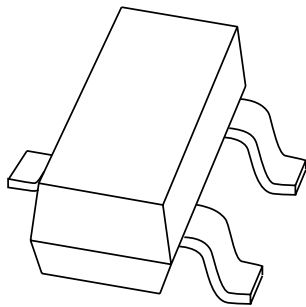


DATA SHEET



BAP64-05 Silicon PIN diode

Preliminary specification

1999 Jun 16

Silicon PIN diode

BAP64-05

FEATURES

- High voltage, current controlled
- RF resistor for RF attenuators and switches
- Low diode capacitance
- Low diode forward resistance
- Low series inductance
- For applications up to 3 GHz.

APPLICATIONS

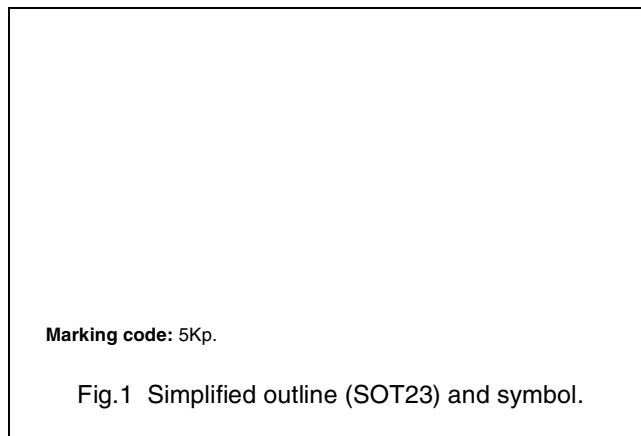
- RF attenuators and switches.

DESCRIPTION

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

PINNING

PIN	DESCRIPTION
1	anode (a1)
2	anode (a2)
3	common cathode



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per diode					
V _R	continuous reverse voltage		–	175	V
I _F	continuous forward current		–	100	mA
P _{tot}	total power dissipation	T _s = 90 °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 CHARACTERISTICS $T_j = 25\text{ °C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Per diode						
V_F	forward voltage	$I_F = 50\text{ mA}$	–	0.95	1.1	V
I_R	reverse leakage current	$V_R = 175\text{ V}$	–	–	10	μA
		$V_R = 20\text{ V}$	–	–	1	μA
C_d	diode capacitance	$V_R = 0; f = 1\text{ MHz}$	–	0.52	–	pF
		$V_R = 1\text{ V}; f = 1\text{ MHz}$	–	0.37	0.5	pF
		$V_R = 20\text{ V}; f = 1\text{ MHz}$	–	0.23	0.35	pF
r_D	diode forward resistance	$I_F = 0.5\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	–	20	40	Ω
		$I_F = 1\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	–	10	20	Ω
		$I_F = 10\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	–	2	3.8	Ω
		$I_F = 100\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	–	0.7	1.35	Ω
τ_L	charge carrier life time	when switched from $I_F = 10\text{ mA}$ to $I_R = 6\text{ mA}; R_L = 100\ \Omega$; measured at $I_R = 3\text{ mA}$	–	1.55	–	μs
L_S	series inductance		–	1.4	–	nH

Note

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

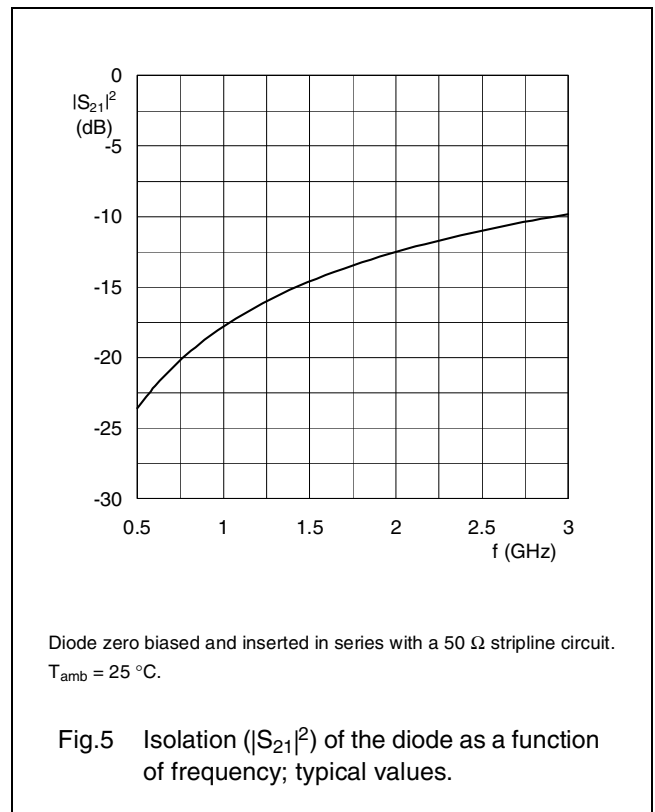
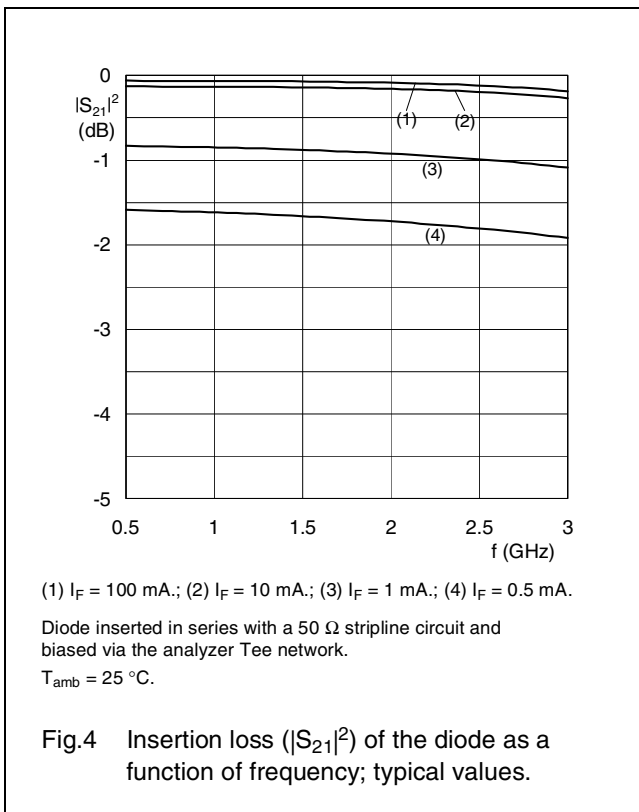
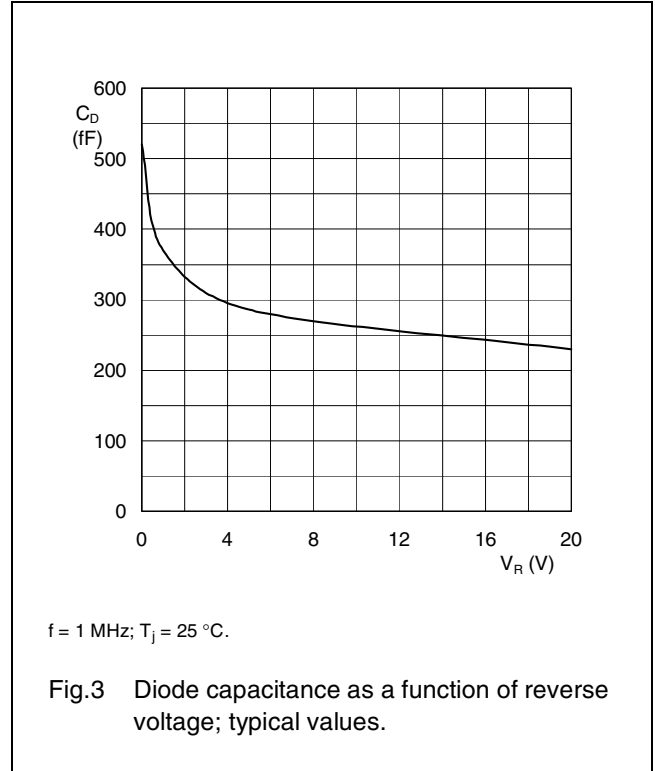
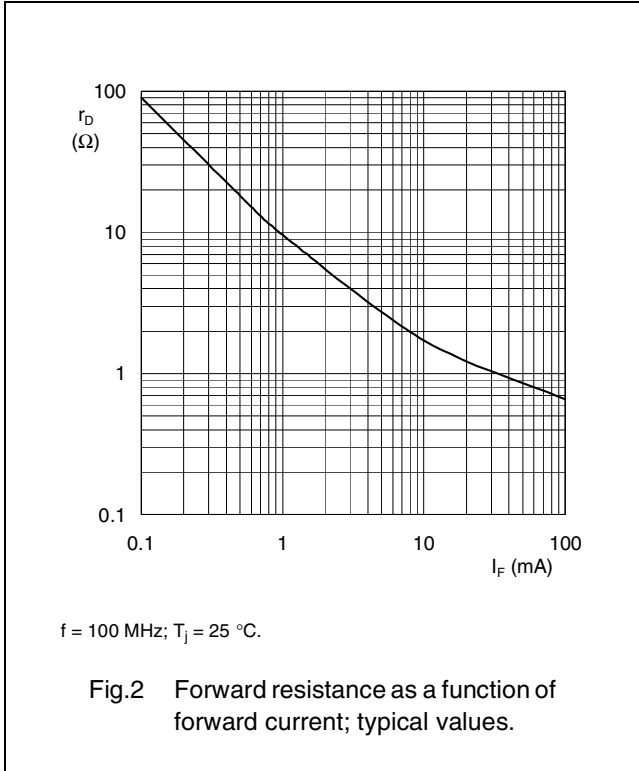
THERMAL CHARACTERISTICS

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

Silicon PIN diode

BAP64-05

GRAPHICAL DATA



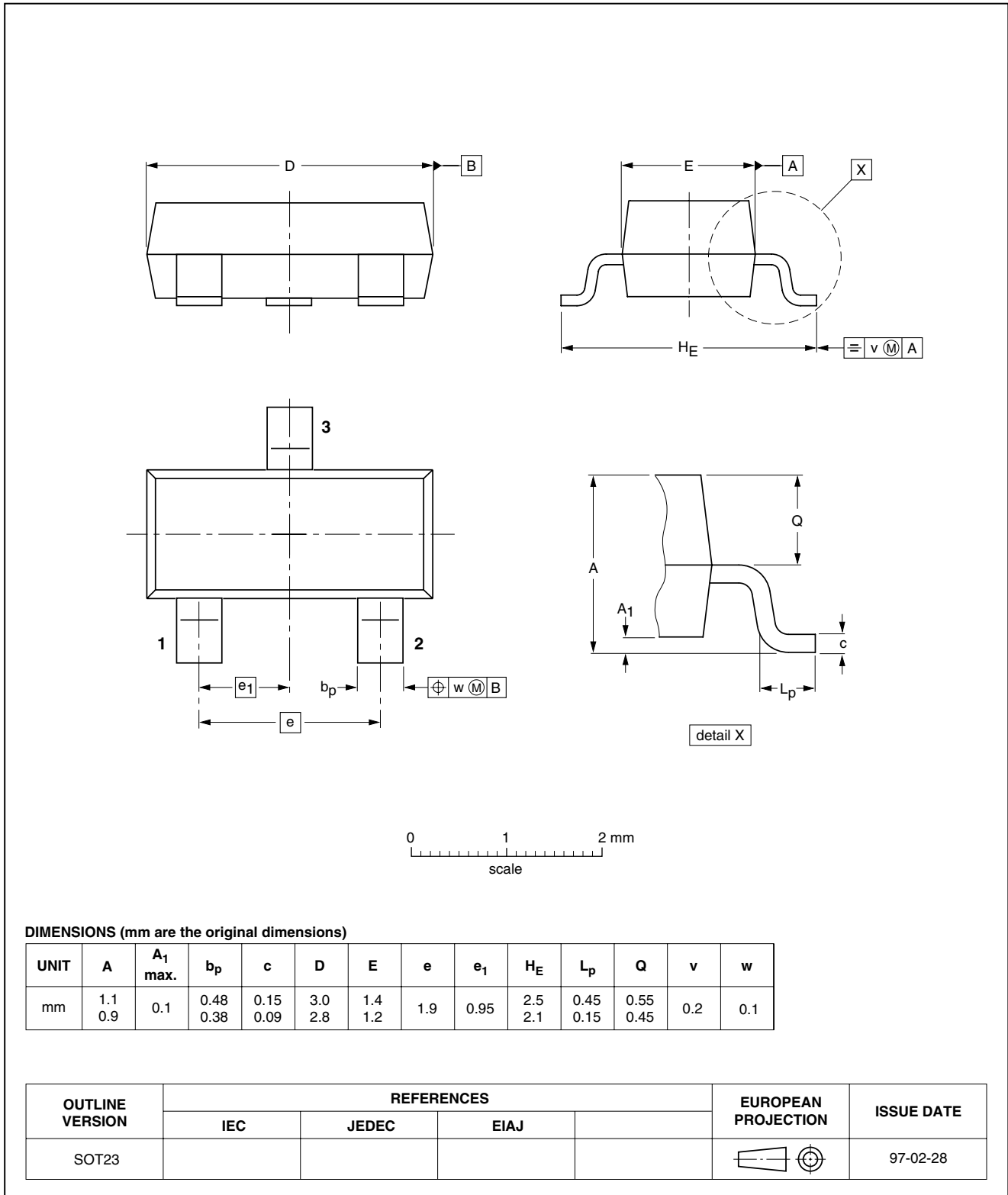
Silicon PIN diode

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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



Silicon PIN diode

BAP64-05

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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