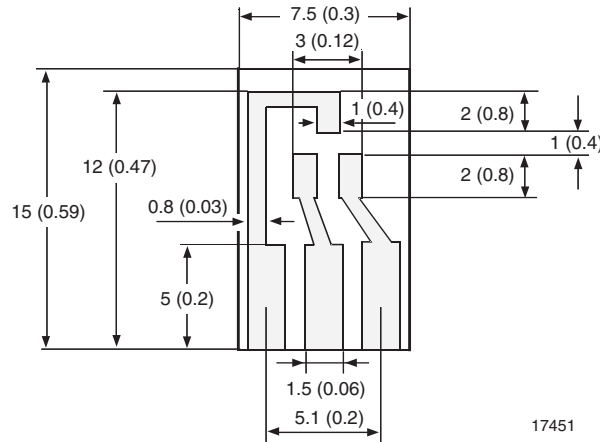
ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I _F = 100 mA	V _F			1.0	V
	I _F = 200 mA	V _F			1.25	V
Leakage current	V _R = V _{Rmax.}	I _R			100	nA
	V _R = V _{Rmax.} , T _j = 150 °C	I _R			100	μA
Dynamic forward resistance	I _F = 10 mA	r _f		5		Ω
Diode capacitance	V _R = 0, f = 1 MHz	C _D			5	pF
Reverse recovery time	I _F = I _R = 30 mA, R _L = 100 Ω, i _R = 3 mA	t _{rr}			50	ns

LAYOUT FOR R_{thJA} TEST

Thickness:

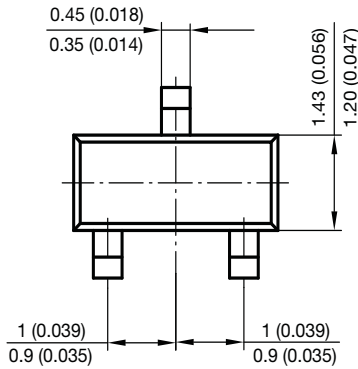
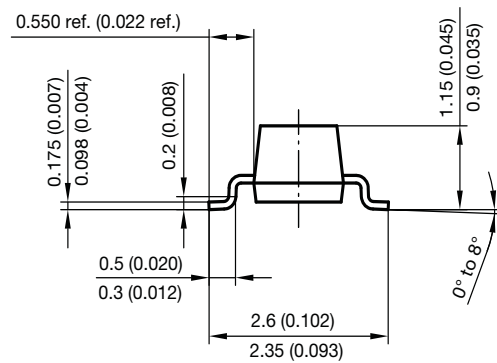
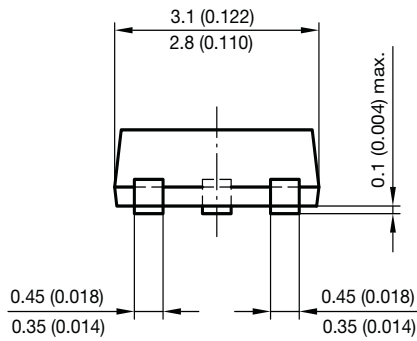
Fiberglass 1.5 mm (0.059 inches)

Copper leads 0.3 mm (0.012 inches)

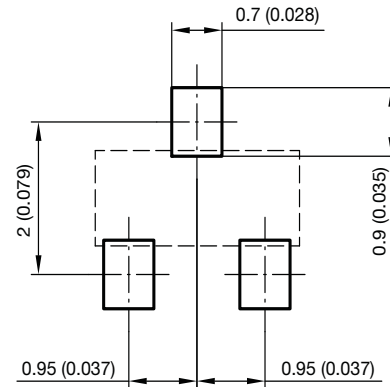




PACKAGE DIMENSIONS in millimeters (inches): SOT-23



Foot print recommendation:



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