

## Small Signal Fast Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- Fast switching diode
- AEC-Q101 qualified
- 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](http://www.vishay.com/doc?99912)



### 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	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
BAS16WS	BAS16WS-E3-08 or BAS16WS-E3-18	Single diode	A6	Tape and reel
	BAS16WS-HE3-08 or BAS16WS-HE3-18			

ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25^{\circ}C$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	75	V
Repetitive peak reverse voltage		$V_{RRM}$	100	V
Forward current (continuous)		$I_F$	250	mA
Non-repetitive peak forward current	$t = 1 \mu s$	$I_{FSM}$	2	A
	$t = 1 ms$	$I_{FSM}$	1	A
	$t = 1 s$	$I_{FSM}$	0.5	A
Power dissipation		$P_{tot}$	200	mW

THERMAL CHARACTERISTICS ( $T_{amb} = 25^{\circ}C$ , 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

**ELECTRICAL CHARACTERISTICS** ( $T_{amb} = 25^\circ C$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 1 \text{ mA}$	$V_F$			0.715	V
	$I_F = 10 \text{ mA}$	$V_F$			0.855	V
	$I_F = 50 \text{ mA}$	$V_F$			1	V
	$I_F = 150 \text{ mA}$	$V_F$			1.250	V
Leakage current	$V_R = 25 \text{ V}, T_J = 150^\circ C$	$I_R$			30	$\mu\text{A}$
	$V_R = 75 \text{ V}$	$I_R$			1	$\mu\text{A}$
	$V_R = 75 \text{ V}, T_J = 150^\circ C$	$I_R$			50	$\mu\text{A}$
Diode capacitance	$V_R = 0, f = 1 \text{ MHz}$	$C_D$			2	pF
Reverse recovery time	$I_F = 10 \text{ mA}, I_R = 10 \text{ mA}, i_R = 1 \text{ mA}, R_L = 100 \Omega$	$t_{rr}$			6	ns

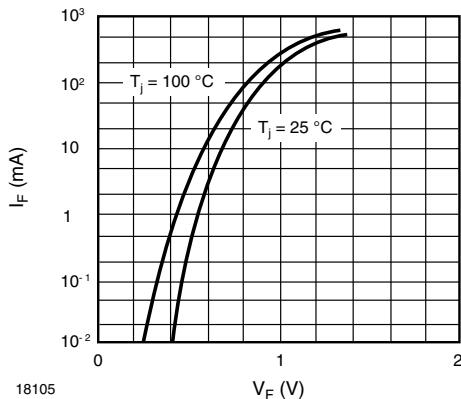
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25^\circ C$ , unless otherwise specified)


Fig. 1 - Forward Characteristics

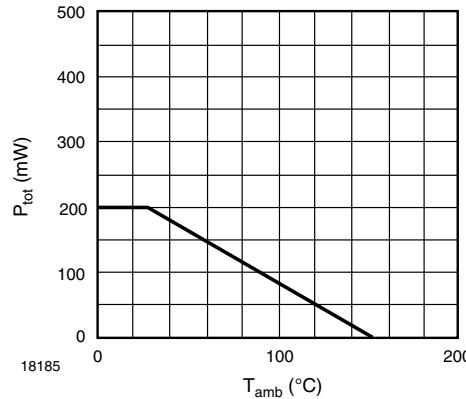


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

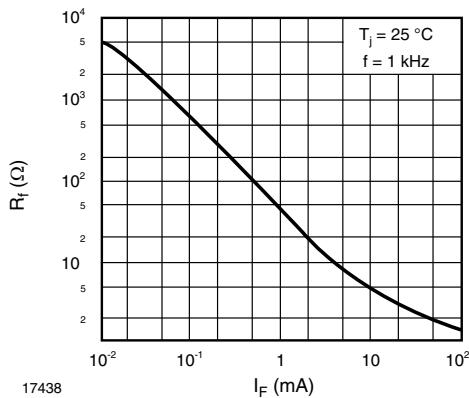


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

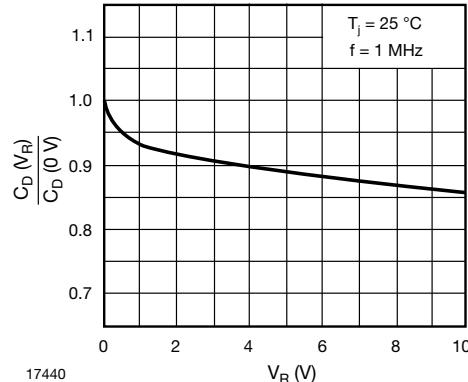


Fig. 4 - Relative Capacitance vs. Reverse Voltage

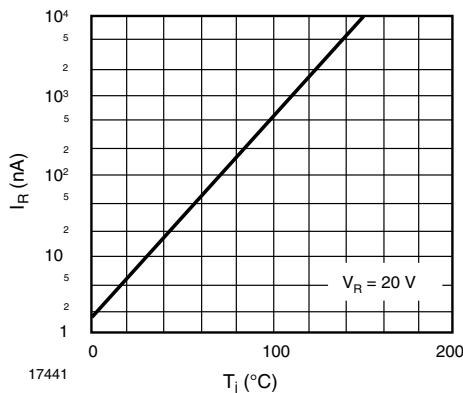
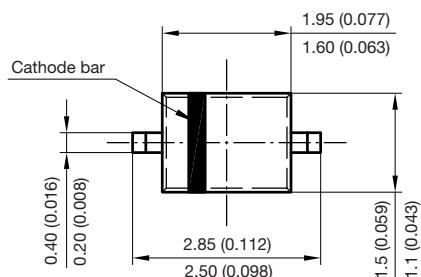
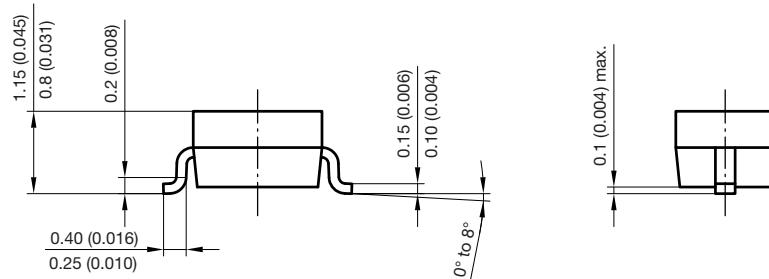
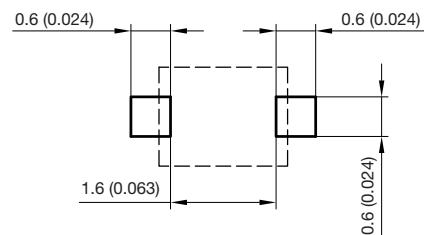


Fig. 5 - Leakage Current vs. Junction Temperature

**PACKAGE DIMENSIONS** in millimeters (inches): **SOD-323**



Foot print recommendation:



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