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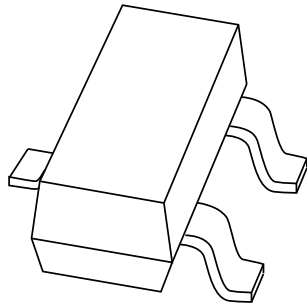
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DATA SHEET



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

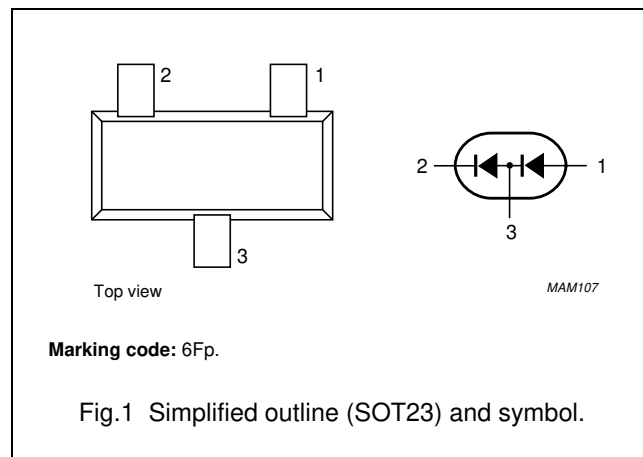
- RF attenuators and switches.

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	V _R = 0; f = 900 MHz	15.7	–	dB
		V _R = 0; f = 1800 MHz	10.5	–	dB
		V _R = 0; f = 2450 MHz	7.9	–	dB
s ₂₁ ²	insertion loss	I _F = 0.5 mA; f = 900 MHz	0.27	–	dB
		I _F = 0.5 mA; f = 1800 MHz	0.35	–	dB
		I _F = 0.5 mA; f = 2450 MHz	0.43	–	dB
s ₂₁ ²	insertion loss	I _F = 1 mA; f = 900 MHz	0.21	–	dB
		I _F = 1 mA; f = 1800 MHz	0.29	–	dB
		I _F = 1 mA; f = 2450 MHz	0.37	–	dB
s ₂₁ ²	insertion loss	I _F = 10 mA; f = 900 MHz	0.14	–	dB
		I _F = 10 mA; f = 1800 MHz	0.21	–	dB
		I _F = 10 mA; f = 2450 MHz	0.29	–	dB
s ₂₁ ²	insertion loss	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.

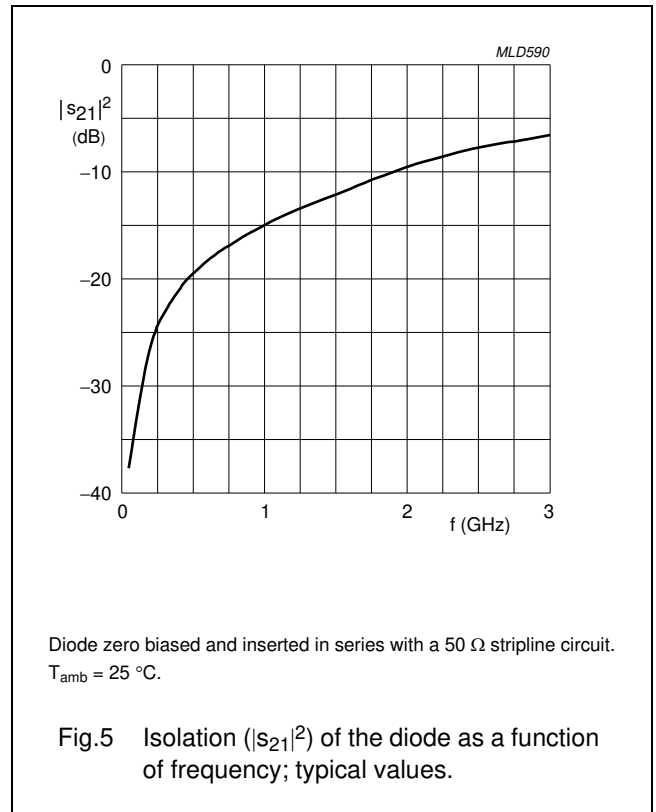
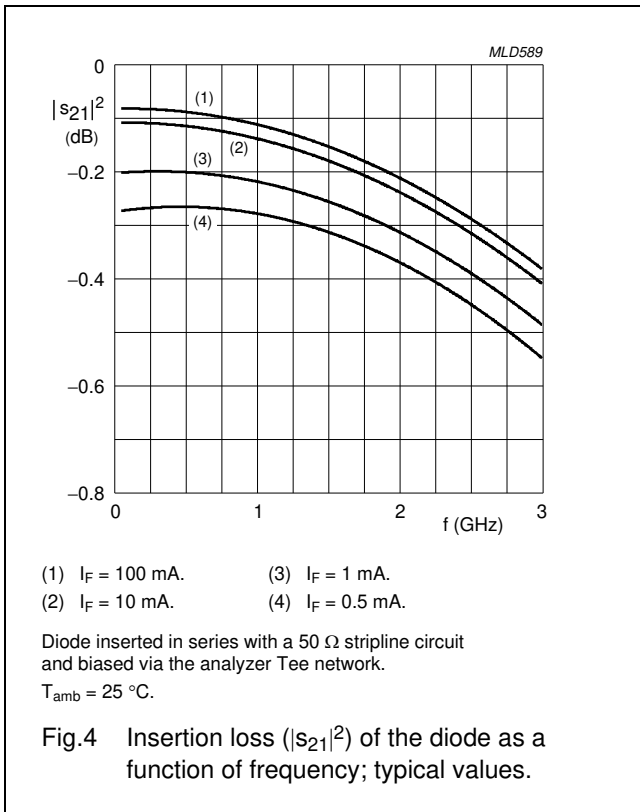
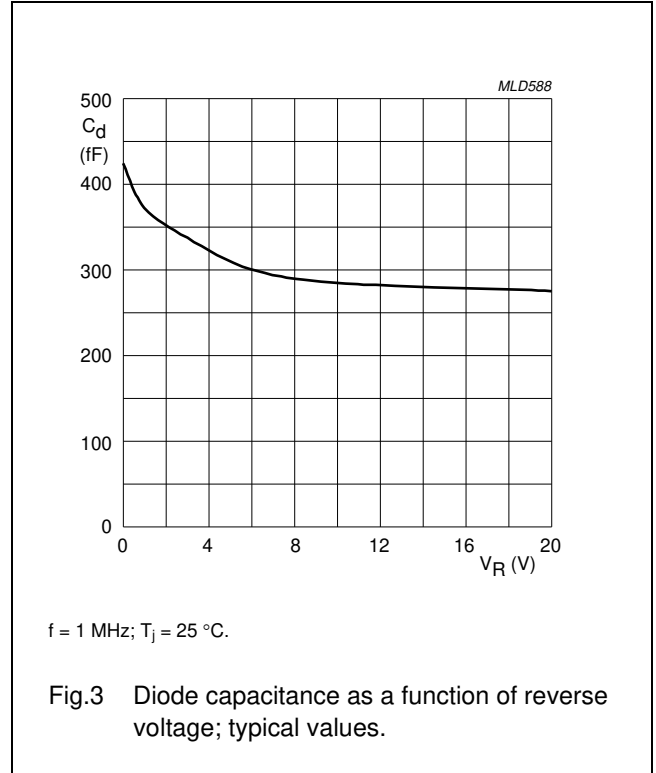
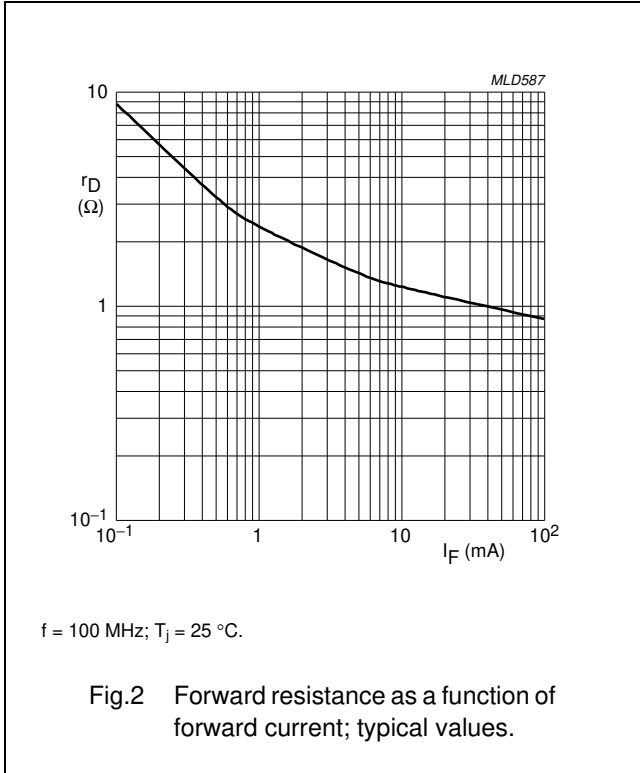
THERMAL CHARACTERISTICS

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

Silicon PIN diode

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GRAPHICAL DATA



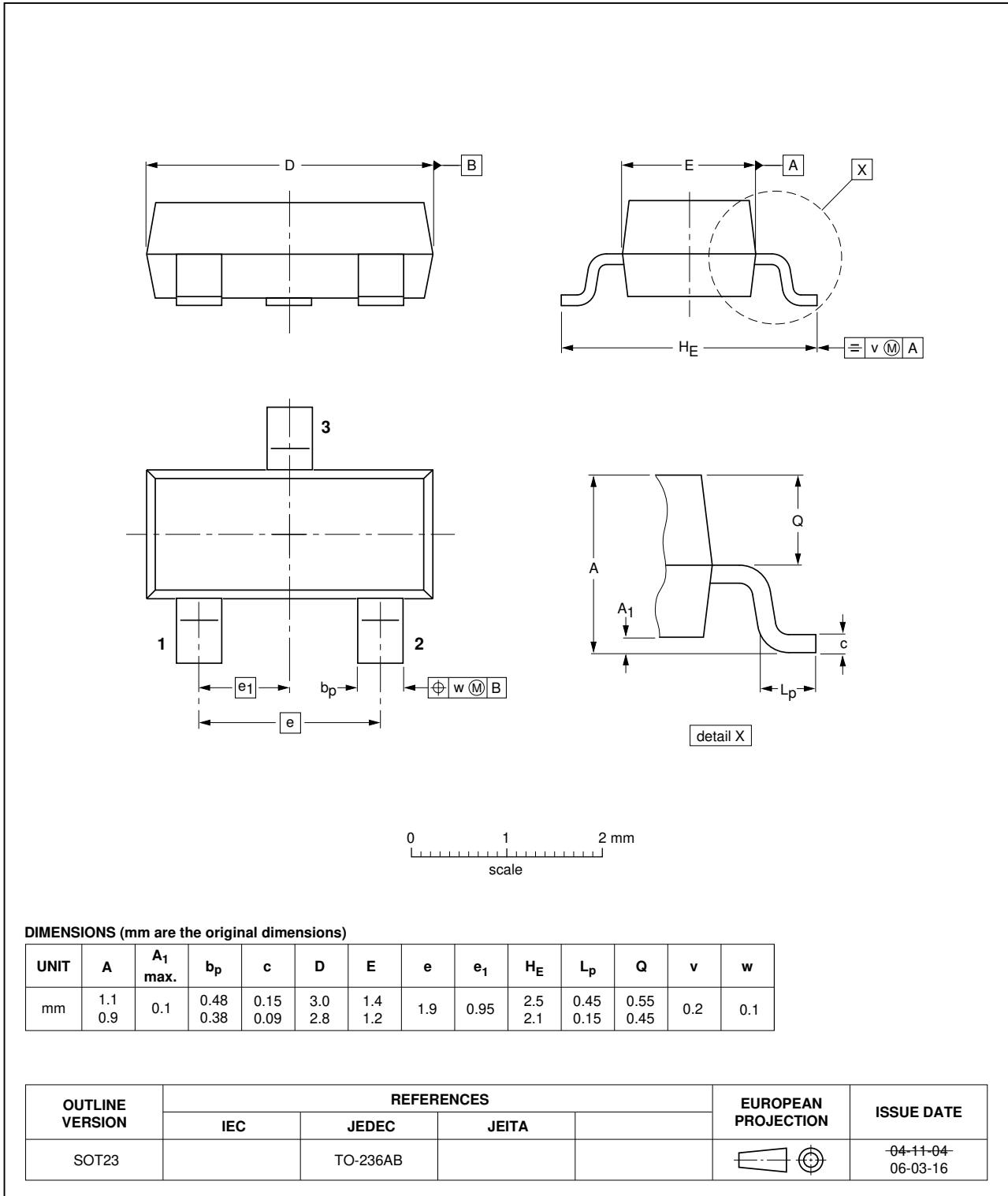
Silicon PIN diode

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PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



Silicon PIN diode

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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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Silicon PIN diode

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Contact information

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