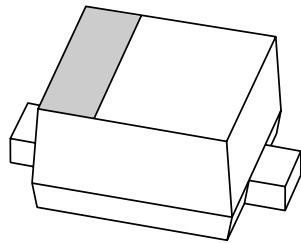


DISCRETE SEMICONDUCTORS

DATA SHEET



BAP63-02 Silicon PIN diode

Objective specification

2000 Feb 17

Philips
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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

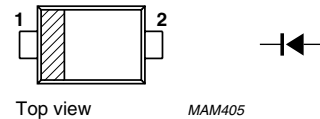
- RF attenuators and switches.

DESCRIPTION

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

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



Marking code:

Fig.1 Simplified outline (SOD523) and symbol.

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	$T_s = 90\text{ }^\circ\text{C}$	–	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	MIN.	TYP.	MAX.	UNIT
V _F	forward voltage	I _F = 100 mA	–	0.95	1.2	V
I _R	reverse leakage current	V _R = 35 V	–	–	10	μA
		V _R = 20 V	–	–	1	μA
C _d	diode capacitance	V _R = 0; f = 100 MHz	–	0.3	–	pF
		V _R = 5 V; f = 1 MHz	–	0.21	0.3	pF
r _D	diode forward resistance	I _F = 5 mA; f = 100 MHz; note 1	–	1.2	2	Ω
		I _F = 10 mA; f = 100 MHz; note 1	–	1	–	Ω
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	–	75	–	ns
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	85	K/W

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

DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

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