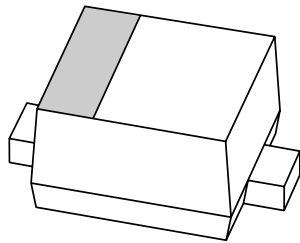


DATA SHEET



BAP27-01 Silicon PIN diode

Preliminary specification

2001 Nov 01

Silicon PIN diode

BAP27-01

FEATURES

- High speed switching for RF signals
- Low diode capacitance
- Low diode forward resistance
- Very low series inductance
- For applications up to 4 GHz.

APPLICATIONS

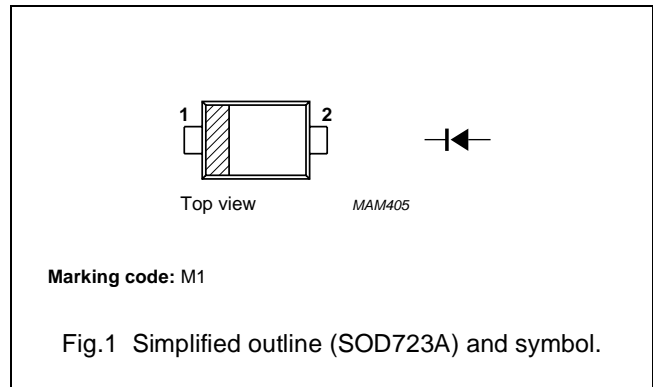
- RF attenuators and switches.

DESCRIPTION

Planar PIN diode in a SOD723A ultra small plastic SMD package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_R	continuous reverse voltage		–	50	V
I_F	continuous forward current		–	100	mA
P_{tot}	total power dissipation	$T_s = 90\text{ }^\circ\text{C}$	–	315	mW
T_{stg}	storage temperature		–65	+150	$^\circ\text{C}$
T_j	junction temperature		–65	+150	$^\circ\text{C}$

Silicon PIN diode

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ELECTRICAL CHARACTERISTICST_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V _F	forward voltage	I _F = 50 mA	0.95	1.1	V
I _R	reverse current	V _R = 20 V	–	20	nA
C _d	diode capacitance	V _R = 0; f = 1 MHz	0.45	–	pF
		V _R = 1 V; f = 1 MHz	0.35	0.45	pF
		V _R = 20 V; f = 1 MHz	0.27	0.32	pF
r _D	diode forward resistance	I _F = 0.5 mA; f = 100 MHz; note 1	1.6	2.5	Ω
		I _F = 1 mA; f = 100 MHz; note 1	1.2	2.0	Ω
		I _F = 5 mA; f = 100 MHz; note 1	0.7	1.2	Ω
		I _F = 10 mA; f = 100 MHz; note 1	0.6	0.95	Ω
S ₂₁ ²	isolation	V _R = 0; f = 900 MHz	12.3	–	dB
		V _R = 0; f = 1800 MHz	7.7	–	dB
		V _R = 0; f = 2450 MHz	6.0	–	dB
S ₂₁ ²	insertion loss	I _F = 0.5 mA; f = 900 MHz	0.17	–	dB
		I _F = 0.5 mA; f = 1800 MHz	0.19	–	dB
		I _F = 0.5 mA; f = 2450 MHz	0.21	–	dB
S ₂₁ ²	insertion loss	I _F = 1 mA; f = 900 MHz	0.13	–	dB
		I _F = 1 mA; f = 1800 MHz	0.15	–	dB
		I _F = 1 mA; f = 2450 MHz	0.18	–	dB
S ₂₁ ²	insertion loss	I _F = 10 mA; f = 900 MHz	0.08	–	dB
		I _F = 10 mA; f = 1800 MHz	0.11	–	dB
		I _F = 10 mA; f = 2450 MHz	0.14	–	dB
S ₂₁ ²	insertion loss	I _F = 100 mA; f = 900 MHz	0.06	–	dB
		I _F = 100 mA; f = 1800 MHz	0.10	–	dB
		I _F = 100 mA; f = 2450 MHz	0.12	–	dB
τ _L	charge carrier life time	when switched from I _F = 10 mA to I _R = 6 mA; R _L = 100 Ω; measured at I _R = 3 mA	0.17	–	μs
L _S	series inductance		0.6	–	nH

Note

1. Guaranteed on AQL basis: inspection level S4, AQL 1.0.

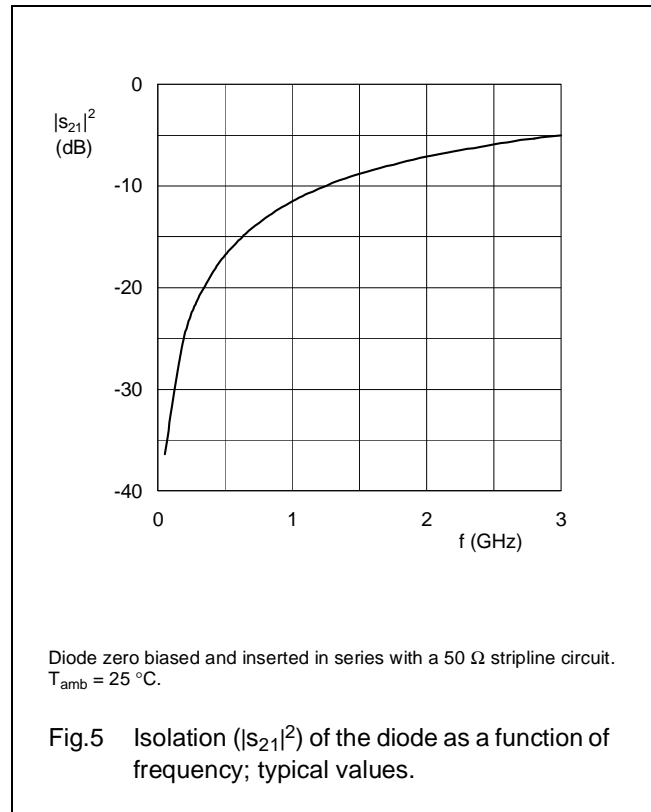
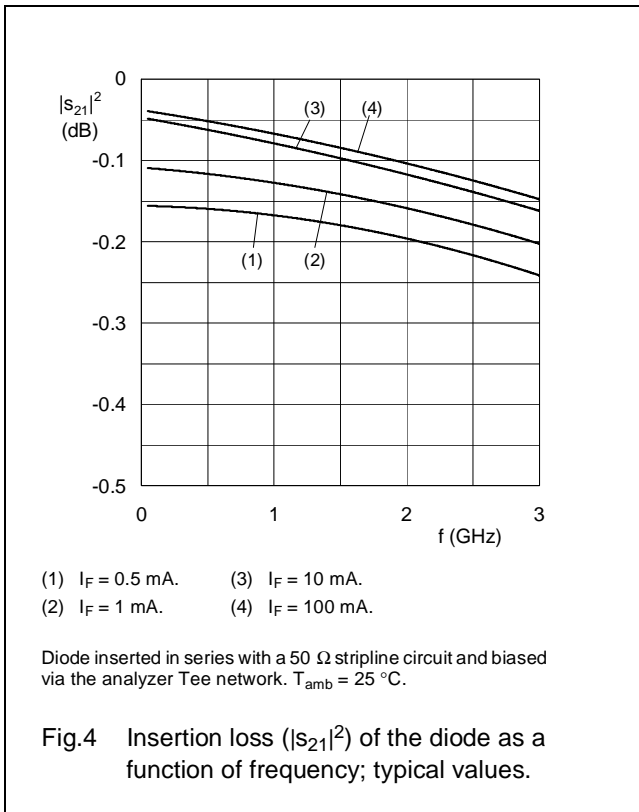
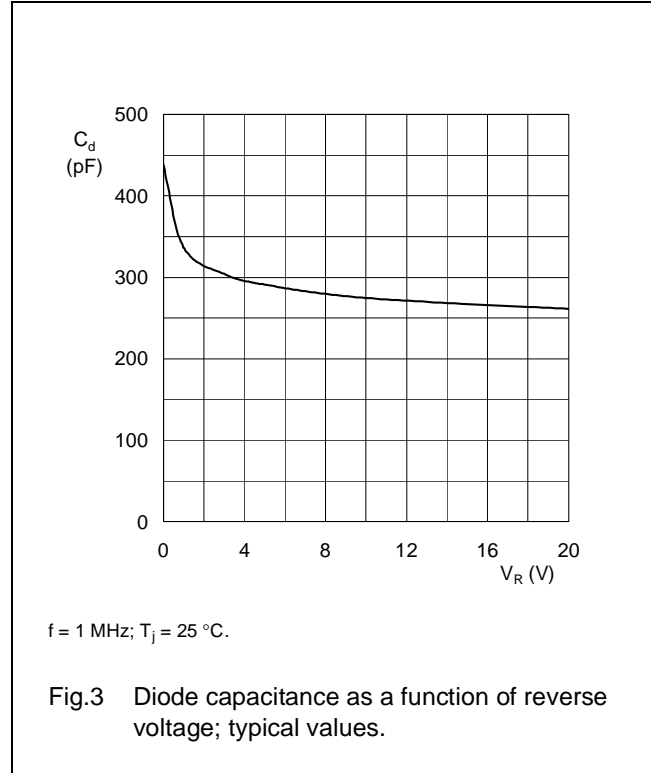
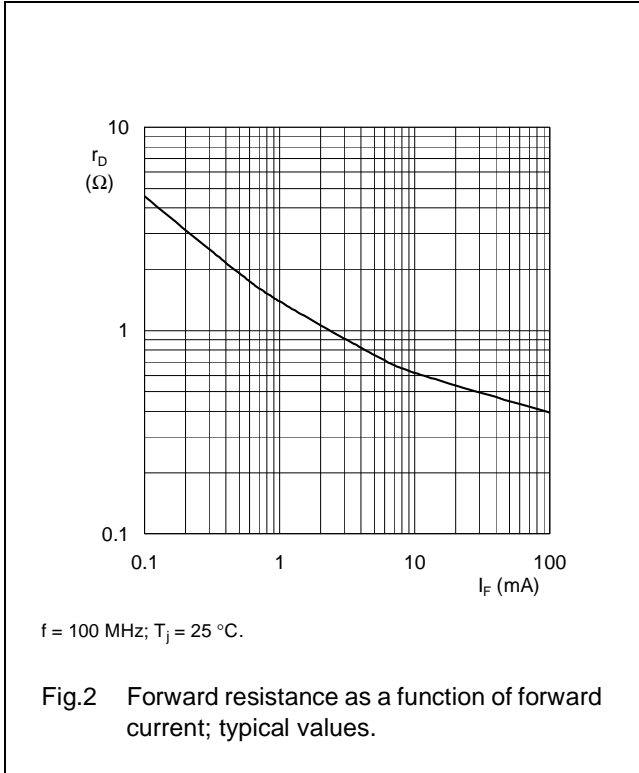
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-s}	thermal resistance from junction to soldering point	190	K/W

Silicon PIN diode

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GRAPHICAL DATA



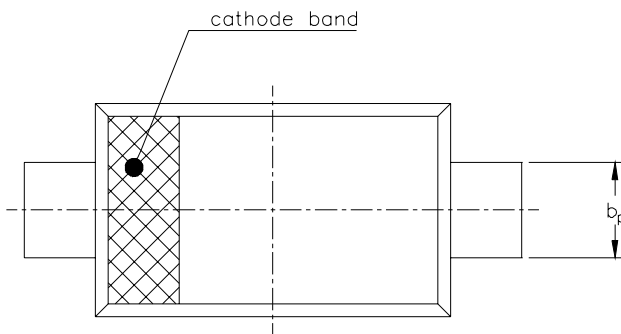
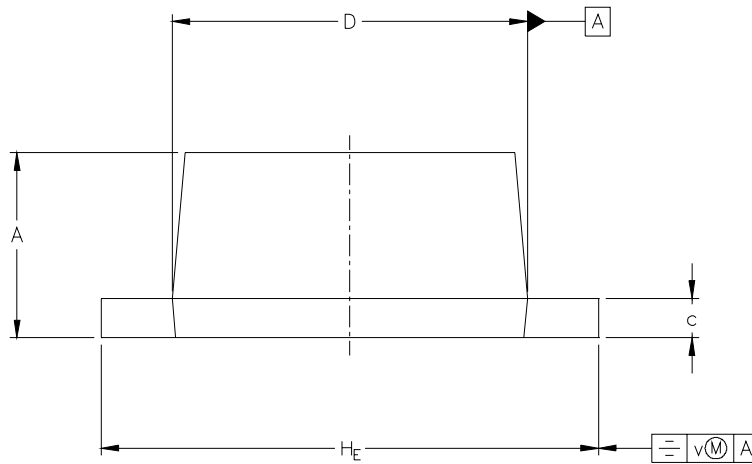
Silicon PIN diode

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PACKAGE OUTLINE

SOD723A

Plastic surface mounted package; 2 leads



UNIT	A	b_p	c	D	E	H_E	v
mm	0.49 0.55	0.25 0.32	0.08 0.15	0.95 1.05	0.55 0.65	1.35 1.45	0.1

PACKAGE OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ		
SOD723A PUBLICATION DRAWING					01-09-06

UNDER DEVELOPMENT

Silicon PIN diode

BAP27-01

DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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Contact information

For additional information please visit <http://www.semiconductors.philips.com>. Fax: +31 40 27 24825

For sales offices addresses send e-mail to: sales.addresses@www.semiconductors.philips.com.

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