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Should be replaced with:

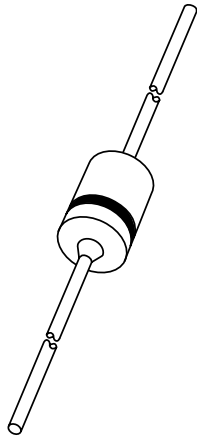
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Kind regards,

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

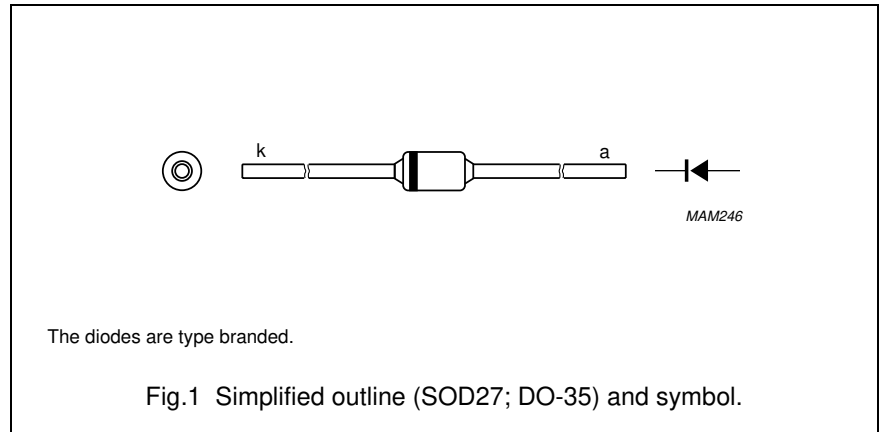
- Hermetically sealed leaded glass SOD27 (DO-35) package
- Switching speed: max. 50 ns
- General application
- Continuous reverse voltage: max. 150 V, 200 V
- Repetitive peak reverse voltage: max. 200 V, 250 V
- Repetitive peak forward current: max. 625 mA.

### 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.



## 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**

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

| SYMBOL   | PARAMETER             | CONDITIONS   | MIN.   | MAX.        | UNIT                |
|----------|-----------------------|--|--------|-------------|---------------------|
| $V_F$    | forward voltage       | see Fig.3<br>$I_F = 100\text{ mA}$<br>$I_F = 200\text{ mA}$  | –<br>– | 1.0<br>1.25 | V<br>V              |
| $I_R$    | reverse current       | see Fig.5<br>$V_R = V_{Rmax}$<br>$V_R = V_{Rmax}; T_j = 150\text{ }^\circ\text{C}$   | –<br>– | 100<br>100  | nA<br>$\mu\text{A}$ |
| $C_d$    | 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  |

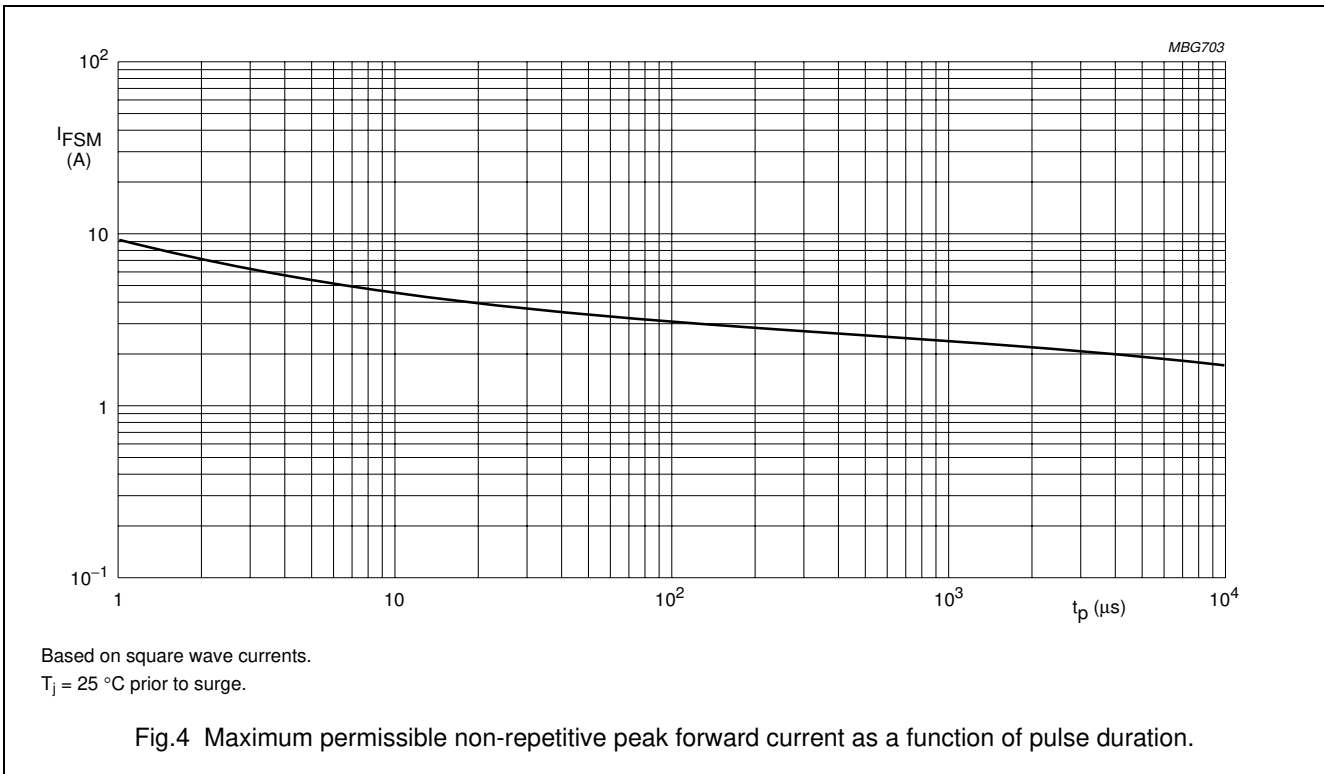
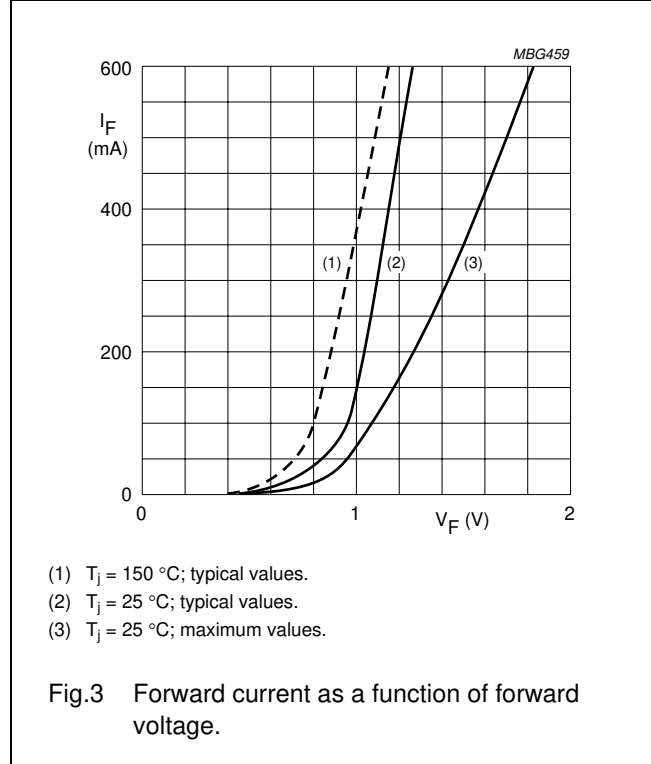
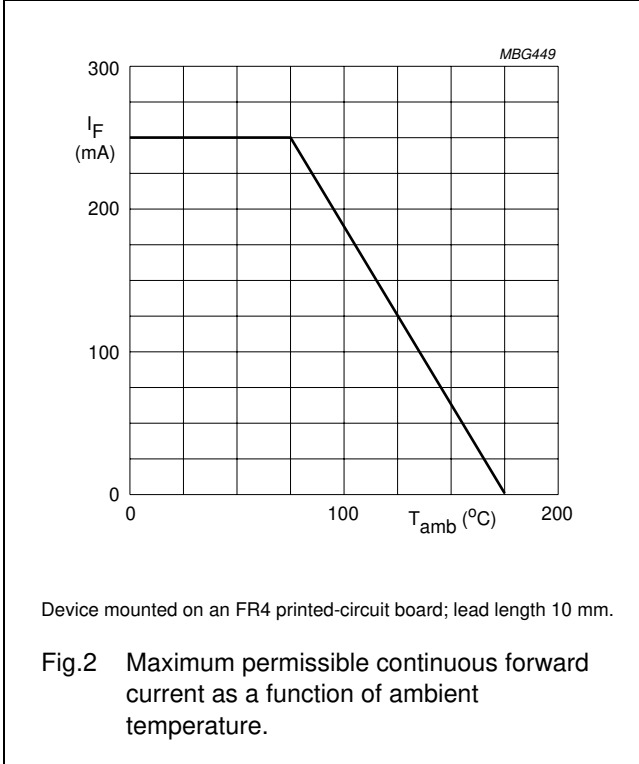
**Note**

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

General purpose diodes

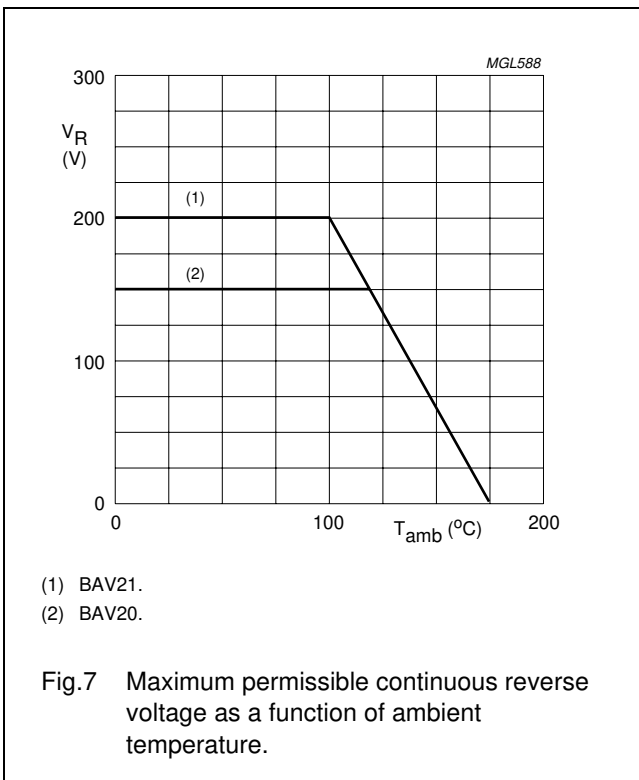
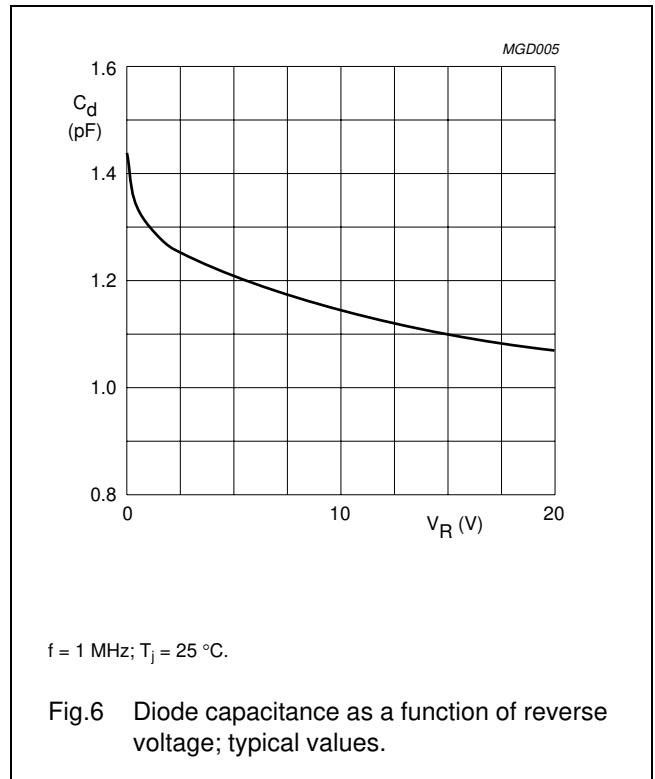
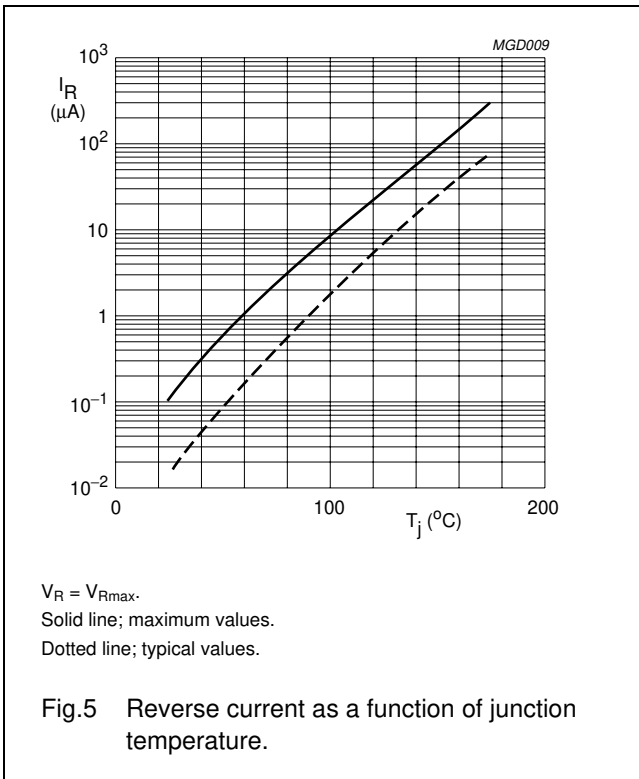
BAV20; BAV21

GRAPHICAL DATA



General purpose diodes

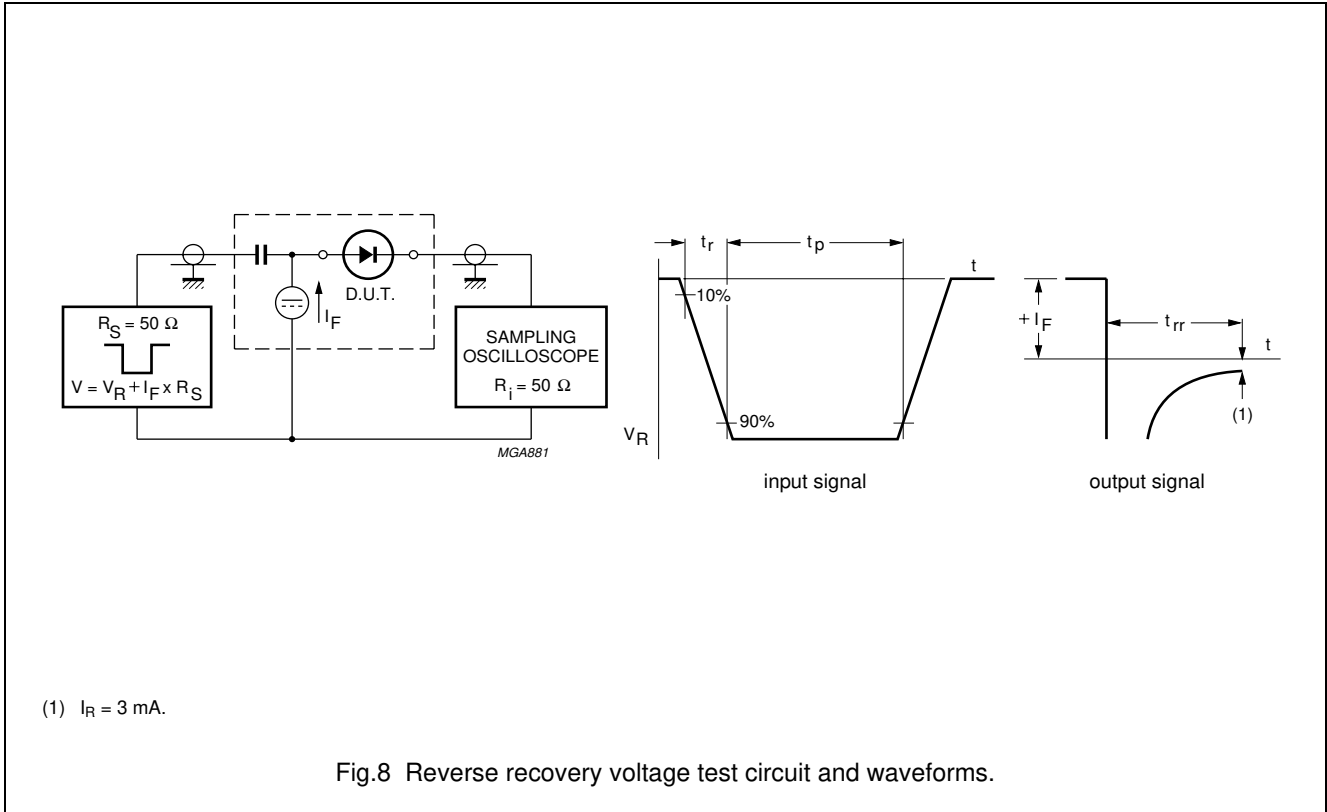
BAV20; BAV21





General purpose diodes

BAV20; BAV21



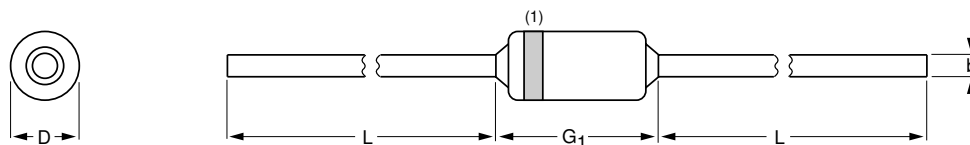
General purpose diodes

BAV20; BAV21

PACKAGE OUTLINE

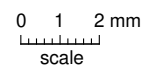
Hermetically sealed glass package; axial leaded; 2 leads

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.                                     |

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## **Contact information**

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

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