

# Low-voltage stabistor

# BA315

### FEATURES

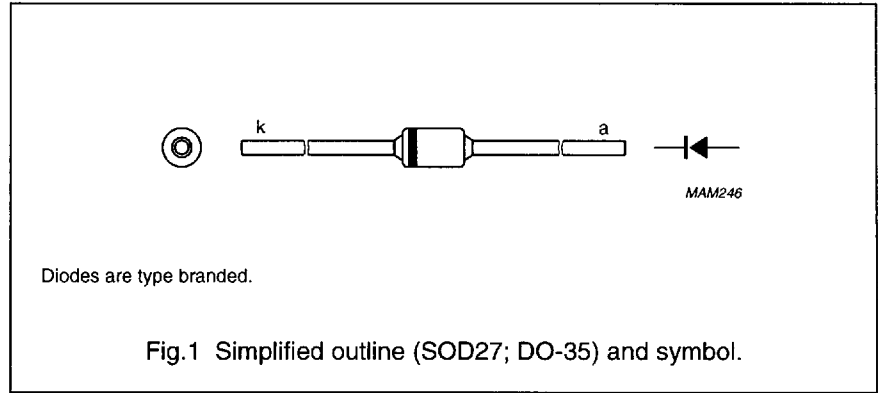
- Low-voltage stabilization
- Forward voltage range:  
480 mV to 1050 mV
- Total power dissipation:  
max. 350 mW.

### 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		–	100	mA
$P_{tot}$	total power dissipation	$T_{amb} = 25\text{ }^\circ\text{C}$	–	350	mW
$T_{stg}$	storage temperature		–65	+200	$^\circ\text{C}$
$T_j$	junction temperature		–	200	$^\circ\text{C}$

## Low-voltage stabistor

BA315

**ELECTRICAL CHARACTERISTICS** $T_j = 25\text{ }^\circ\text{C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_F$	forward voltage	see Fig.2				
		$I_F = 0.1\text{ mA}$	480	–	540	mV
		$I_F = 1\text{ mA}$	590	–	660	mV
		$I_F = 5\text{ mA}$	670	–	740	mV
		$I_F = 10\text{ mA}$	710	–	790	mV
		$I_F = 100\text{ mA}$	875	–	1050	mV
$I_R$	reverse current	$V_R = 5\text{ V}$	–	–	1500	nA
$r_{dif}$	differential resistance	$I_F = 1\text{ mA}; f = 1\text{ kHz}$	–	50	–	$\Omega$
		$I_F = 10\text{ mA}; f = 1\text{ kHz}$	–	6	7	$\Omega$
$S_F$	temperature coefficient	$I_F = 1\text{ mA}$	–	-2.1	–	mV/K
$C_d$	diode capacitance	$V_R = 0\text{ V}; f = 1\text{ MHz}$	–	–	3	pF

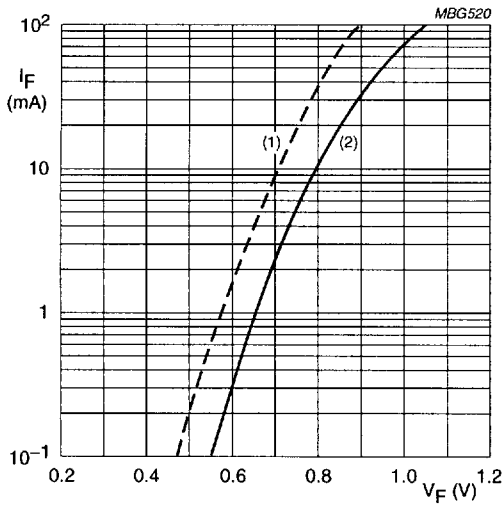
**THERMAL CHARACTERISTICS**

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	maximum lead length	600	K/W

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## GRAPHICAL DATA



$T_j = 25^\circ\text{C}$ .

(1) Minimum values.

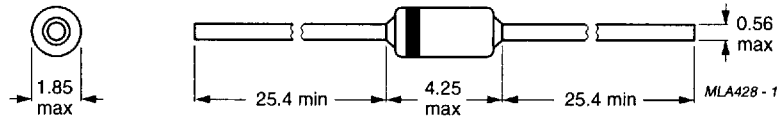
(2) Maximum values.

Fig.2 Forward current as a function of forward voltage.

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BA315

PACKAGE OUTLINE



Dimensions in mm.  
Diodes are type branded.

Fig.3 SOD27 (DO-35).

DEFINITIONS

<b>Data sheet status</b>	
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.
<b>Limiting values</b>	
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.	
<b>Application information</b>	
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.