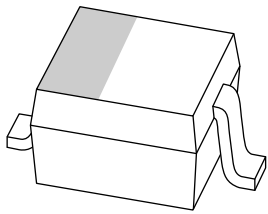


DATA SHEET



BAP1321-03 Silicon PIN diode

Product specification
Supersedes data of 2001 May 11

2004 Feb 17



Silicon PIN diode

BAP1321-03

FEATURES

- High voltage, current controlled
- RF resistor for RF attenuators and switches
- 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 SOD323 (SC-76) ultra small SMD plastic package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode

Marking code: V8.
The marking bar indicates the cathode.

Fig.1 Simplified outline (SOD323; SC-76) and symbol.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BAP1321-03	-	plastic surface mounted package; 2 leads	SOD323

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_R	continuous reverse voltage		-	60	V
I_F	continuous forward current		-	100	mA
P_{tot}	total power dissipation	$T_s \leq 90\text{ °C}$	-	500	mW
T_{stg}	storage temperature		-65	+150	°C
T_j	junction temperature		-65	+150	°C

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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 = 60 V	–	100	nA
C _d	diode capacitance	V _R = 0; f = 1 MHz	0.4	–	pF
		V _R = 1 V; f = 1 MHz	0.35	0.45	pF
		V _R = 20 V; f = 1 MHz	0.25	0.32	pF
r _D	diode forward resistance	f = 100 MHz; note 1			
		I _F = 0.5 mA	3.4	5.0	Ω
		I _F = 1 mA	2.4	3.6	Ω
		I _F = 10 mA	1.2	1.8	Ω
s ₂₁ ²	isolation	V _R = 0; f = 900 MHz	16.6	–	dB
		V _R = 0; f = 1800 MHz	11.6	–	dB
		V _R = 0; f = 2450 MHz	9.2	–	dB
		I _F = 0.5 mA; f = 900 MHz	0.26	–	dB
s ₂₁ ²	insertion loss	I _F = 0.5 mA; f = 1800 MHz	0.35	–	dB
		I _F = 0.5 mA; f = 2450 MHz	0.44	–	dB
		I _F = 1 mA; f = 900 MHz	0.20	–	dB
s ₂₁ ²	insertion loss	I _F = 1 mA; f = 1800 MHz	0.29	–	dB
		I _F = 1 mA; f = 2450 MHz	0.38	–	dB
		I _F = 10 mA; f = 900 MHz	0.13	–	dB
s ₂₁ ²	insertion loss	I _F = 10 mA; f = 1800 MHz	0.22	–	dB
		I _F = 10 mA; f = 2450 MHz	0.32	–	dB
		I _F = 100 mA; f = 900 MHz	0.10	–	dB
s ₂₁ ²	insertion loss	I _F = 100 mA; f = 1800 MHz	0.20	–	dB
		I _F = 100 mA; f = 2450 MHz	0.29	–	dB
		when switched from I _F = 10 mA to I _R = 6 mA; R _L = 100 Ω; measured at I _R = 3 mA	0.5	–	μs
L _S	series inductance	I _F = 100 mA; f = 100 MHz	1.5	–	nH

Note

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

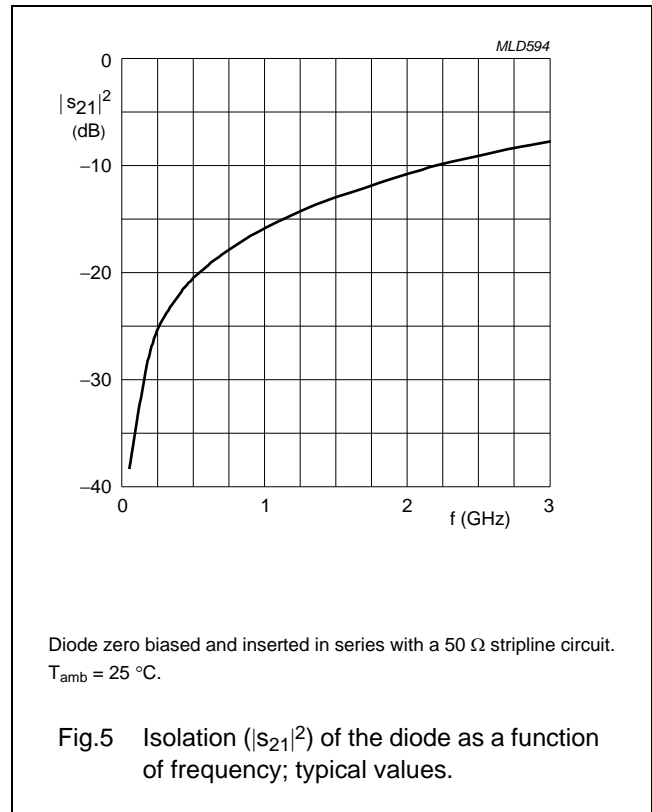
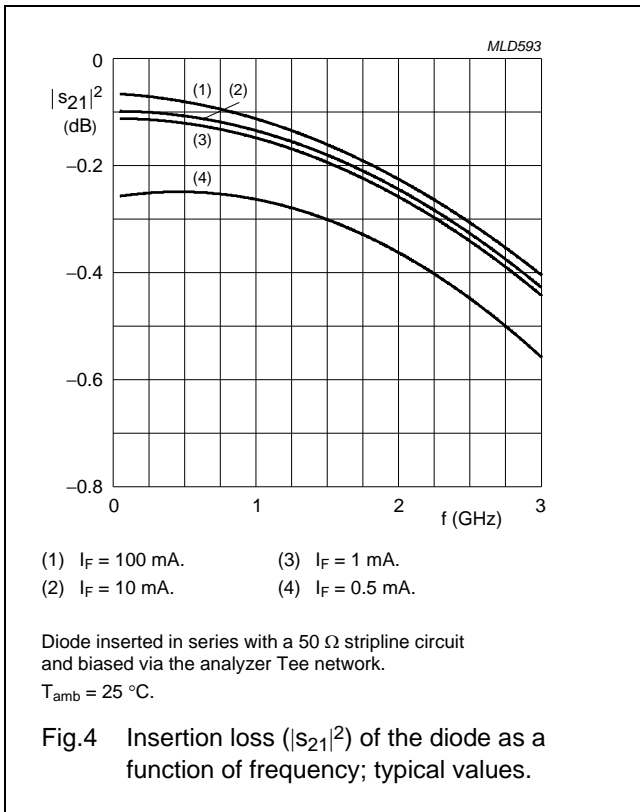
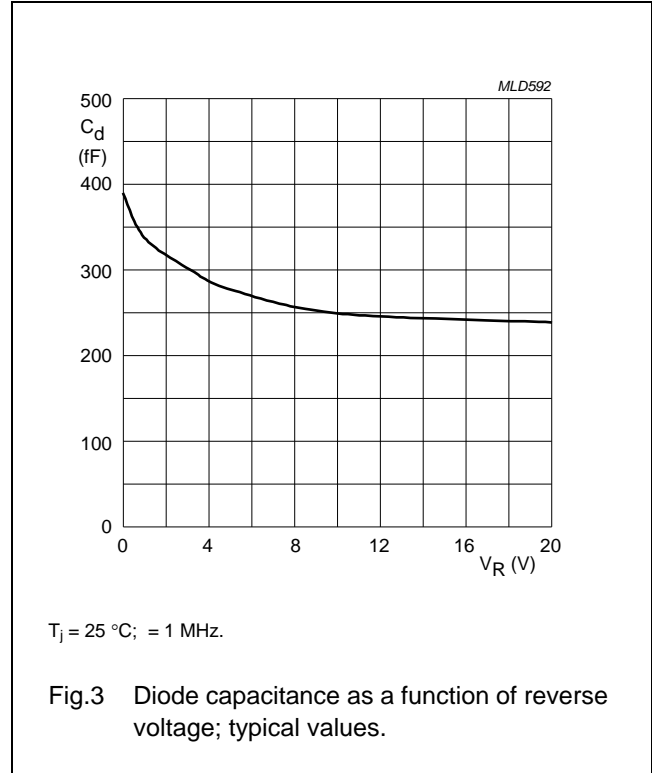
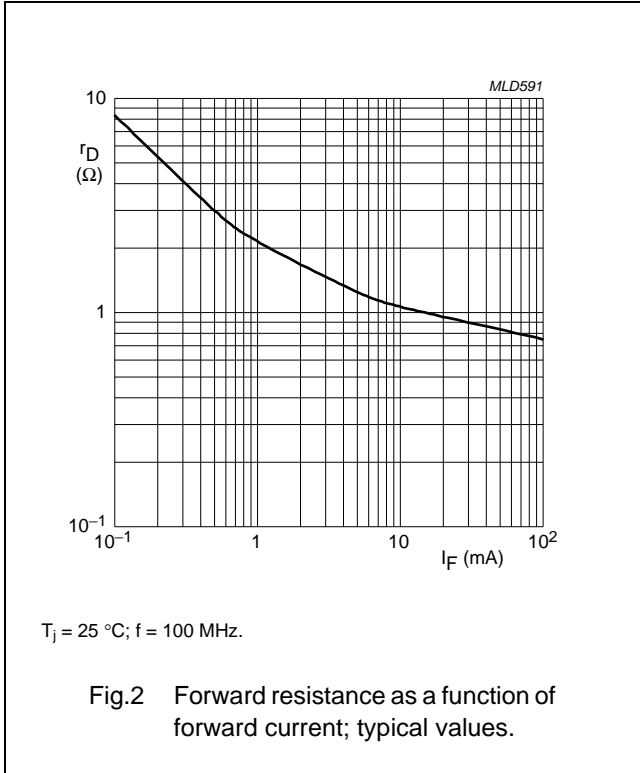
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th(j-s)}	thermal resistance from junction to soldering point	120	K/W

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GRAPHICAL DATA



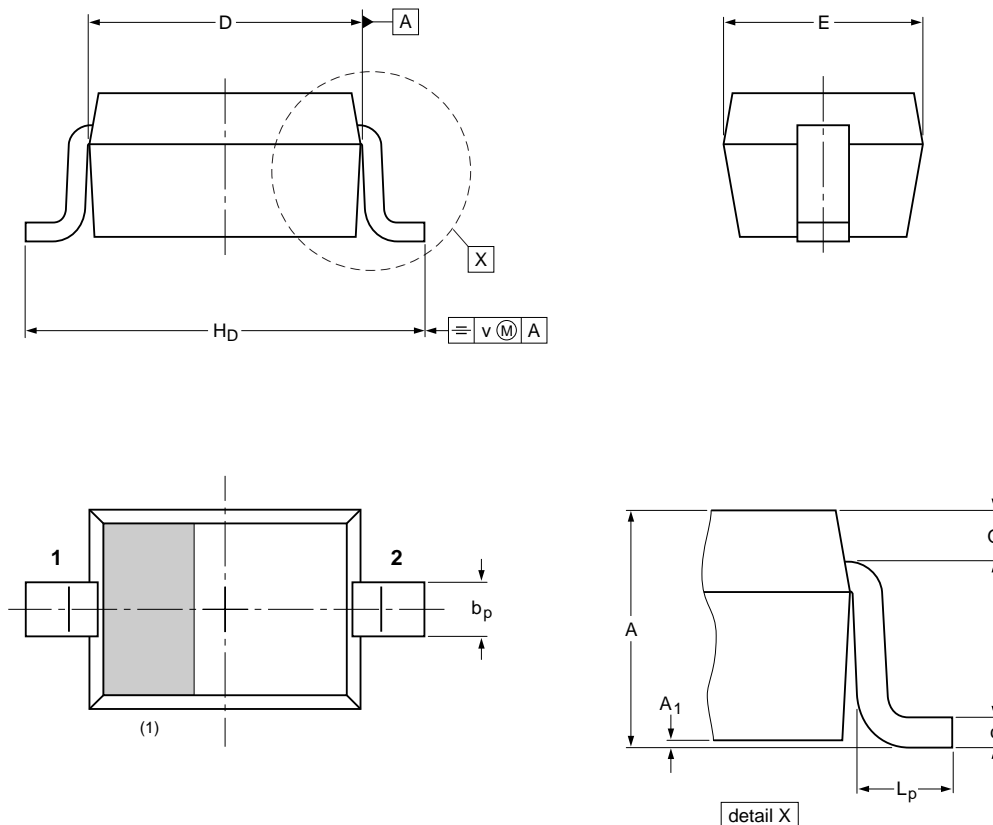
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PACKAGE OUTLINE

Plastic surface-mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	H _D	L _p	Q	v
mm	1.1 0.8	0.05	0.40 0.25	0.25 0.10	1.8 1.6	1.35 1.15	2.7 2.3	0.45 0.15	0.25 0.15	0.2

Note

1. The marking bar indicates the cathode

OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA		
SOD323			SC-76		03-12-17 06-03-16

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DATA SHEET STATUS

DOCUMENT STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

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Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

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