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
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

DESIGN SUPPORT TOOLS

click logo to get started

3D Models Available

MECHANICAL DATA

Case: SOD-123

Weight: approx. 10.3 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
BAS16D	BAS16D-E3-08 or BAS16D-E3-18 BAS16D-HE3-08 or BAS16D-HE3-18	Single	A6	Tape and reel

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °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 µs	I_{FSM}	2	A
	t = 1 ms	I_{FSM}	1	A
	t = 1 s	I_{FSM}	0.5	A
Power dissipation (1)		P_{tot}	350	mW

THERMAL CHARACTERISTICS (T_{amb} = 25 °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	°C
Storage temperature range (1)		T_{stg}	-65 to +150	°C
Operating temperature range		T_{op}	-55 to +150	°C

Note

(1) Valid provided electrodes are kept at ambient temperature

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ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Forward voltage	I_F = 150 mA	V_F			1.25	V
	I_F = 50 mA	V_F			1	V
	I_F = 10 mA	V_F			0.855	V
	I_F = 1 mA	V_F			0.715	V
Leakage current	V_R = 75 V	I_R			1000	nA
	V_R = 25 V, T_j = 150 °C	I_R			30	µA
	V_R = 75 V, T_j = 150 °C	I_R			50	µA
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)

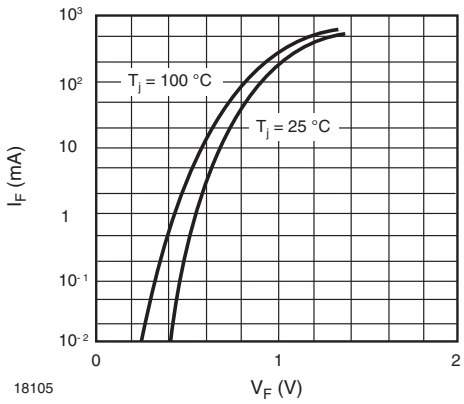


Fig. 1 - Forward Characteristics

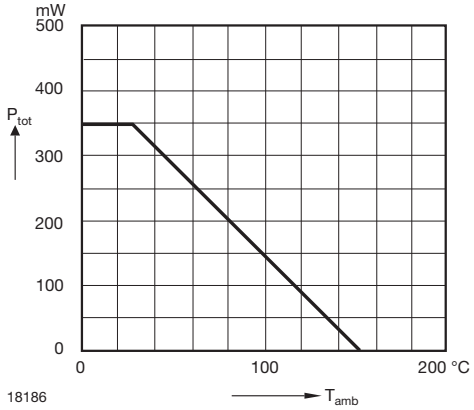


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

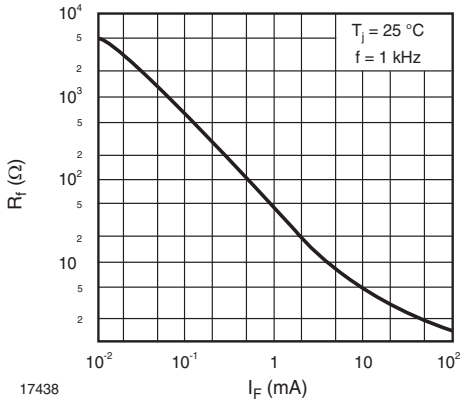


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

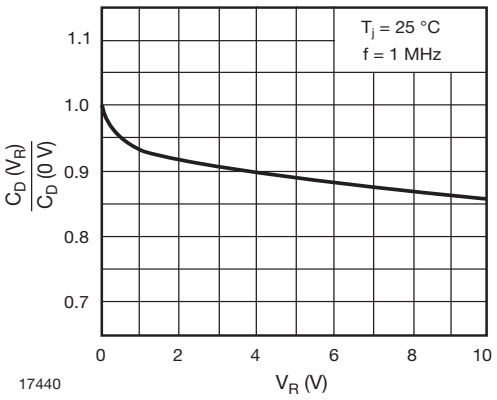


Fig. 4 - Relative Capacitance vs. Reverse Voltage

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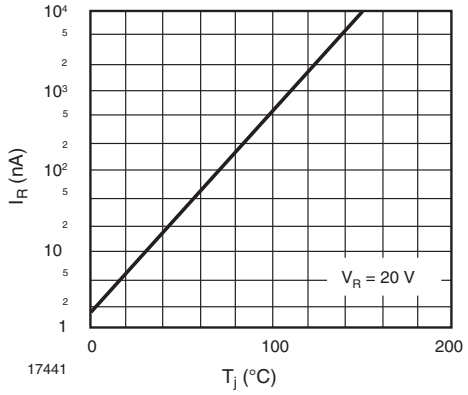


Fig. 5 - Leakage Current vs. Junction Temperature

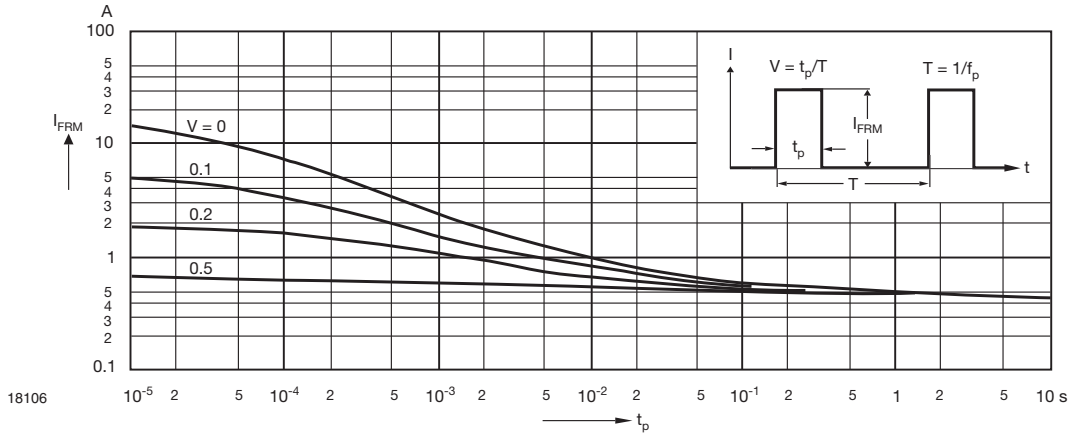
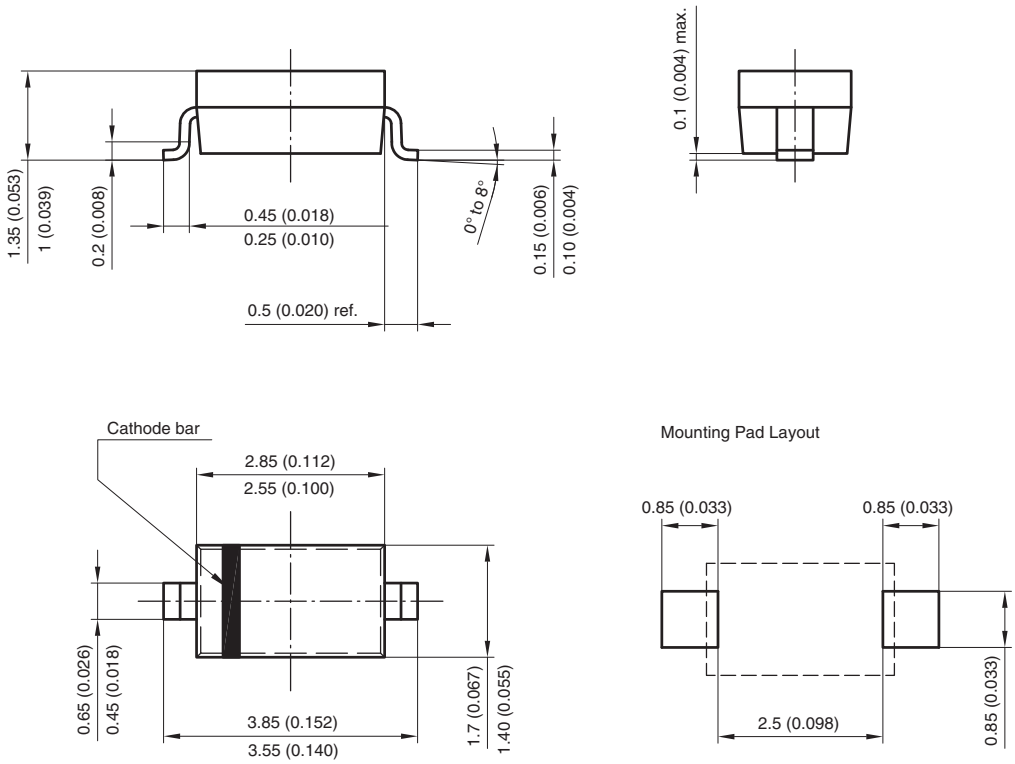


Fig. 6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration

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



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