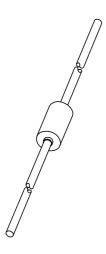
DISCRETE SEMICONDUCTORS

DATA SHEET



BZV37Bidirectional voltage regulator diode

Product specification Supersedes data of April 1992 1996 Apr 26





Bidirectional voltage regulator diode

BZV37

FEATURES

Low total power dissipation: max. 400 mW

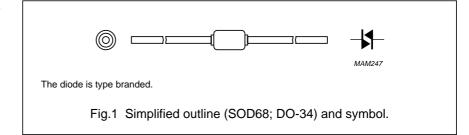
- Working voltage: nom. 6.5 V
- Non-repetitive peak reverse power dissipation: max. 40 W
- Bidirectional.

APPLICATIONS

• Voltage stabilizer and transient protection element.

DESCRIPTION

Low-power voltage regulator diode in an hermetically sealed leaded glass SOD68 (DO-34) package.



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I _Z	continuous working current		_	50	mA
I _{ZSM}	non-repetitive peak reverse current	$t = 30 \text{ s}; t_1 = 8 \mu\text{s}; t_2 = 20 \mu\text{s};$ $T_j = 25 \text{ °C prior to surge}; \text{ see Fig.3}$	_	7	А
		$t = 30 \text{ s}; t_1 = 10 \mu\text{s}; t_2 = 1000 \mu\text{s};$ $T_j = 25 \text{ °C prior to surge}; \text{ see Fig.3}$	_	2	А
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C	_	400	mW
P _{ZSM}	non-repetitive peak reverse power dissipation	t_p = 100 μs square wave; T_j = 25 °C prior to surge; see Fig.2	_	40	W
T _{stg}	storage temperature		-65	+200	°C
Tj	junction temperature		_	200	°C

ELECTRICAL CHARACTERISTICS

 $T_i = 25$ °C; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	NOM.	MAX.	UNIT
Vz	working voltage	I _{Ztest} = 5 mA	6.2	6.5	6.8	V
V _{(CL)R}	clamping voltage	$I_{ZSM} = 7 \text{ A}; t_1 = 8 \mu\text{s}; t_2 = 20 \mu\text{s}$	_	_	25	V
		$I_{ZSM} = 2 \text{ A}; t_1 = 10 \mu\text{s};$ $t_2 = 1000 \mu\text{s}$	-	-	15	V
r _{diff}	differential resistance	I _{Ztest} = 5 mA	_	_	20	Ω
Sz	temperature coefficient	I _{Ztest} = 5 mA	-	-	0.1	%/K
C _d	diode capacitance	V _R = 0 V	_	_	150	pF
I _R	reverse current	V _R = 4 V	_	_	10	μΑ
		V _R = 4 V; T _j = 150 °C	ı	ı	30	μΑ
		V _R = 2 V	_	_	3	μΑ

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Philips Semiconductors Product specification

Bidirectional voltage regulator diode

BZV37

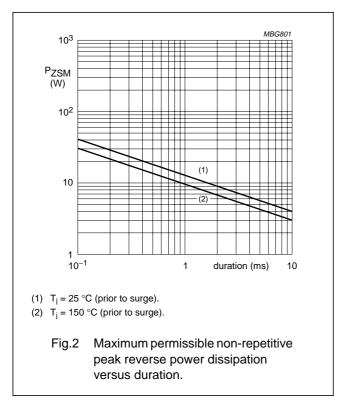
THERMAL CHARACTERISTICS

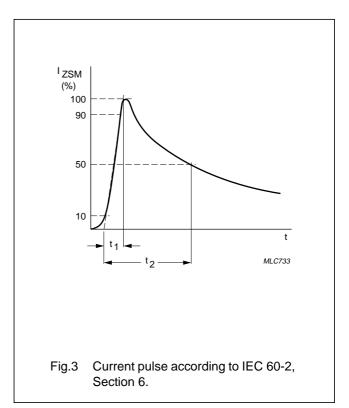
SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{th j-tp}	thermal resistance from junction to tie-point	lead length 8 mm	300	K/W
R _{th j-a}	thermal resistance from junction to ambient	lead length max.; note 1	380	K/W

Note

1. Device mounted on a printed circuit-board without metallization pad.

GRAPHICAL DATA





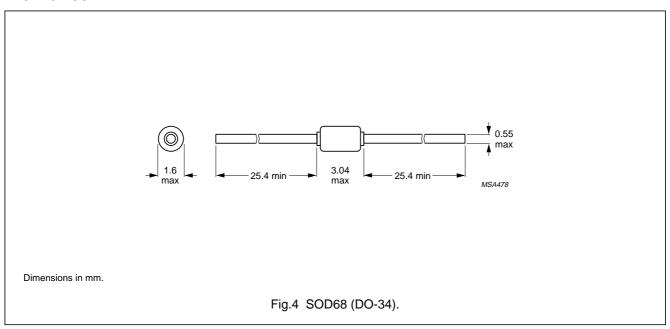
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Philips Semiconductors Product specification

Bidirectional voltage regulator diode

BZV37

PACKAGE OUTLINE



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

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.

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

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