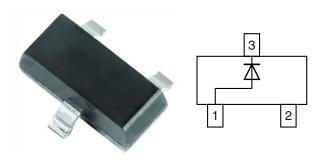


Vishay Semiconductors

Small Signal Fast Switching Diode



DESIGN SUPPORT TOOLS click logo to get started



MECHANICAL DATA

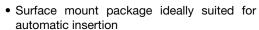
Case: SOT-23

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

FEATURES

- Silicon epitaxial planar diode
- · Ultra fast switching speed





- High conductance
- 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 <u>www.vishay.com/doc?99912</u>

PARTS TABLE					
PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS	
BAS16	BAS16-E3-08 or BAS16-E3-18	Single	A6	Tape and reel	
	BAS16-HE3-08 or BAS16-HE3-18	Single	Ao		

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
Non repetitive peak reverse voltage		V_{RM}	100	V		
Repetitive peak reverse voltage = working peak reverse voltage = DC blocking voltage		$V_{RRM} = V_{RWM} = V_{R}$	75	V		
Peak forward surge current	t _p = 1 s	I _{FSM}	1	Α		
reak lorward surge current	t _p = 1 μs	I _{FSM}	2	Α		
Average forward current	Half wave rectification with resistive load and f ≥ 50 MHz, on ceramic substrate 8 mm x 10 mm x 0.7 mm	I _{F(AV)}	150	mA		
Forward current	On ceramic substrate 8 mm x 10 mm x 0.7 mm	I _F	300	mA		
Power dissipation	On ceramic substrate 8 mm x 10 mm x 0.7 mm	P _{tot}	350	mW		

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Junction ambient	On ceramic substrate 8 mm x 10 mm x 0.7 mm	R _{thJA}	357	K/W	
Junction and storage temperature range		$T_j = T_{stg}$	-55 to +150	°C	
Operating temperature range		T _{op}	-55 to +150	°C	



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ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
	I _F = 1 mA	V _F			0.715	V
Forward voltage	I _F = 10 mA	V _F			855	mV
Forward voltage	I _F = 50 mA	V_{F}			1	V
	I _F = 150 mA	V _F			1.25	V
	V _R = 75 V	I _R			1000	nA
Reverse current	V _R = 75 V, T _j = 150 °C	I _R			50	μΑ
	V _R = 25 V, T _j = 150 °C	I _R			30	μA
Diode capacitance	V _R = 0, f = 1 MHz	C _D			4	pF
Reverse recovery time	I_F = 10 mA to I_R = 1 mA, V_R = 6 V, R_L = 100 Ω	t _{rr}			6	ns

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

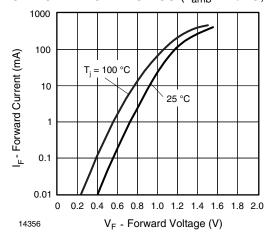


Fig. 1 - Forward Current vs. Forward Voltage

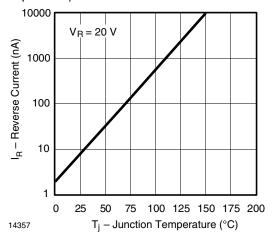
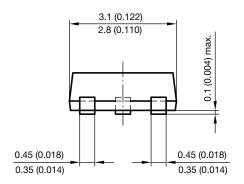
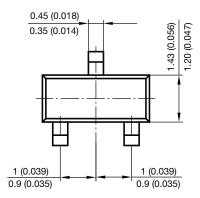


Fig. 2 - Reverse Current vs. Junction Temperature

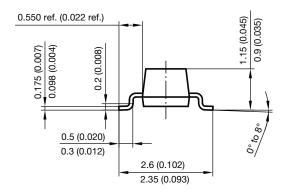
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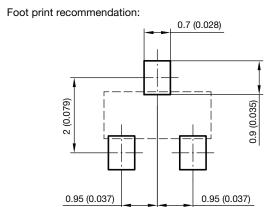
PACKAGE DIMENSIONS in millimeters (inches): SOT-23





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Legal Disclaimer Notice



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