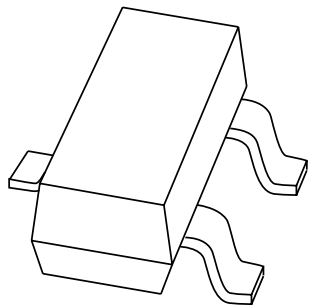


DATA SHEET



BAP1321-04 Silicon PIN diode

Product specification

2001 Apr 17

Silicon PIN diode

BAP1321-04

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

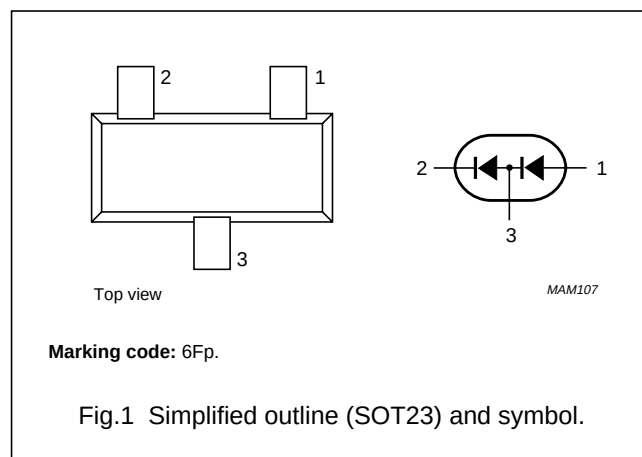
- RF attenuators and switches.

DESCRIPTION

Two planar PIN diodes in series configuration in a SOT23 small SMD plastic package.

PINNING

PIN	DESCRIPTION
1	anode
2	cathode
3	common connection



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per diode					
V_R	continuous reverse voltage		–	60	V
I_F	continuous forward current		–	100	mA
P_{tot}	total power dissipation	$T_s \leq 90\text{ °C}$	–	250	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–65	+150	°C

Silicon PIN diode

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ELECTRICAL CHARACTERISTICST_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
Per diode					
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	0.42	–	pF
		V _R = 1 V; f = 1 MHz	0.375	0.45	pF
		V _R = 20 V; f = 1 MHz	0.275	0.325	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	I _F = 100 mA	0.85	1.3	Ω
		V _R = 0; f = 900 MHz	15.7	–	dB
		V _R = 0; f = 1800 MHz	10.5	–	dB
S ₂₁ ²	insertion loss	V _R = 0; f = 2450 MHz	7.9	–	dB
		I _F = 0.5 mA; f = 900 MHz	0.27	–	dB
		I _F = 0.5 mA; f = 1800 MHz	0.35	–	dB
S ₂₁ ²	insertion loss	I _F = 0.5 mA; f = 2450 MHz	0.43	–	dB
		I _F = 1 mA; f = 900 MHz	0.21	–	dB
		I _F = 1 mA; f = 1800 MHz	0.29	–	dB
S ₂₁ ²	insertion loss	I _F = 1 mA; f = 2450 MHz	0.37	–	dB
		I _F = 10 mA; f = 900 MHz	0.14	–	dB
		I _F = 10 mA; f = 1800 MHz	0.21	–	dB
S ₂₁ ²	insertion loss	I _F = 10 mA; f = 2450 MHz	0.29	–	dB
		I _F = 100 mA; f = 900 MHz	0.10	–	dB
		I _F = 100 mA; f = 1800 MHz	0.18	–	dB
		I _F = 100 mA; f = 2450 MHz	0.26	–	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	0.5	–	μs
L _S	series inductance	I _F = 100 mA; f = 100 MHz	1.4	–	nH

Note

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

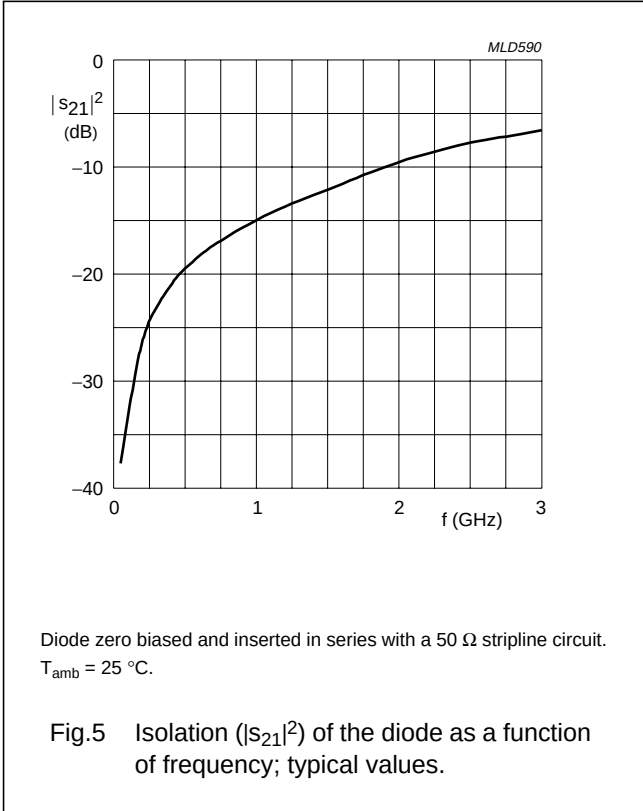
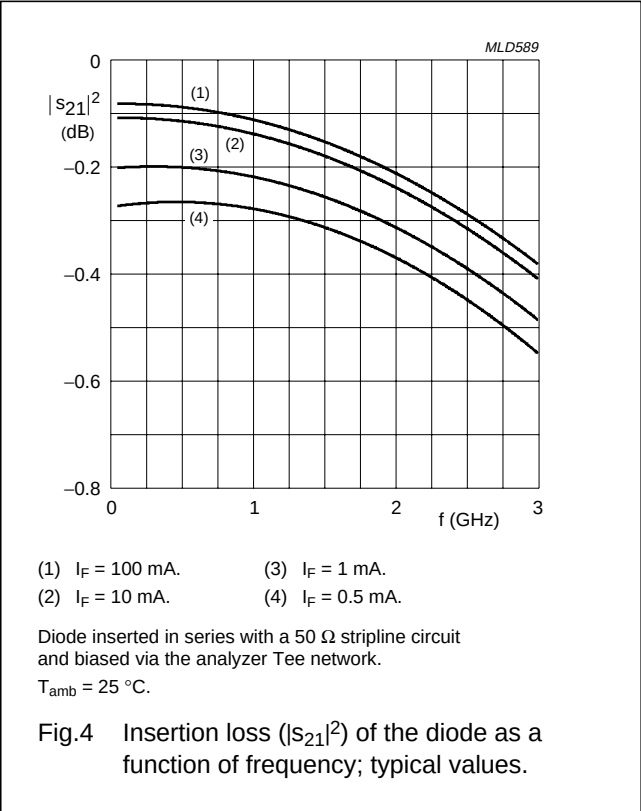
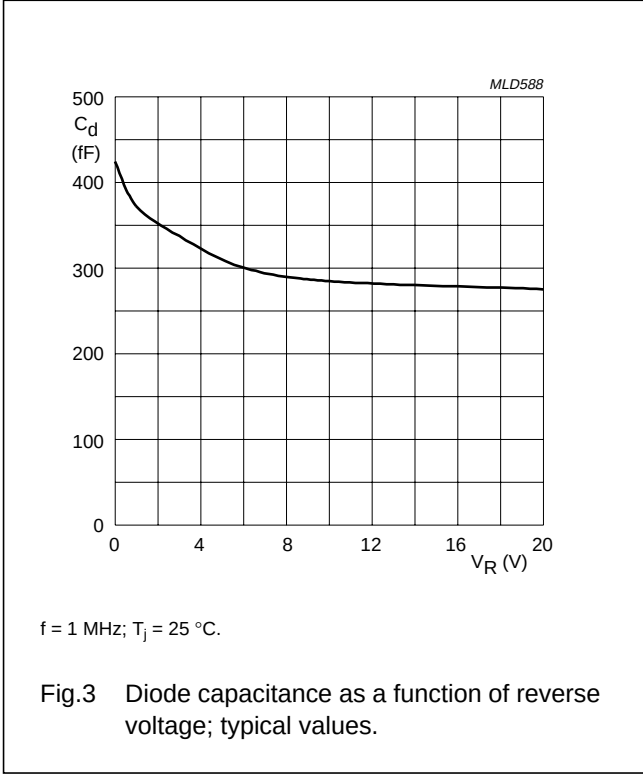
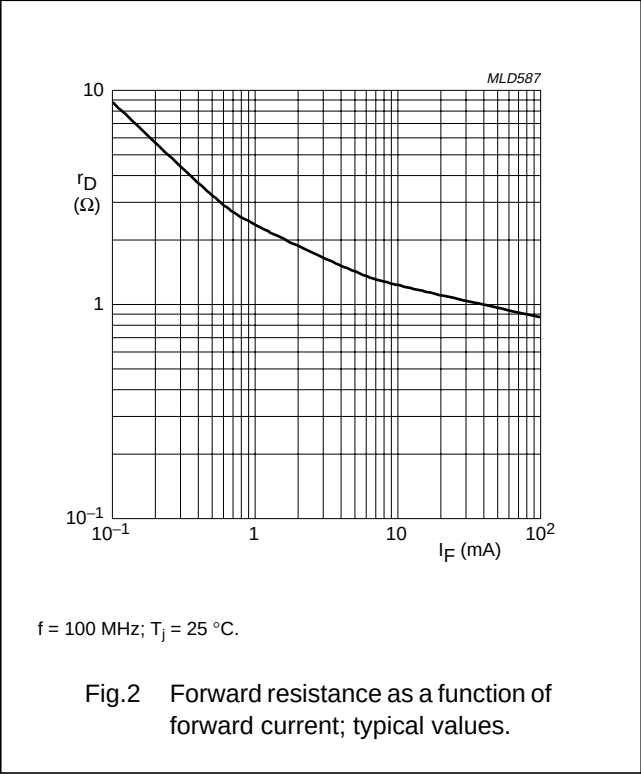
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-s}	thermal resistance from junction to soldering point	220	K/W

Silicon PIN diode

BAP1321-04

GRAPHICAL DATA



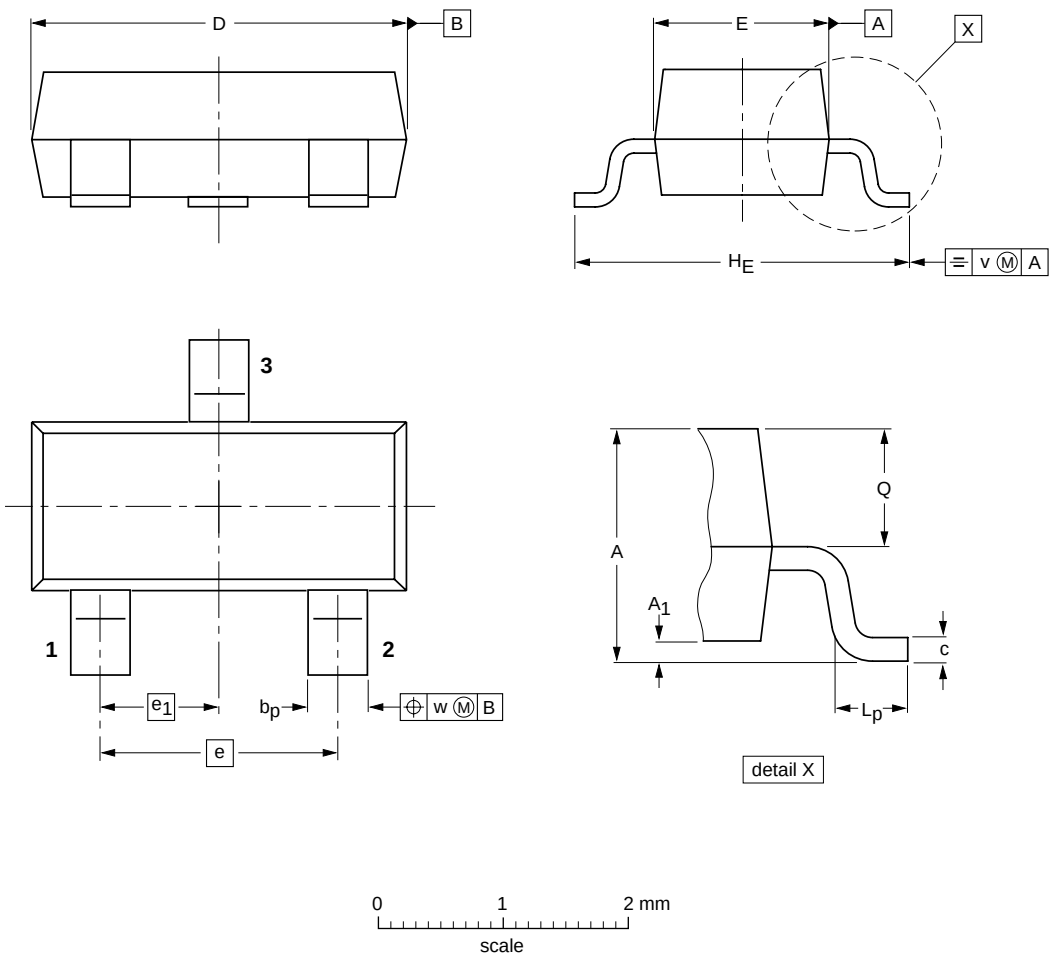
Silicon PIN diode

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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT23		TO-236AB				97-02-28 99-09-13

Silicon PIN diode

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DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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Silicon PIN diode

BAP1321-04

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