

Vishay Semiconductors

Small Signal Fast Switching Diode



FEATURES

- Silicon epitaxial planar diode
- Fast switching diode
- AEC-Q101 qualified available
- Base P/N-E3 RoHS-compliant, commercial grade











DESIGN SUPPORT TOOLS click logo to get started



MECHANICAL DATA

Case: SOD-323

Weight: approx. 4.3 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	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS	
BAS16WS	BAS16WS-E3-08 or BAS16WS-E3-18 BAS16WS-HE3-08 or BAS16WS-HE3-18	Single	A6	Tape and reel	

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	SYMBOL VALUE		
Reverse voltage		V_{R}	75	V	
Repetitive peak reverse voltage		V _{RRM}	100	V	
Forward current (continuous)		I _F	250	mA	
	t = 1 μs	I _{FSM}	2	Α	
Non-repetitive peak forward current	t = 1 ms	I _{FSM}	1	Α	
	t = 1 s	I _{FSM}	0.5	Α	
Power dissipation		P _{tot}	200	mW	

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air		R _{thJA}	650	K/W	
Junction temperature		T _j	150	°C	
Storage temperature range		T _{stg}	-65 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 = 150 mA	V _F			1.250	V
Forward voltage	I _F = 1 mA	V_{F}			0.715	V
Forward voltage	I _F = 10 mA	V_{F}			0.855	V
	I _F = 50 mA	V_{F}			1	V
	V _R = 75 V	I _R			1000	nA
Leakage current	$V_R = 25 \text{ V}, T_J = 150 ^{\circ}\text{C}$	I _R			30	μΑ
	$V_R = 75 \text{ V}, T_J = 150 ^{\circ}\text{C}$	I _R			50	μΑ
Diode capacitance	$V_R = 0$, $f = 1$ MHz	C _D			2	pF
Reverse recovery time	I_F = 10 mA, I_R = 10 mA, I_R = 1 mA, R_L = 100 Ω	t _{rr}			6	ns

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

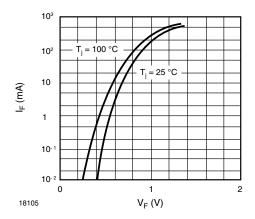


Fig. 1 - Forward Characteristics

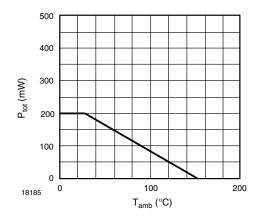


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

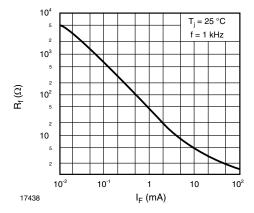


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

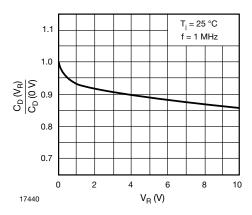


Fig. 4 - Relative Capacitance vs. Reverse Voltage



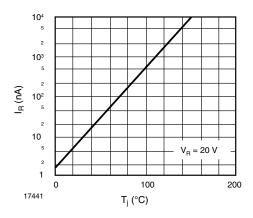
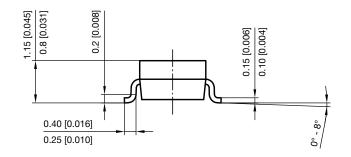
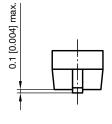
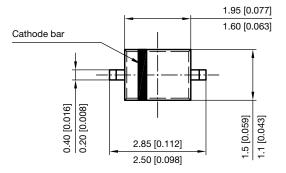


Fig. 5 - Leakage Current vs. Junction Temperature

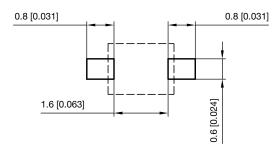
PACKAGE DIMENSIONS in millimeters (inches): SOD-323







Footprint recommendation:



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