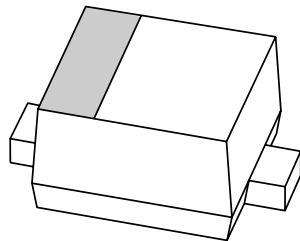


DATA SHEET



BAP63-02 Silicon PIN diode

Product specification
Supersedes data of 2001 Apr 04

2001 May 18

Silicon PIN diode

BAP63-02

FEATURES

- High speed switching for RF signals
- Low diode capacitance
- Low diode forward resistance
- Very low series inductance
- For applications up to 3 GHz.

APPLICATIONS

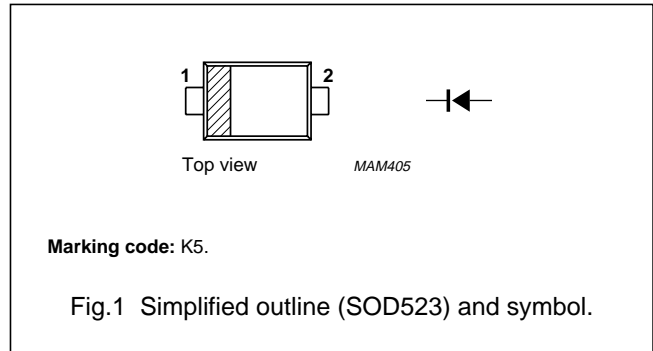
- RF attenuators and switches.

DESCRIPTION

Planar PIN diode in a SOD523 ultra small SMD plastic package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

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	$T_s \leq 90\text{ }^\circ\text{C}$	–	715	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 leakage current	V _R = 35 V	–	10	nA
C _d	diode capacitance	V _R = 0; f = 1 MHz	0.36	–	pF
		V _R = 1 V; f = 1 MHz	0.32	–	pF
		V _R = 20 V; f = 1 MHz	0.25	0.32	pF
r _D	diode forward resistance	I _F = 0.5 mA; f = 100 MHz; note 1	2.5	3.5	Ω
		I _F = 1 mA; f = 100 MHz; note 1	1.95	3	Ω
		I _F = 10 mA; f = 100 MHz; note 1	1.17	1.8	Ω
		I _F = 100 mA; f = 100 MHz; note 1	0.9	1.5	Ω
S ₂₁ ²	isolation	V _R = 0; f = 900 MHz	15.6	–	dB
		V _R = 0; f = 1800 MHz	10.3	–	dB
		V _R = 0; f = 2450 MHz	8.3	–	dB
S ₂₁ ²	insertion loss	I _F = 0.5 mA; f = 900 MHz	0.19	–	dB
		I _F = 0.5 mA; f = 1800 MHz	0.24	–	dB
		I _F = 0.5 mA; f = 2450 MHz	0.28	–	dB
S ₂₁ ²	insertion loss	I _F = 1 mA; f = 900 MHz	0.16	–	dB
		I _F = 1 mA; f = 1800 MHz	0.20	–	dB
		I _F = 1 mA; f = 2450 MHz	0.25	–	dB
S ₂₁ ²	insertion loss	I _F = 10 mA; f = 900 MHz	0.10	–	dB
		I _F = 10 mA; f = 1800 MHz	0.16	–	dB
		I _F = 10 mA; f = 2450 MHz	0.20	–	dB
S ₂₁ ²	insertion loss	I _F = 100 mA; f = 900 MHz	0.09	–	dB
		I _F = 100 mA; f = 1800 MHz	0.14	–	dB
		I _F = 100 mA; f = 2450 MHz	0.18	–	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	310	–	ns
L _S	series inductance	I _F = 100 mA; f = 100 MHz	0.6	–	nH

Note

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

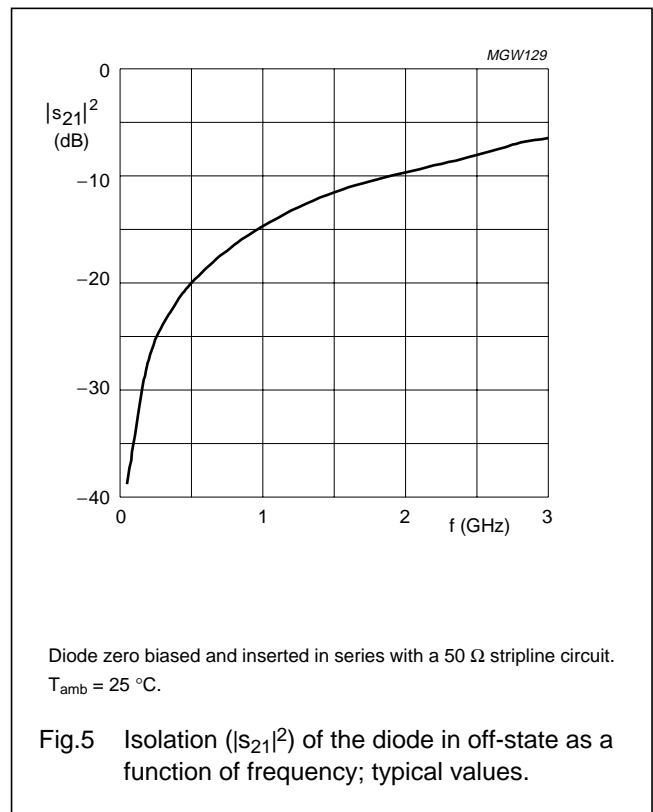
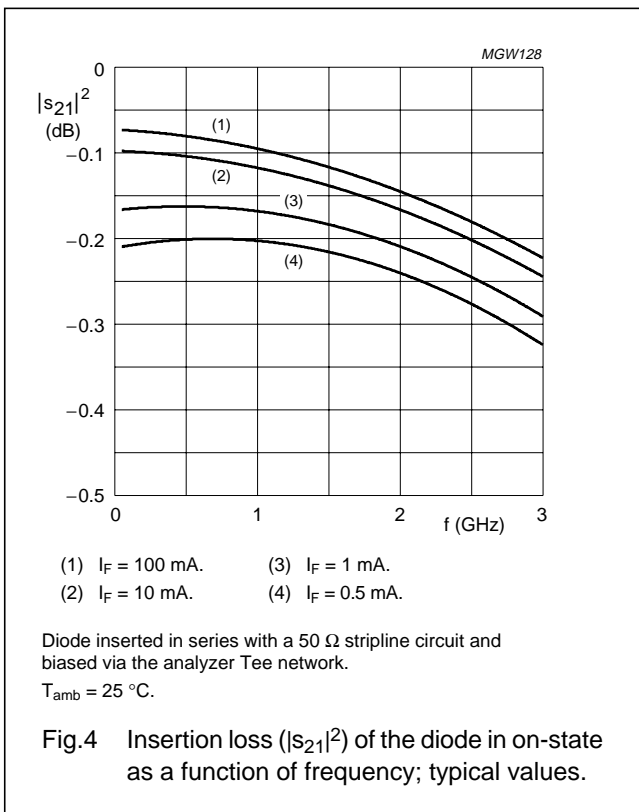
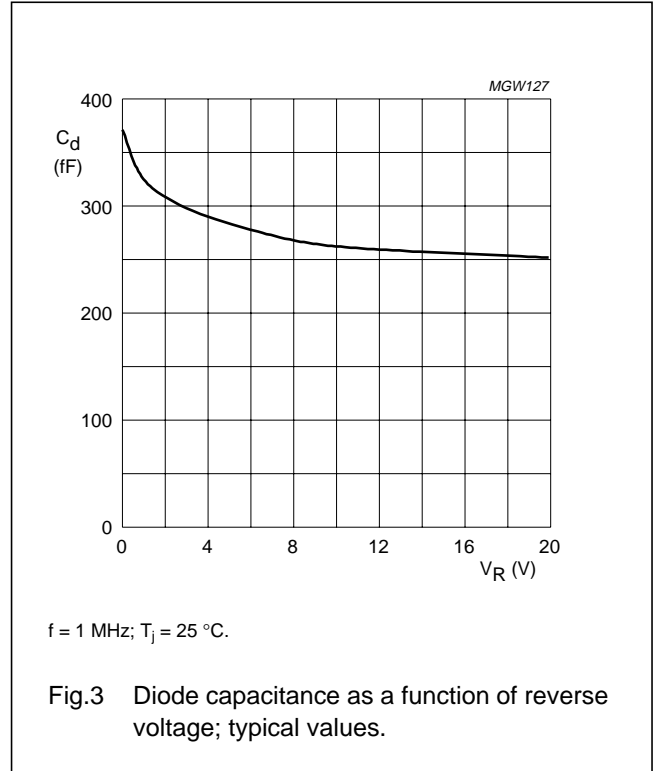
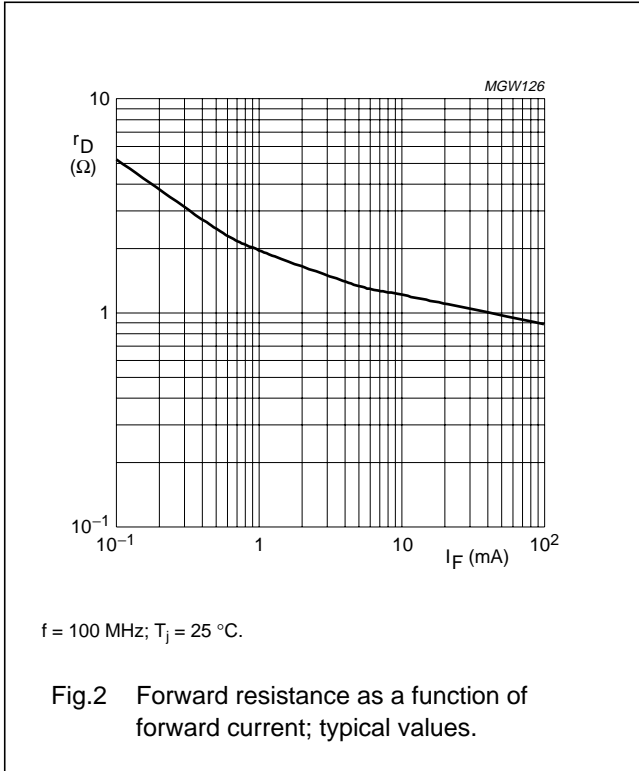
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-s}	thermal resistance from junction to soldering point	85	K/W

Silicon PIN diode

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GRAPHICAL DATA



Silicon PIN diode

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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD523

DIMENSIONS (mm are the original dimensions)

UNIT	A	bp	c	D	E	HE	v
mm	0.7 0.5	0.35 0.25	0.2 0.1	1.3 1.1	0.9 0.7	1.7 1.5	0.15

Note
1. The marking bar indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD523			SC-79			98-11-25

Silicon PIN diode

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DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
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Silicon PIN diode

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