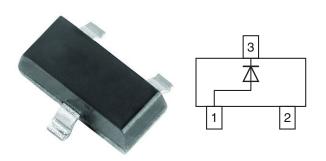


Vishay Semiconductors

Small Signal Switching Diodes, High Voltage



FEATURESSilicon epita

- Silicon epitaxial planar diode
- Fast switching diode in case SOT-23, especially suited for automatic insertion.
- 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

DESIGN SUPPORT TOOLS click logo to get started



MECHANICAL DATA

Case: SOT-23

Weight: approx. 8.8 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		
BAS19	V _R = 100 V	BAS19-E3-08 or BAS19-E3-18 BAS19-HE3-08 or BAS19-HE3-18	A8	Single	Tape and reel		
BAS20	V _R = 150 V	BAS20-E3-08 or BAS20-E3-18 BAS20-HE3-08 or BAS20-HE3-18	A81	Single	Tape and reel		
BAS21	V _R = 200 V	BAS21-E3-08 or BAS21-E3-18 BAS21-HE3-08 or BAS21-HE3-18	A82	Single	Tape and reel		

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION			VALUE	UNIT	
		BAS19	V_R	100	V	
Continuous reverse voltage		BAS20	V_R	150	V	
		BAS21	V_R	200	V	
		BAS19	V_{RRM}	120	V	
Repetitive peak reverse voltage		BAS20	V_{RRM}	200	V	
		BAS21	V_{RRM}	250	V	
Non repetitive peak forward current	t = 1 μs		I _{FSM}	2.5	А	
Non repetitive peak forward surge current	t = 1 s		I _{FSM}	0.5	А	
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 = $t_p \ge 0.3$ ms

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



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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			
Operating temperature range		T _{op}	-55 to +150	°C			

Note

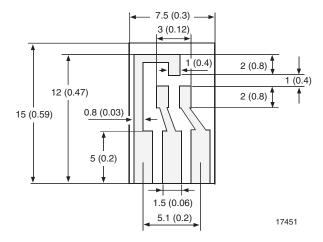
⁽¹⁾ Device on fiberglass substrate, see layout drawing below

ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Commend valtage	I _F = 100 mA		V _F			1.0	V
Forward voltage	I _F = 200 mA		V _F			1.25	V
	V _R = 100 V	BAS19	I _R			100	nA
Lookaga ayyyant	V _R = 150 V	BAS20	I _R			100	nA
Leakage current	V _R = 200 V	BAS21	I _R			100	nA
	$V_R = V_{Rmax.}, T_j = 150 ^{\circ}C$		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	рF
Reverse recovery time	$I_F = I_R = 30 \text{ mA, } R_L = 100 \Omega,$ $i_R = 3 \text{ mA}$		t _{rr}			50	ns

LAYOUT FOR R_{thJA} TEST

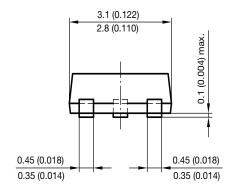
Thickness:

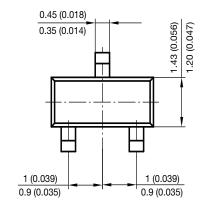
Fiberglass 1.5 mm (0.059 inches) Copper leads 0.3 mm (0.012 inches)



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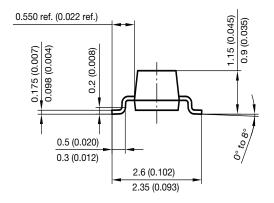
PACKAGE DIMENSIONS in millimeters (inches): SOT-23



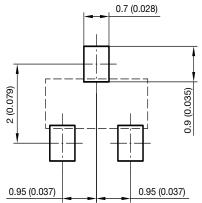


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Foot print recommendation:





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