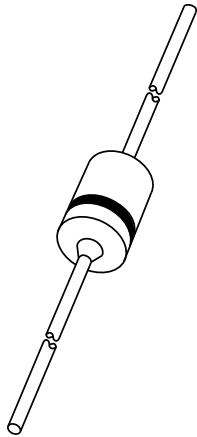


DATA SHEET



BA314

Low-voltage stabistor

Product specification
Supersedes data of April 1992
File under Discrete Semiconductors, SC01

1996 Mar 21

Low-voltage stabistor

BA314

FEATURES

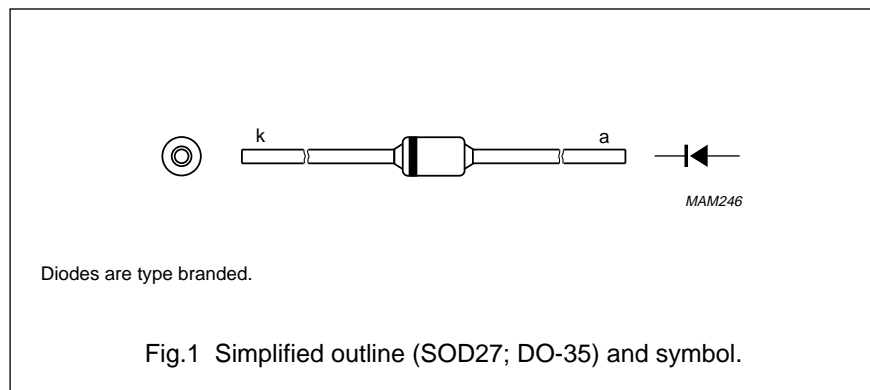
- Low-voltage stabilization
- Forward voltage range: 610 mV to 940 mV
- Total power dissipation: max. 400 mW.

APPLICATIONS

- Low-voltage stabilization e.g.
 - Bias stabilizer in class-B output stages
 - Clipping
 - Clamping
 - Meter protection.

DESCRIPTION

Low-voltage stabilization diode in a hermetically-sealed SOD27 (DO-35) glass package.



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_R	continuous reverse voltage		–	5	V
I_F	continuous forward current		–	200	mA
P_{tot}	total power dissipation	$T_{amb} = 25\text{ °C}$	–	400	mW
T_{stg}	storage temperature		–65	+200	°C
T_j	junction temperature		–	200	°C

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ELECTRICAL CHARACTERISTICS $T_j = 25\text{ °C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_F	forward voltage	see Fig.2				
		$I_F = 0.1\text{ mA}$	610	–	690	mV
		$I_F = 1\text{ mA}$	680	–	760	mV
		$I_F = 5\text{ mA}$	730	–	810	mV
		$I_F = 10\text{ mA}$	750	–	830	mV
		$I_F = 100\text{ mA}$	850	–	940	mV
I_R	reverse current	$V_R = 4\text{ V}$	–	–	5	μA
r_{dif}	differential resistance	$I_F = 1\text{ mA}; f = 1\text{ kHz}$	–	30	–	Ω
		$I_F = 10\text{ mA}; f = 1\text{ kHz}$	–	3.5	6	Ω
S_F	temperature coefficient	$I_F = 1\text{ mA}$	–	–1.8	–	mV/K
C_d	diode capacitance	$V_R = 0\text{ V}; f = 1\text{ MHz}$	–	–	140	pF

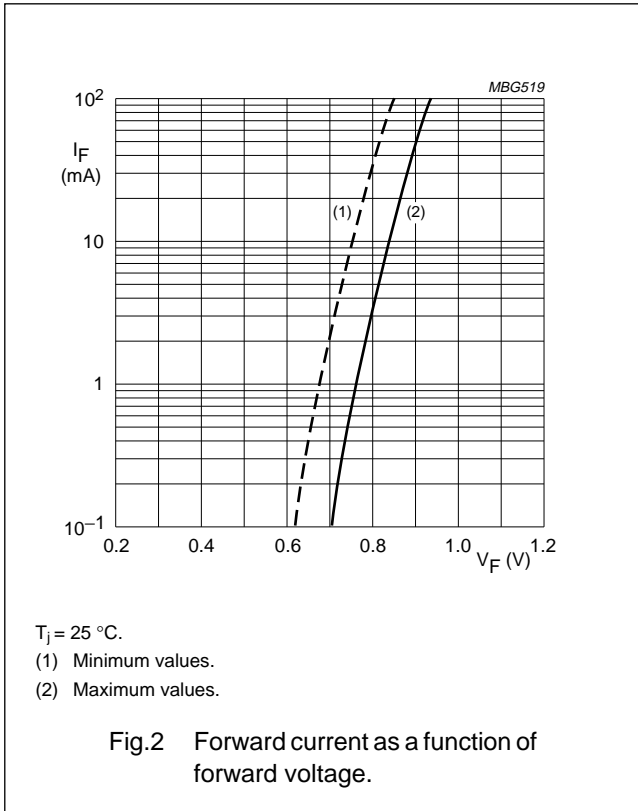
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-tp}$	thermal resistance from junction to tie-point	8 mm from the body	300	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	lead length 10 mm	380	K/W

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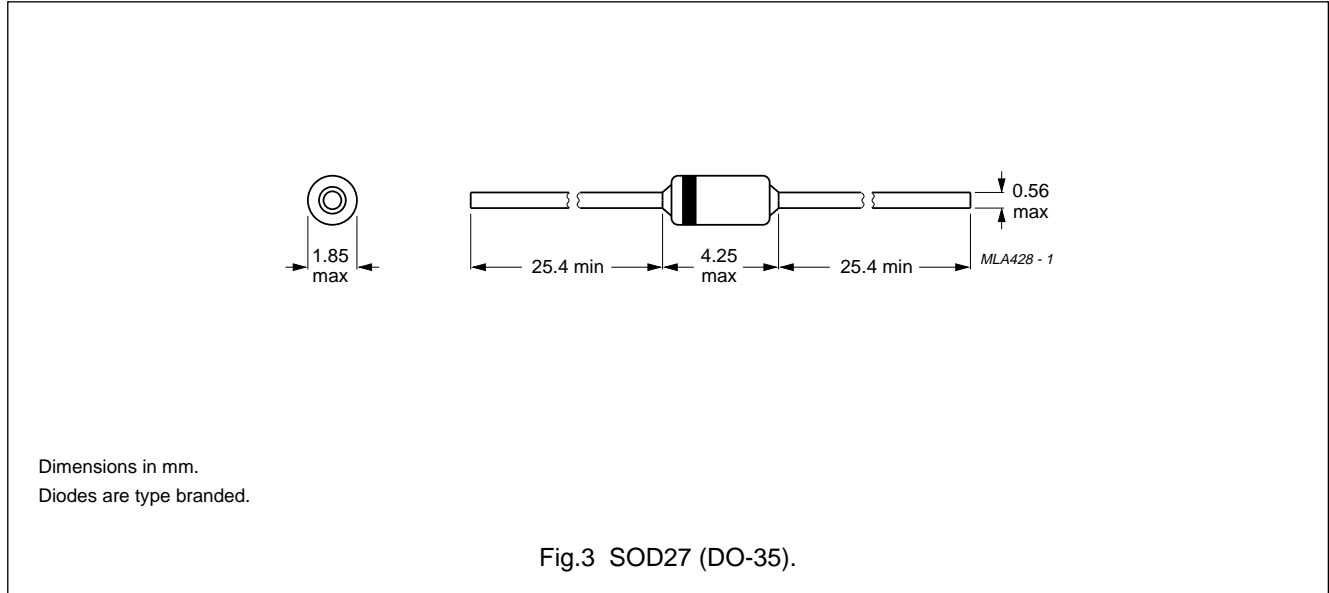
GRAPHICAL DATA



Low-voltage stabistor

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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 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.