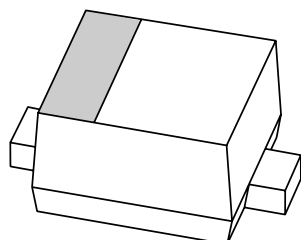


DATA SHEET



BAP63-01 Silicon PIN diode

Preliminary specification

2001 Nov 01

Silicon PIN diode

BAP63-01

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

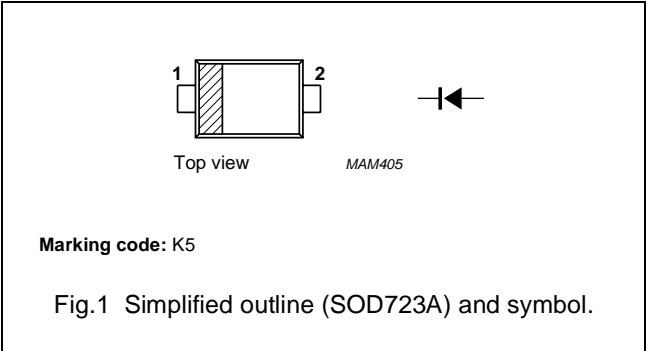
- RF attenuators and switches.

DESCRIPTION

Planar PIN diode in a 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 leakage current	V _R = 35 V	–	10	nA
C _d	diode capacitance	V _R = 0; f = 1 MHz	0.35	–	pF
		V _R = 1 V; f = 1 MHz	0.30	–	pF
		V _R = 20 V; f = 1 MHz	0.24	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	1.98	3.0	Ω
		I _F = 10 mA; f = 100 MHz; note 1	1.2	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	14.9	–	dB
		V _R = 0; f = 1800 MHz	9.7	–	dB
		V _R = 0; f = 2450 MHz	7.8	–	dB
S ₂₁ ²	insertion loss	I _F = 0.5 mA; f = 900 MHz	0.22	–	dB
		I _F = 0.5 mA; f = 1800 MHz	0.23	–	dB
		I _F = 0.5 mA; f = 2450 MHz	0.25	–	dB
S ₂₁ ²	insertion loss	I _F = 1 mA; f = 900 MHz	0.19	–	dB
		I _F = 1 mA; f = 1800 MHz	0.21	–	dB
		I _F = 1 mA; f = 2450 MHz	0.22	–	dB
S ₂₁ ²	insertion loss	I _F = 10 mA; f = 900 MHz	0.15	–	dB
		I _F = 10 mA; f = 1800 MHz	0.17	–	dB
		I _F = 10 mA; f = 2450 MHz	0.19	–	dB
S ₂₁ ²	insertion loss	I _F = 100 mA; f = 900 MHz	0.12	–	dB
		I _F = 100 mA; f = 1800 MHz	0.15	–	dB
		I _F = 100 mA; f = 2450 MHz	0.17	–	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	0.3	–	μs
L _S	series inductance		0.6	–	nH

Note

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

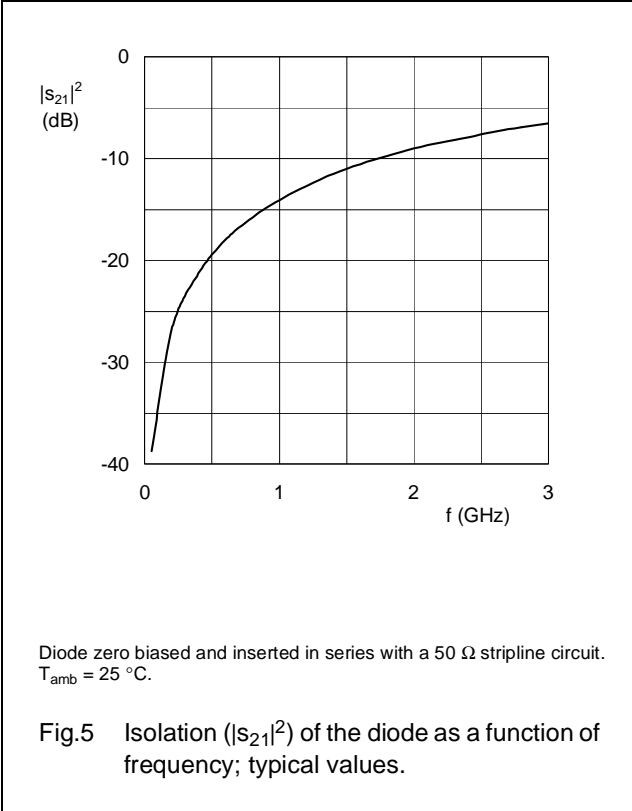
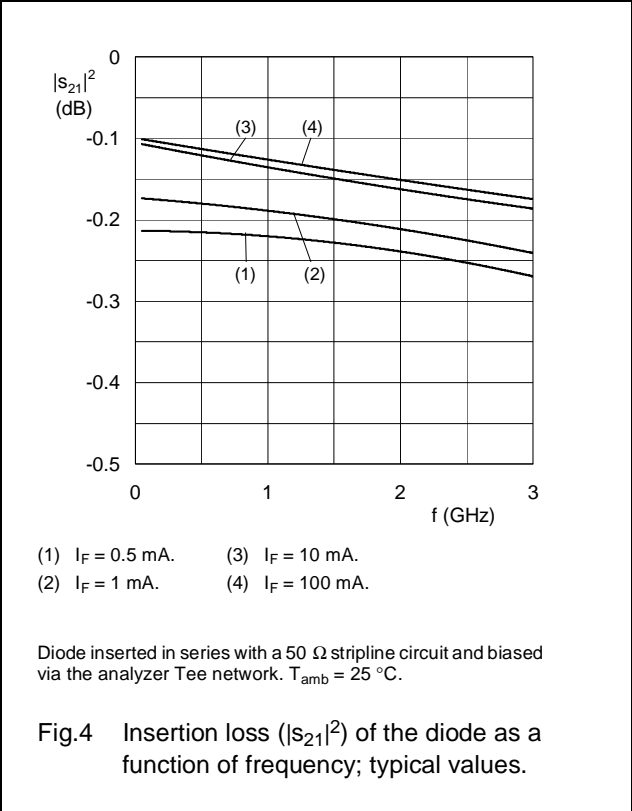
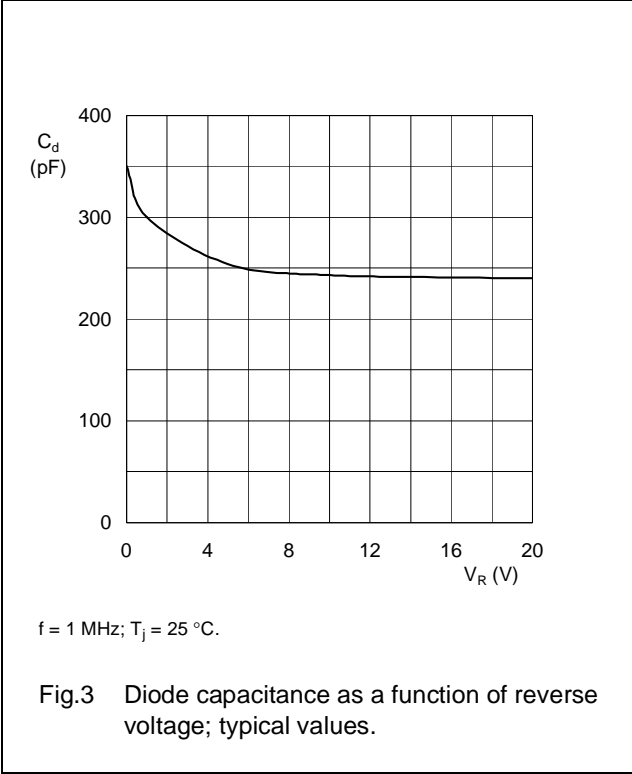
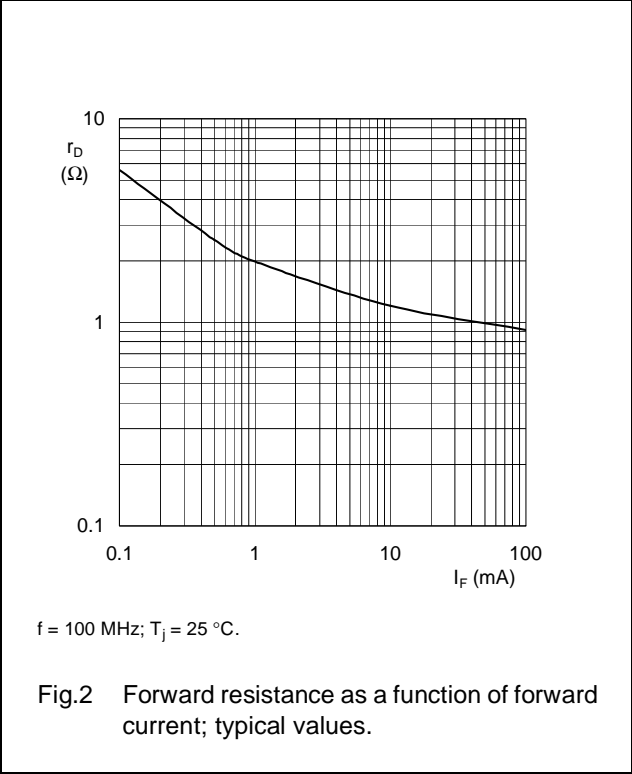
THERMAL CHARACTERISTICS

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



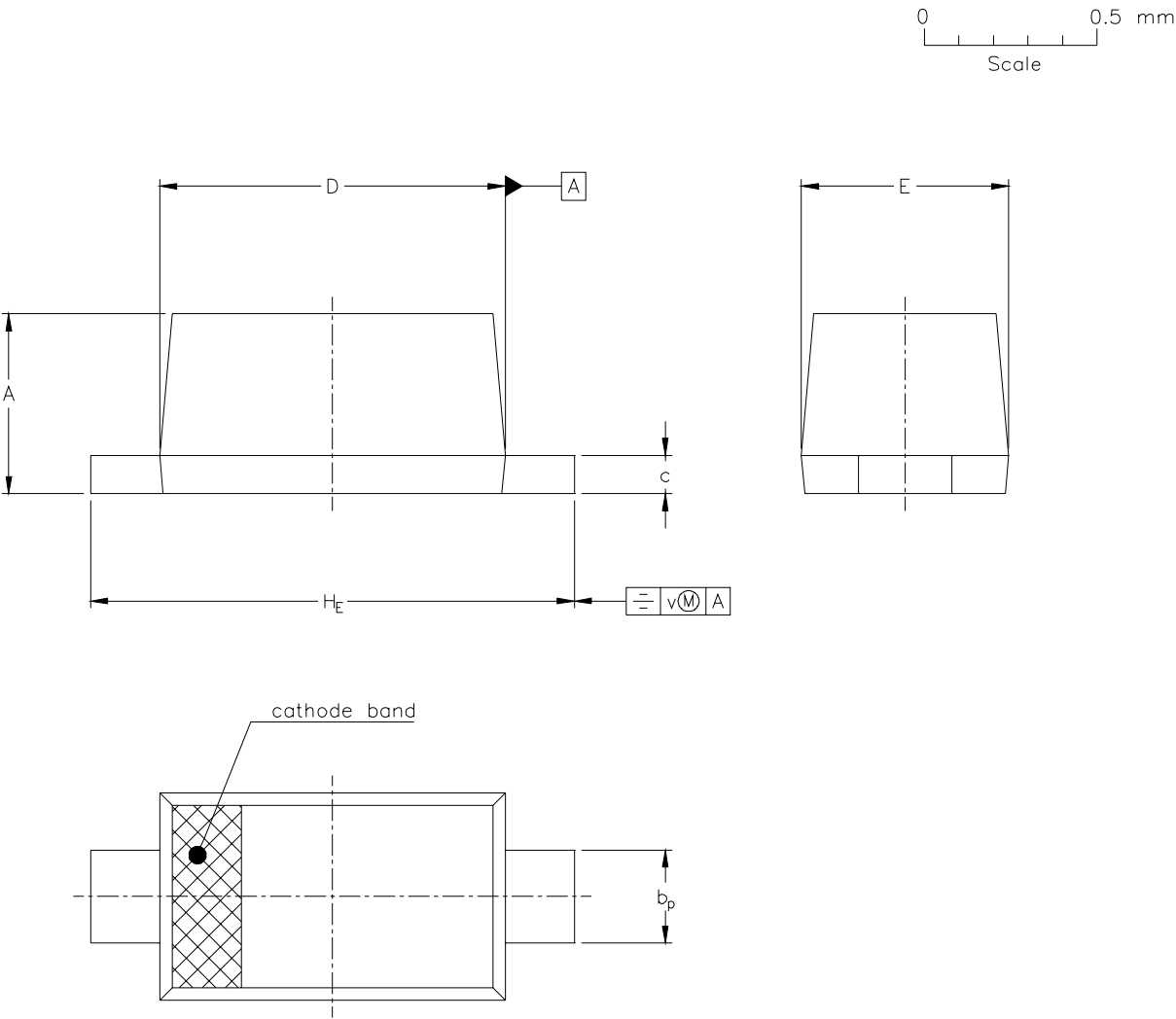
Silicon PIN diode

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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

Silicon PIN diode

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