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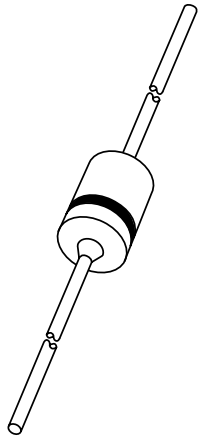
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If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via [salesaddresses@nexperia.com](mailto:salesaddresses@nexperia.com)). Thank you for your cooperation and understanding,

Kind regards,

Team Nexperia

# DATA SHEET



## **BAV20; BAV21** General purpose diodes

Product data sheet  
Supersedes data of 1996 Sep 17

1999 May 25

## General purpose diodes

## BAV20; BAV21

### FEATURES

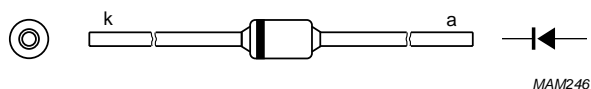
- Hermetically sealed leaded glass SOD27 (DO-35) package
- Switching speed: max. 50 ns
- General application
- Continuous reverse voltage: max. 150 V, 200 V
- Repetitive peak reverse voltage: max. 200 V, 250 V
- Repetitive peak forward current: max. 625 mA.

### 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.



The diodes are type branded.

Fig.1 Simplified outline (SOD27; DO-35) and symbol.

## General purpose diodes

## BAV20; BAV21

**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>RRM</sub>	repetitive peak reverse voltage				
	BAV20		–	200	V
	BAV21		–	250	V
V <sub>R</sub>	continuous peak reverse voltage				
	BAV20		–	150	V
	BAV21		–	200	V
I <sub>F</sub>	continuous forward current	see Fig.2; note 1	–	250	mA
I <sub>FRM</sub>	repetitive peak forward current		–	625	mA
I <sub>FSM</sub>	non-repetitive peak forward current	square wave; T <sub>j</sub> = 25 °C prior to surge; see Fig.4			
		t = 1 μs	–	9	A
		t = 100 μs	–	3	A
		t = 1 s	–	1	A
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> = 25 °C; note 1	–	400	mW
T <sub>stg</sub>	storage temperature		–65	+175	°C
T <sub>j</sub>	junction temperature		–	175	°C

**Note**

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

## General purpose diodes

## BAV20; BAV21

**ELECTRICAL CHARACTERISTICS**

$T_j = 25\text{ °C}$  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
		$V_R = V_{Rmax}; T_j = 150\text{ °C}$	–	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

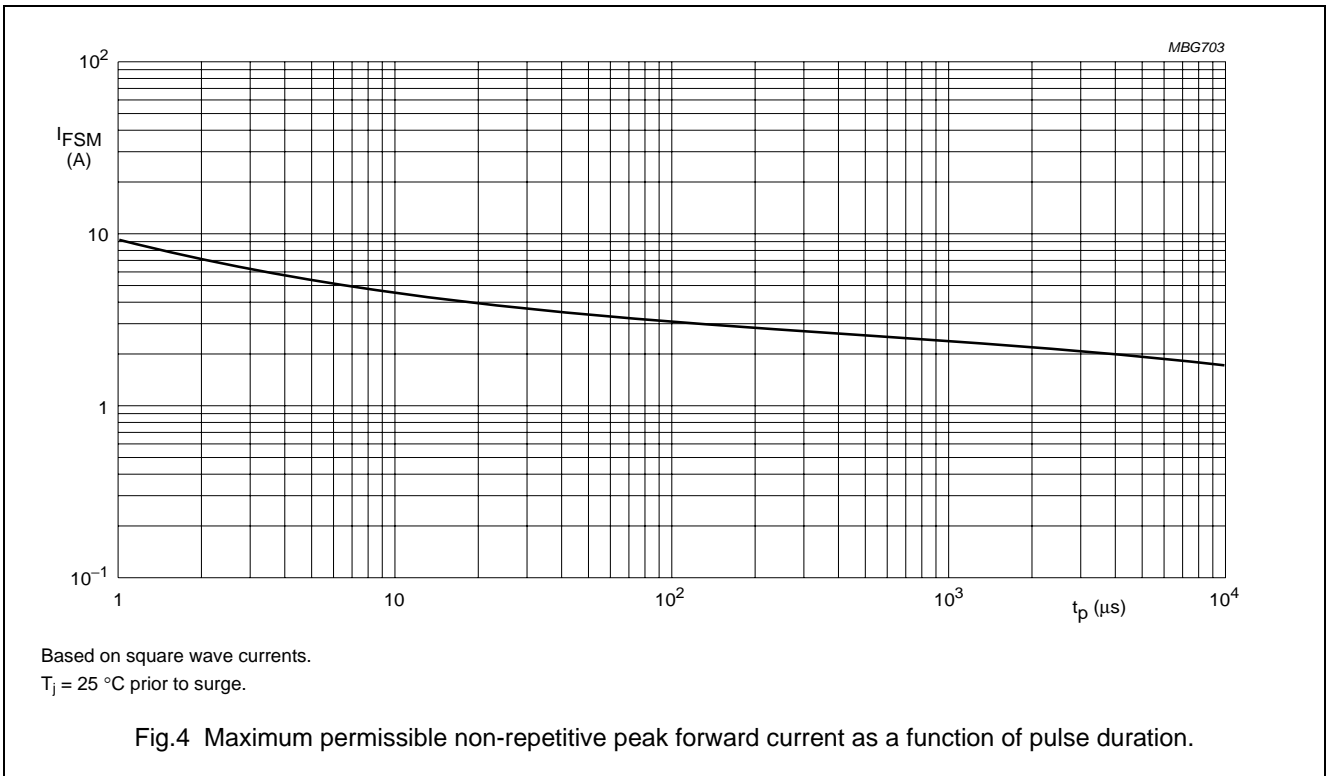
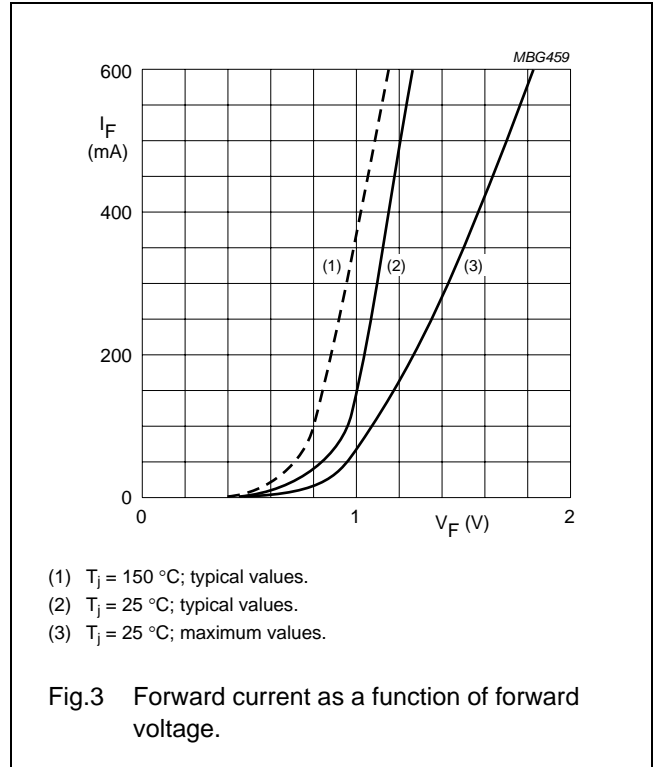
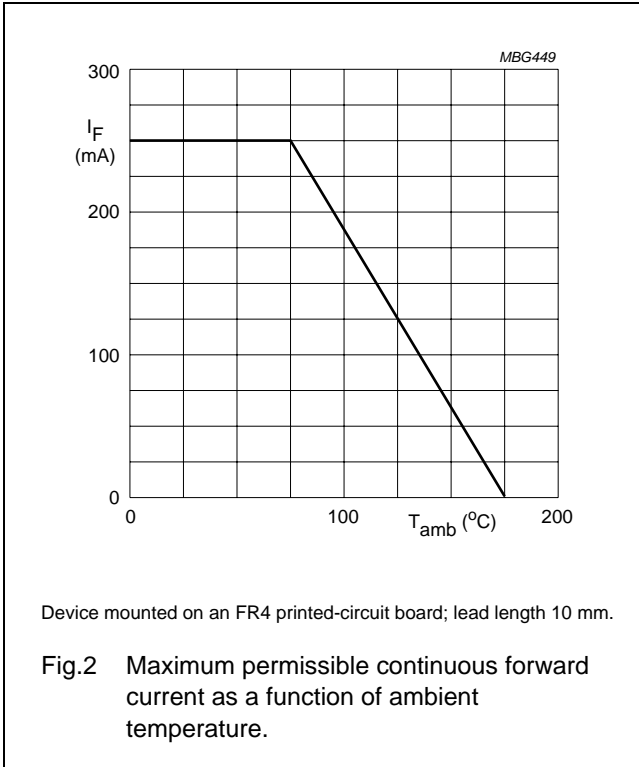
**Note**

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

General purpose diodes

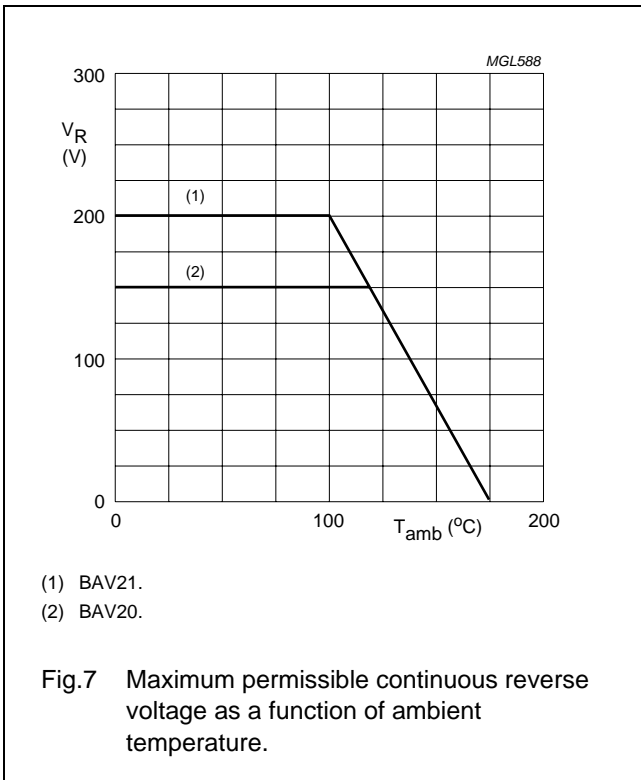
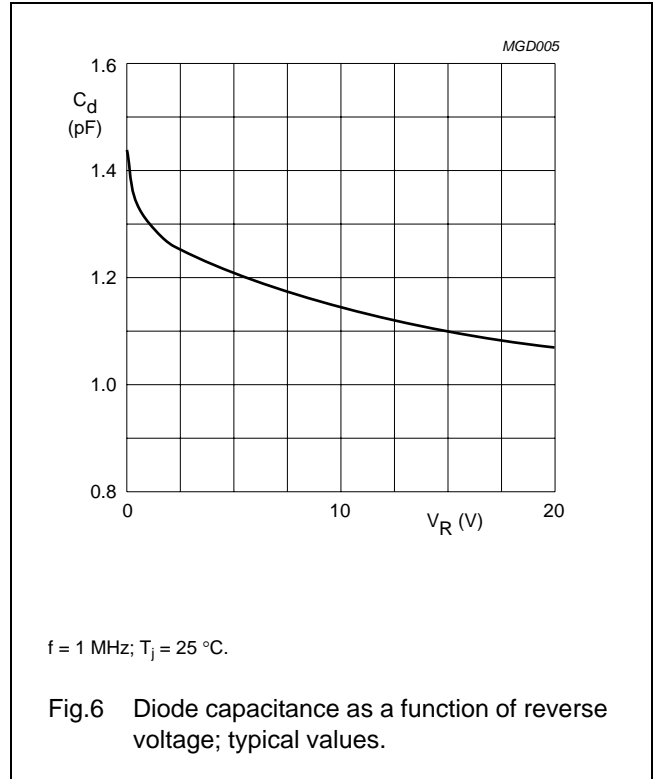
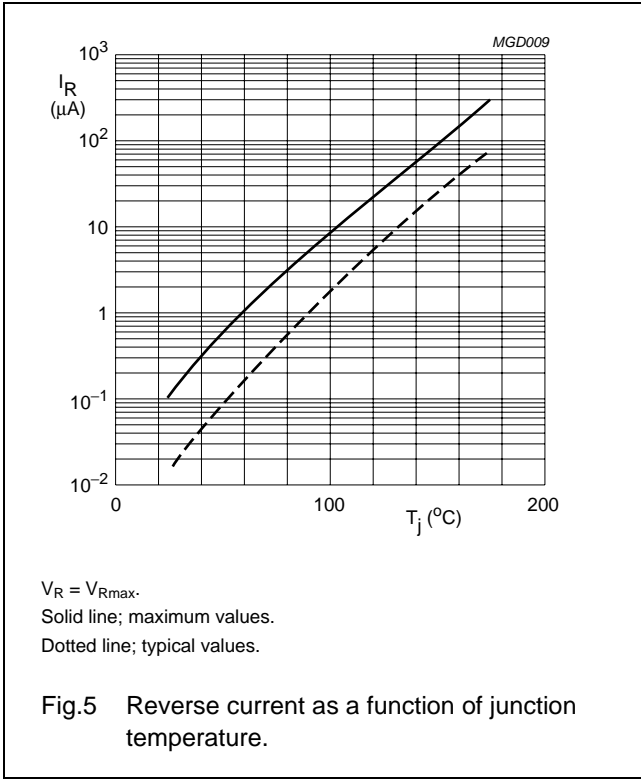
BAV20; BAV21

GRAPHICAL DATA



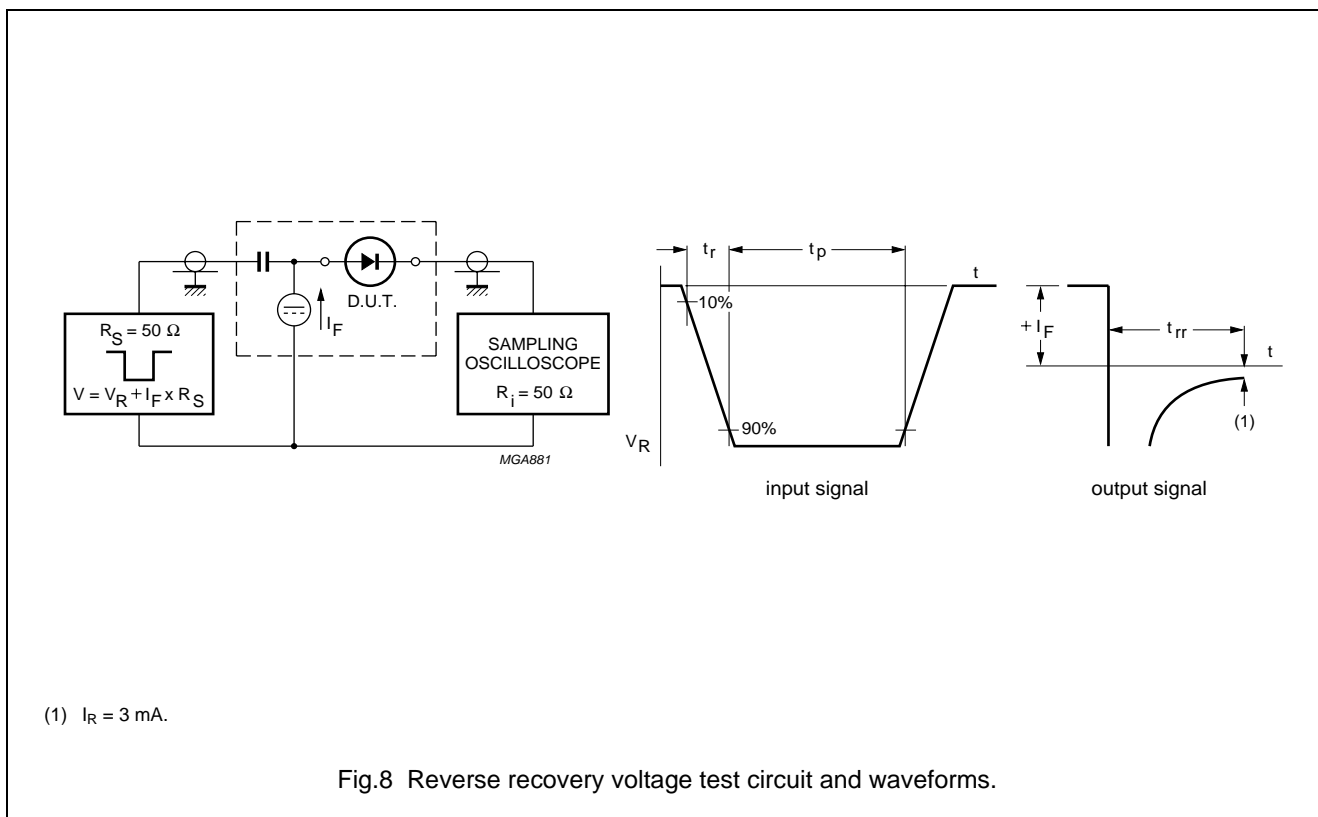
General purpose diodes

BAV20; BAV21



General purpose diodes

BAV20; BAV21





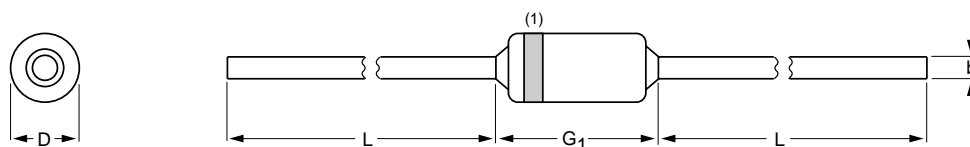
General purpose diodes

BAV20; BAV21

PACKAGE OUTLINE

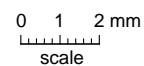
Hermetically sealed glass package; axial leaded; 2 leads

SOD27



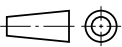
DIMENSIONS (mm are the original dimensions)

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

# General purpose diodes

# BAV20; BAV21

## DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

### Notes

1. Please consult the most recently issued document before initiating or completing a design.
2. The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL <http://www.nxp.com>.

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# ***NXP Semiconductors***

## **Customer notification**

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## **Contact information**

For additional information please visit: **<http://www.nxp.com>**

For sales offices addresses send e-mail to: **[salesaddresses@nxp.com](mailto:salesaddresses@nxp.com)**

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