



FUKUCOM COMPANY LTD.

福 靈 有 限 公 司

FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,  
KWUN TONG, KOWLOON, HONG KONG.  
TEL: 2790-0314 FAX: 2790-0206

Philips Semiconductors

Product specification

## General purpose diodes

## BAV20; BAV21

### FEATURES

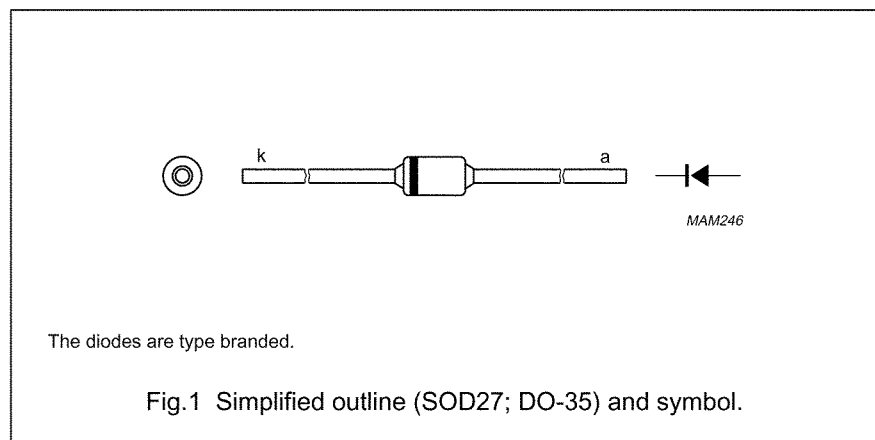
- Hermetically sealed leaded glass SOD27 (DO-35) package
- Switching speed: max. 50 ns
- General application
- Continuous reverse voltage: max. 150 V, 200 V
- Repetitive peak reverse voltage: max. 200 V, 250 V
- Repetitive peak forward current: max. 625 mA.

### APPLICATIONS

- General purposes in industrial equipment e.g. oscilloscopes, digital voltmeters and video output stages in colour television.

### DESCRIPTION

The BAV20 and BAV21 are switching diodes fabricated in planar technology, and encapsulated in hermetically sealed leaded glass SOD27 (DO-35) packages.





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### LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{RRM}$	repetitive peak reverse voltage				
	BAV20		–	200	V
	BAV21		–	250	V
$V_R$	continuous peak reverse voltage				
	BAV20		–	150	V
	BAV21		–	200	V
$I_F$	continuous forward current	see Fig.2; note 1	–	250	mA
$I_{FRM}$	repetitive peak forward current		–	625	mA
$I_{FSM}$	non-repetitive peak forward current	square wave; $T_j = 25\text{ }^\circ\text{C}$ prior to surge; see Fig.4			
		$t = 1\text{ }\mu\text{s}$	–	9	A
		$t = 100\text{ }\mu\text{s}$	–	3	A
		$t = 1\text{ s}$	–	1	A
$P_{tot}$	total power dissipation	$T_{amb} = 25\text{ }^\circ\text{C}$ ; note 1	–	400	mW
$T_{stg}$	storage temperature		–65	+175	$^\circ\text{C}$
$T_j$	junction temperature		–	175	$^\circ\text{C}$

### Note

1. Device mounted on an FR4 printed circuit-board; lead length 10 mm.



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**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_F$	forward voltage	see Fig.3 $I_F = 100\text{ mA}$	–	1.0	V
		$I_F = 200\text{ mA}$	–	1.25	V
$I_R$	reverse current	see Fig.5 $V_R = V_{Rmax}$	–	100	nA
		$V_R = V_{Rmax}; T_j = 150\text{ }^\circ\text{C}$	–	100	$\mu\text{A}$
$C_d$	diode capacitance	$f = 1\text{ MHz}; V_R = 0$ ; see Fig.6	–	5	pF
$t_{rr}$	reverse recovery time	when switched from $I_F = 30\text{ mA}$ to $I_R = 30\text{ mA}; R_L = 100\ \Omega$ ; measured at $I_R = 3\text{ mA}$ ; see Fig.8	–	50	ns

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-tp}$	thermal resistance from junction to tie-point	lead length 10 mm	240	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	lead length 10 mm; note 1	375	K/W

**Note**

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



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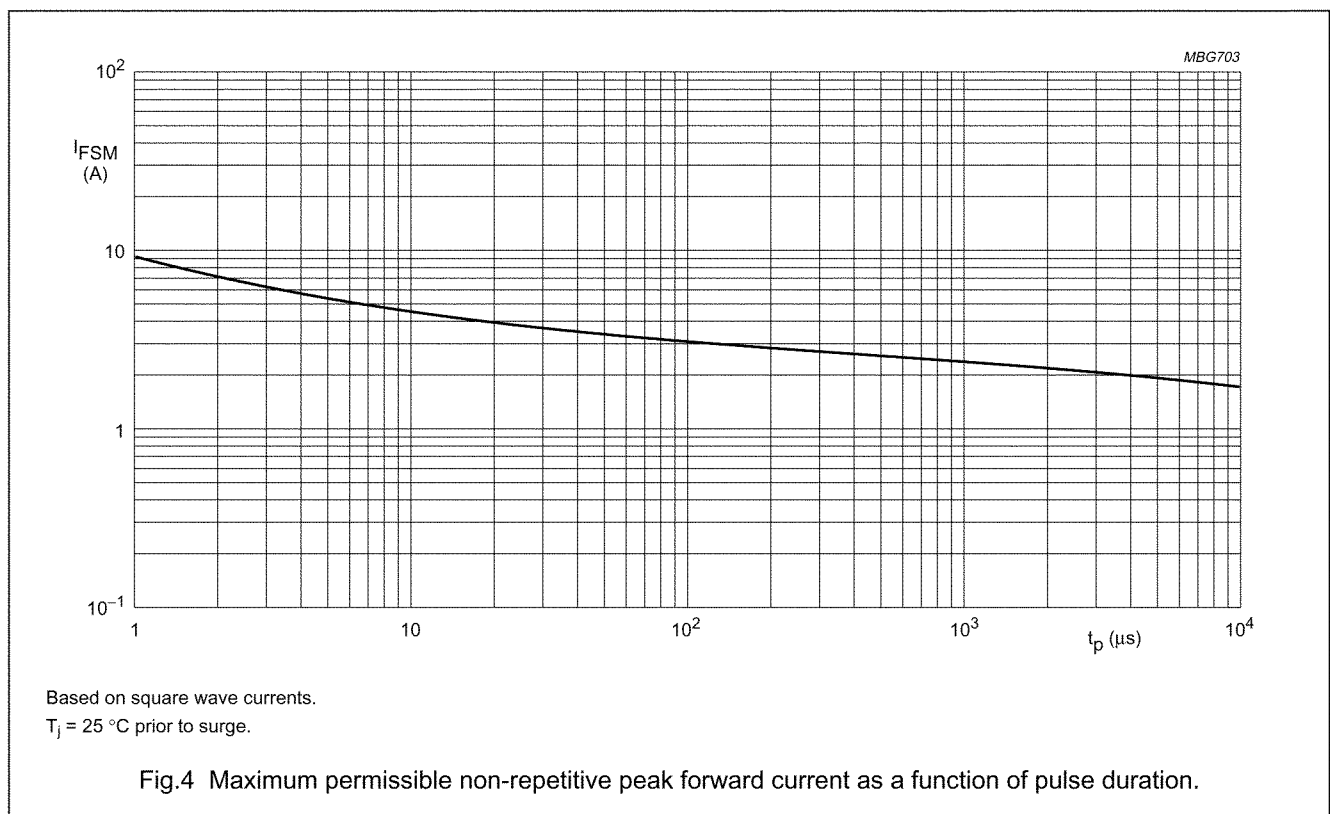
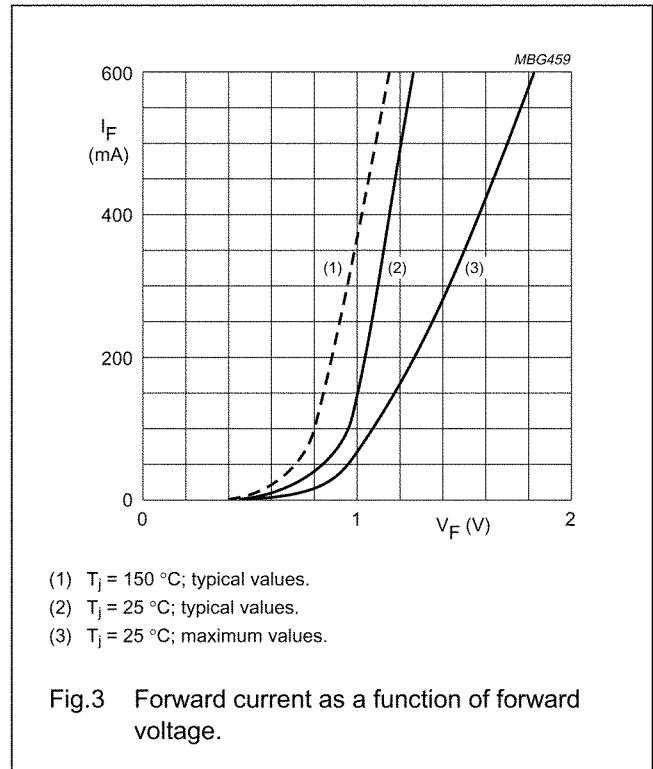
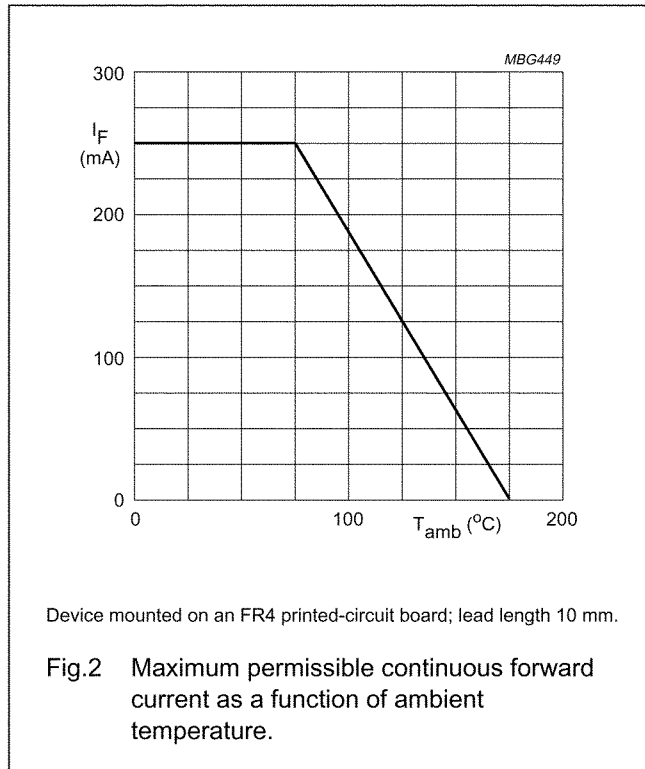
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GRAPHICAL DATA





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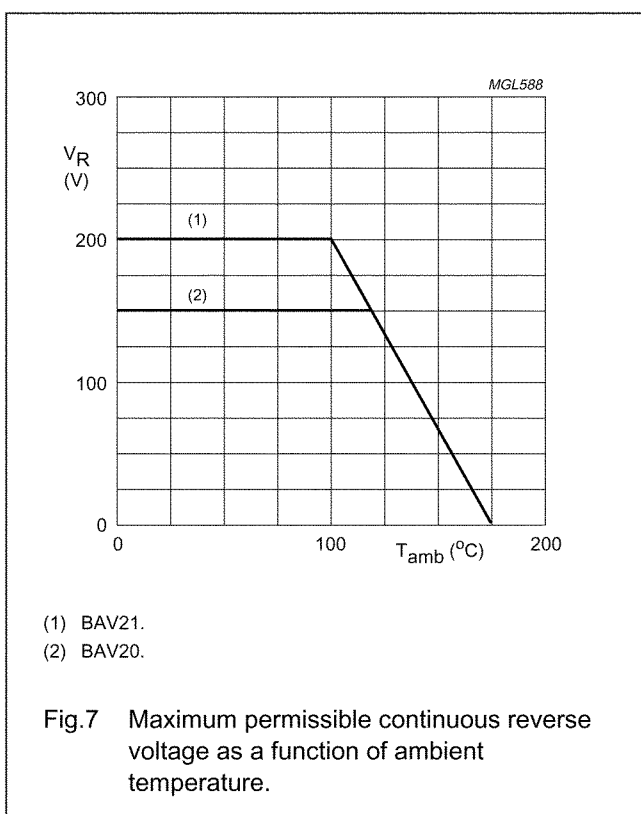
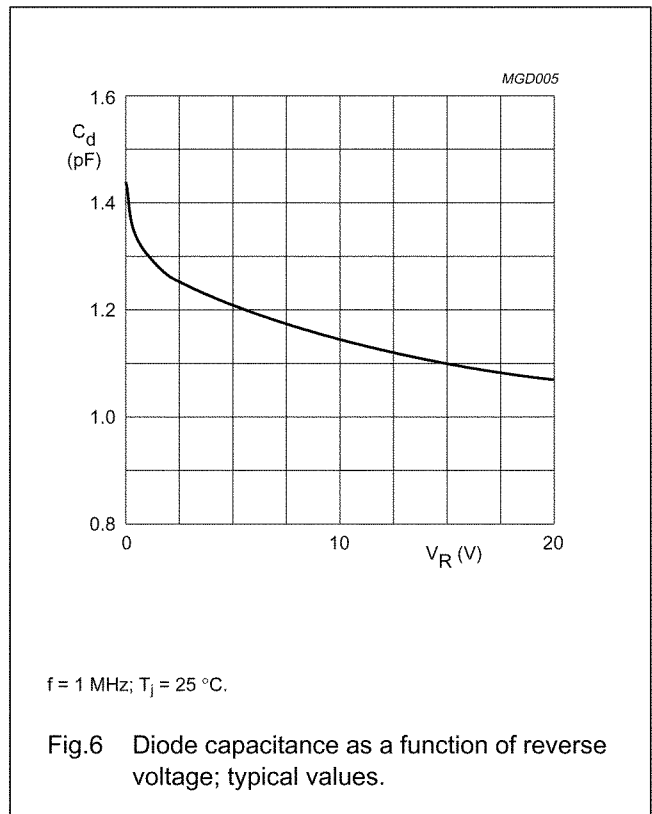
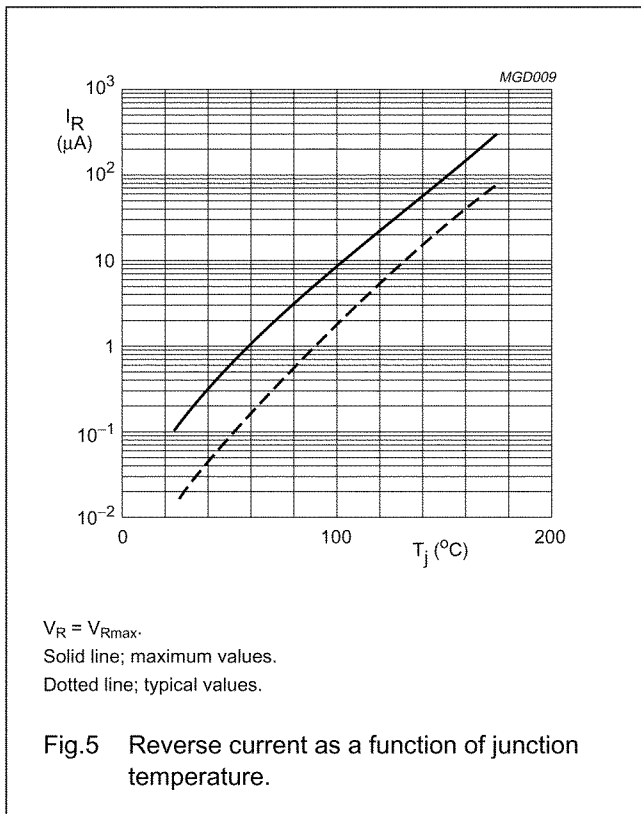
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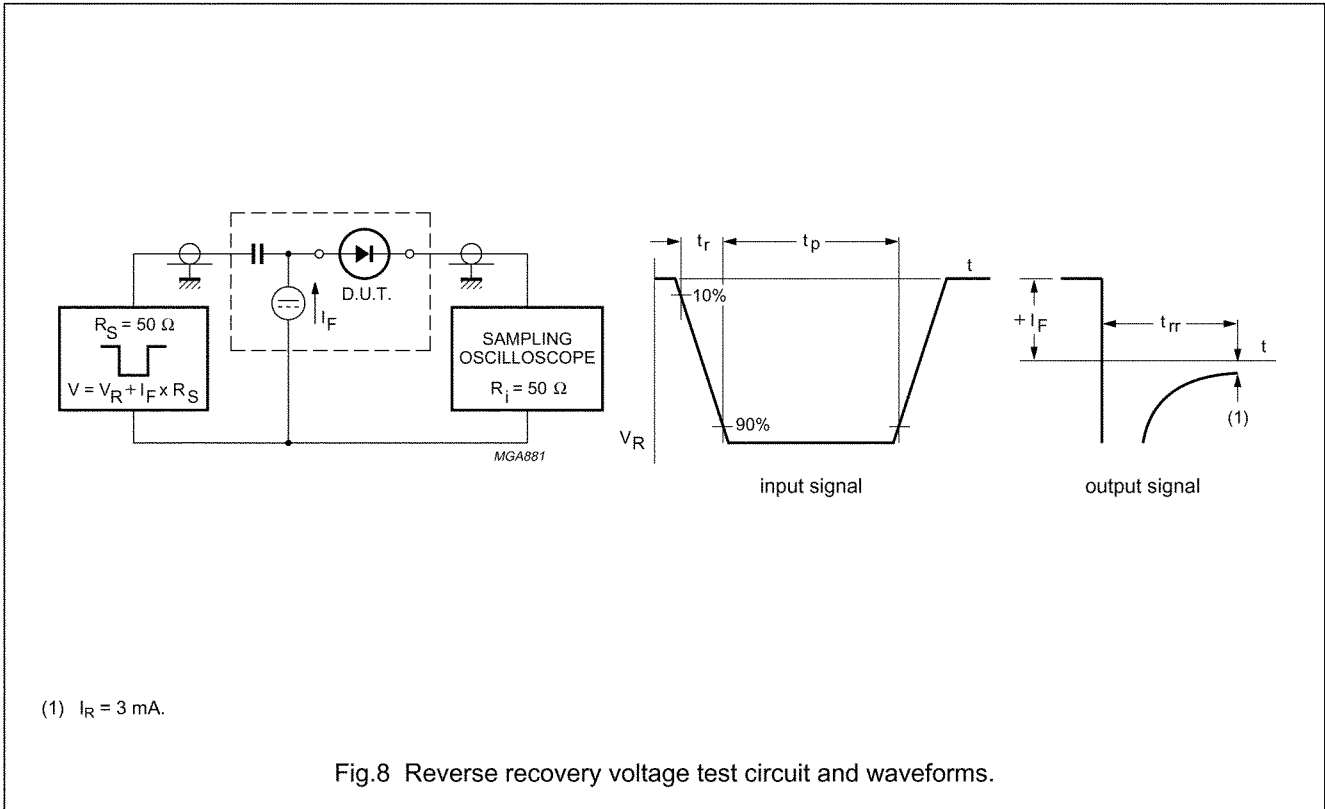
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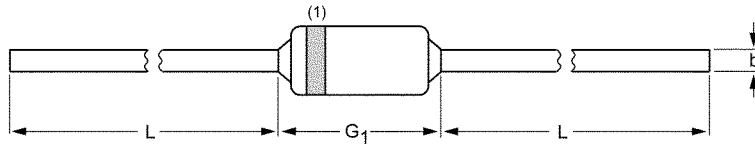
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PACKAGE OUTLINE

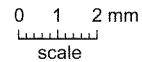
Hermetically sealed glass package; axial leaded; 2 leads

SOD27



DIMENSIONS (mm are the original dimensions)

UNIT	b max.	D max.	G <sub>1</sub> max.	L min.
mm	0.56	1.85	4.25	25.4



Note

1. The marking band indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD27	A24	DO-35	SC-40			97-06-09

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.