

Small Signal Fast Switching Diode



FEATURES

- Silicon epitaxial planar diode
- Fast switching diode
- Also available in case SOT-23 with designation BAS16
- AEC-Q101 qualified
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

MECHANICAL DATA

Case: SOD-123

Weight: approx. 10.3 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	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
BAS16D-V	BAS16D-V-GS18 or BAS16D-V-GS08	A6	Single diode	Tape and reel

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25^{\circ}\text{C}$, 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	$t = 1 \mu\text{s}$	I_{FSM}	2	A
	$t = 1 \text{ ms}$	I_{FSM}	1	A
	$t = 1 \text{ s}$	I_{FSM}	0.5	A
Power dissipation ⁽¹⁾		P_{tot}	350	mW

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air ⁽¹⁾		R_{thJA}	375	K/W
Maximum junction temperature		T_J	150	$^{\circ}\text{C}$
Storage temperature range ⁽¹⁾		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

Note

⁽¹⁾ Valid provided electrodes are kept at ambient temperature

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 1\text{ mA}$	V_F			715	mV
	$I_F = 10\text{ mA}$	V_F			855	mV
	$I_F = 50\text{ mA}$	V_F			1	V
	$I_F = 150\text{ mA}$	V_F			1.25	V
Leakage current	$V_R = 25\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$	I_R			30	μA
	$V_R = 75\text{ V}$	I_R			1	μA
	$V_R = 75\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$	I_R			50	μA
Diode capacitance	$V_R = 0; f = 1\text{ MHz}$	C_D			2	pF
Reverse recovery time	$I_F = 10\text{ mA}, I_R = 10\text{ mA},$ $i_R = 1\text{ mA}, R_L = 100\text{ }\Omega$	t_{rr}			6	ns

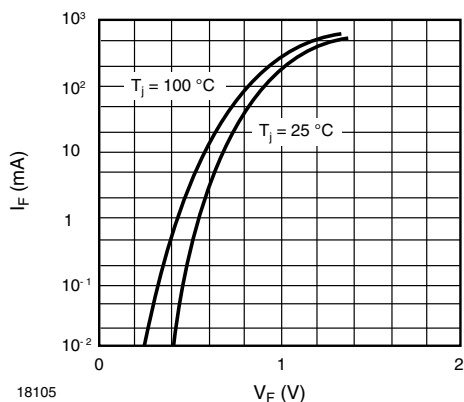
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Forward Characteristics

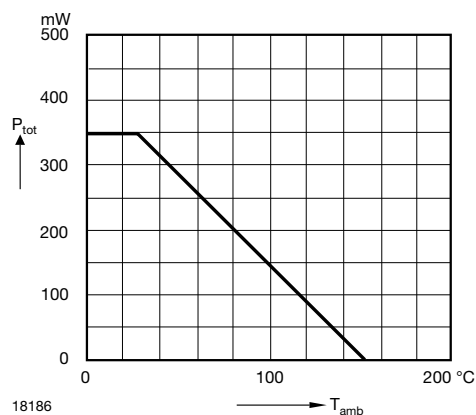


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

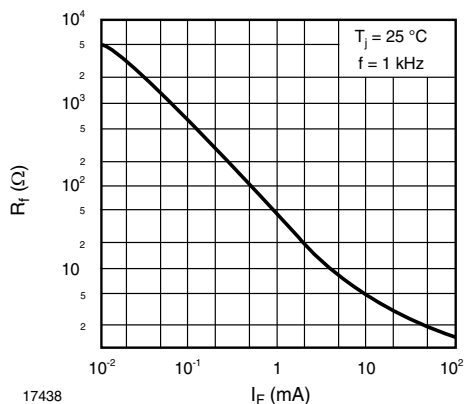


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

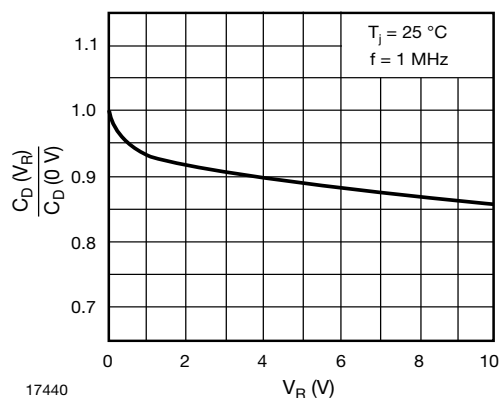


Fig. 4 - Relative Capacitance vs. Reverse Voltage

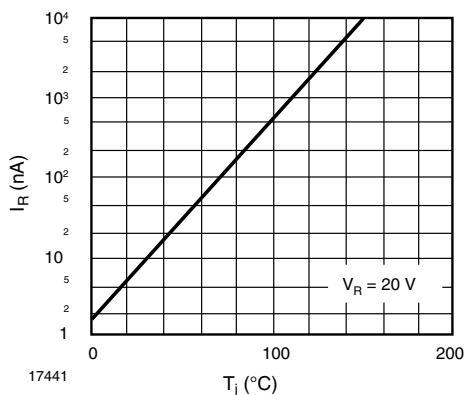


Fig. 5 - Leakage Current vs. Junction Temperature

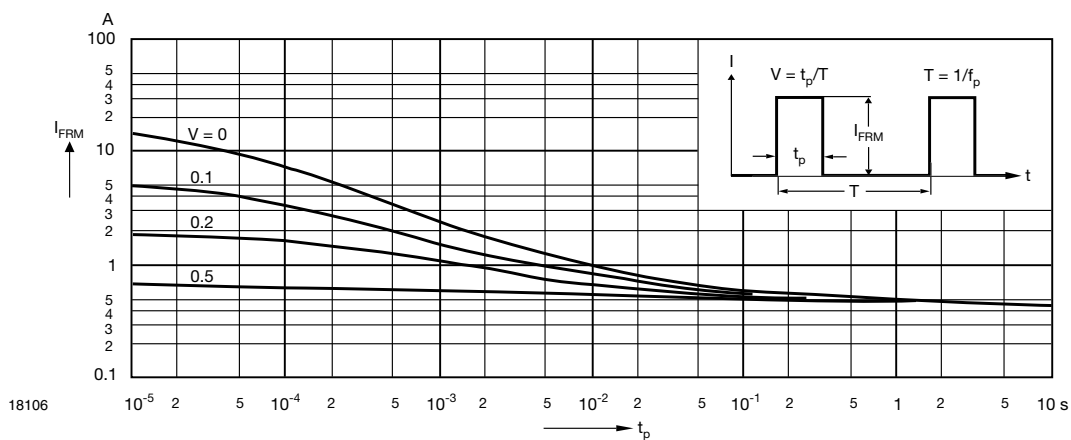
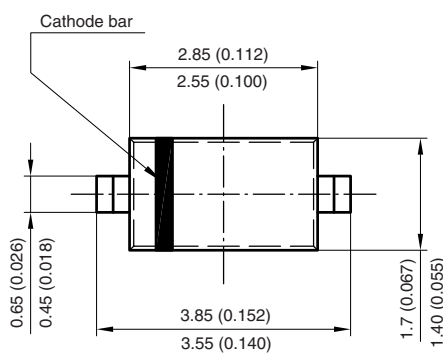
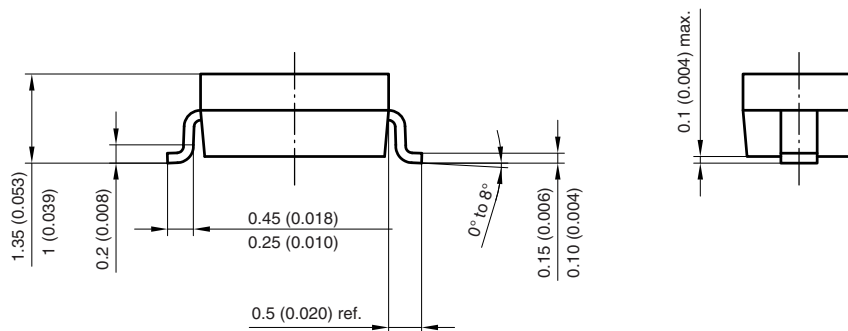


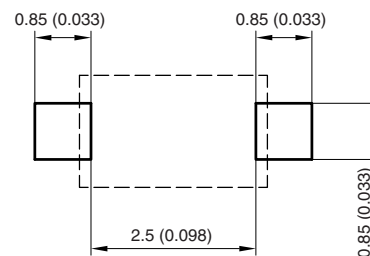
Fig. 6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration



PACKAGE DIMENSIONS in millimeters (inches): **SOD-123**



Mounting Pad Layout



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17432



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