

Important notice

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Should be replaced with:

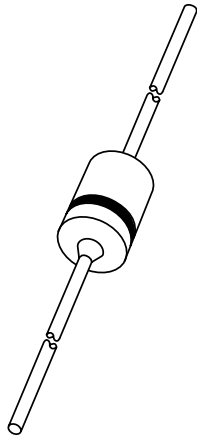
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If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via salesaddresses@nexperia.com). Thank you for your cooperation and understanding,

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

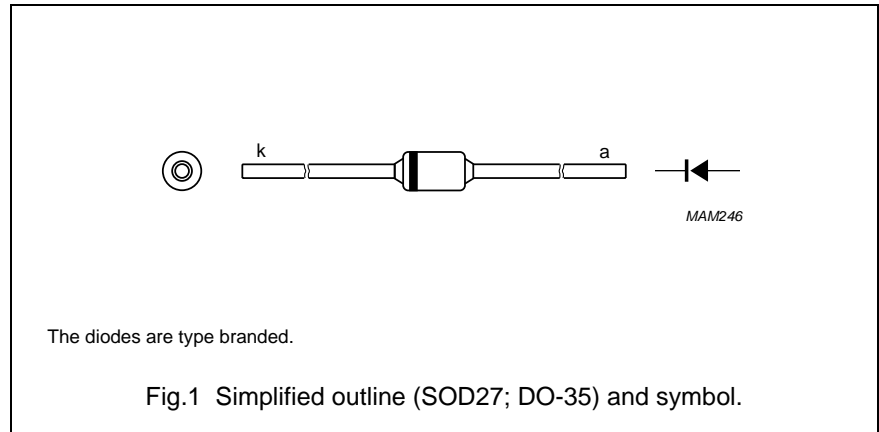
- Hermetically sealed leaded glass SOD27 (DO-35) package
- Switching speed: max. 50 ns
- General application
- Continuous reverse voltage: max. 150 V, 200 V
- Repetitive peak reverse voltage: max. 200 V, 250 V
- Repetitive peak forward current: max. 625 mA.

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.



General purpose diodes

BAV20; BAV21

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 °C prior to surge; see Fig.4 | | | |
| | | t = 1 μs | – | 9 | A |
| | | t = 100 μs | – | 3 | A |
| | t = 1 s | – | 1 | A | |
| P _{tot} | total power dissipation | T _{amb} = 25 °C; note 1 | – | 400 | mW |
| T _{stg} | storage temperature | | –65 | +175 | °C |
| T _j | 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 | μA |
| 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 |

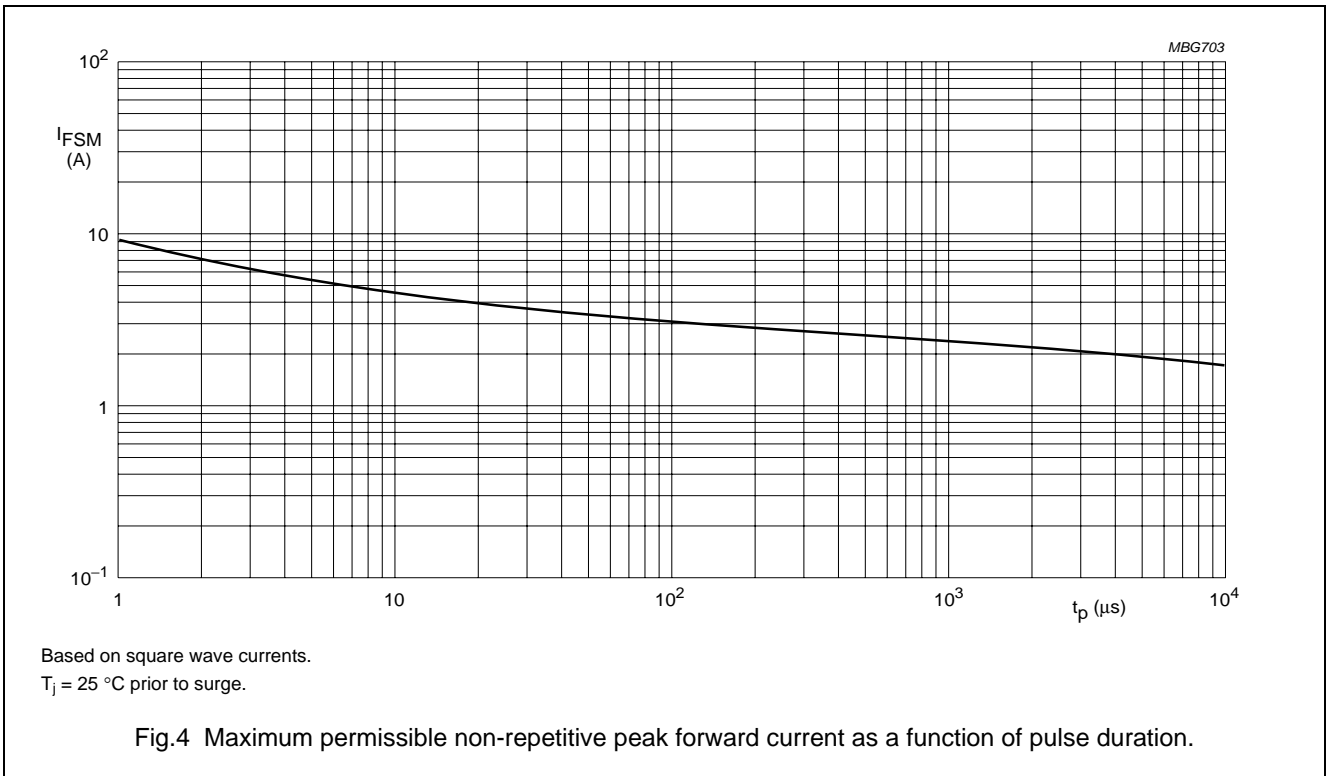
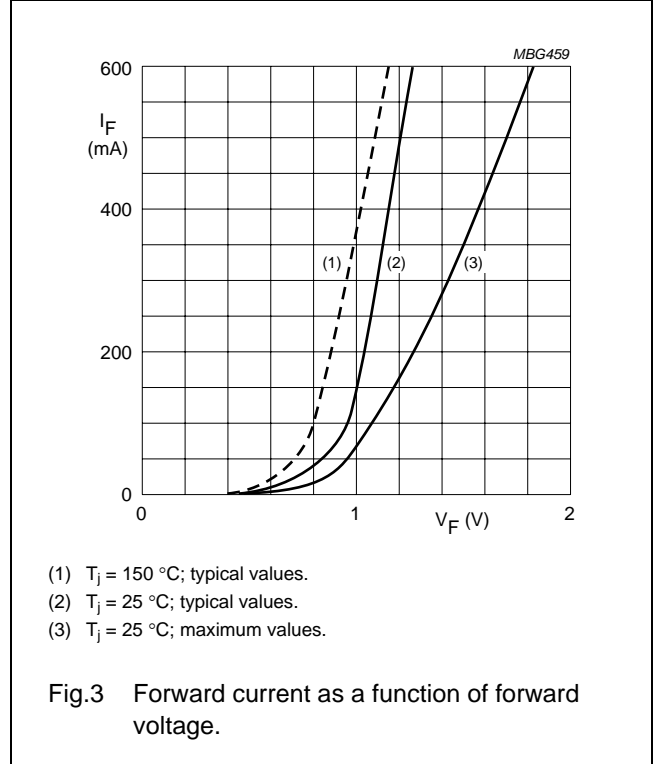
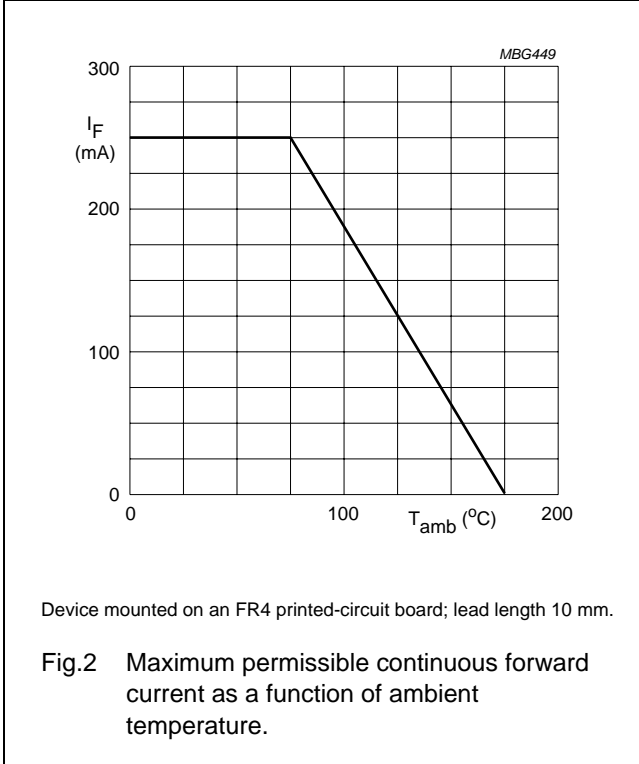
Note

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

General purpose diodes

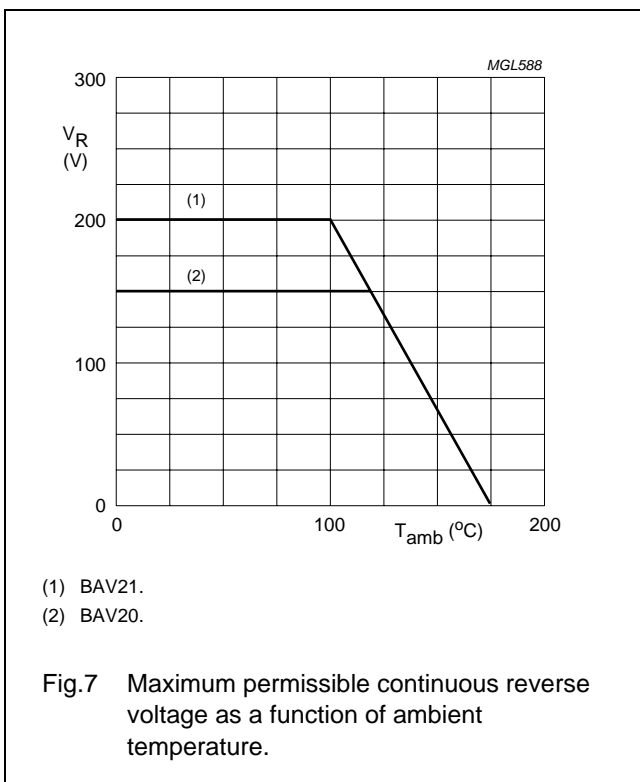
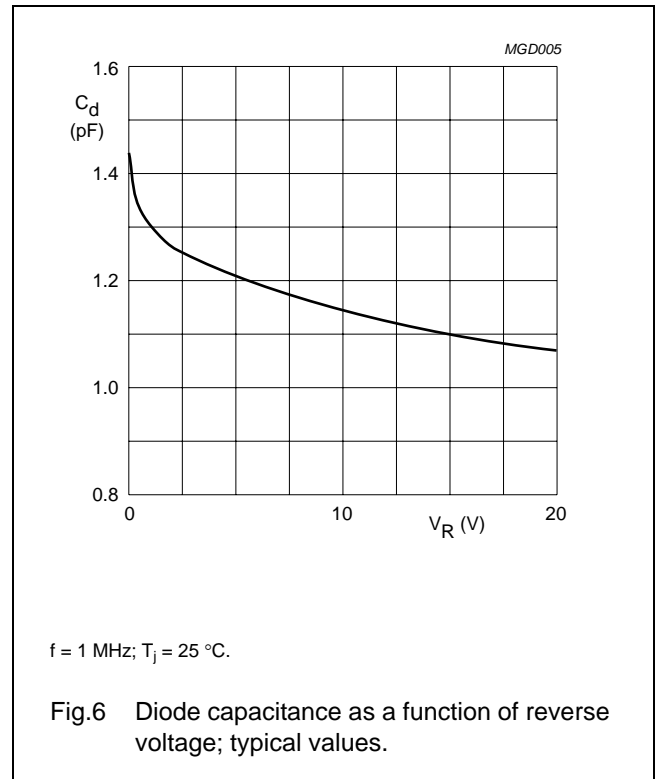
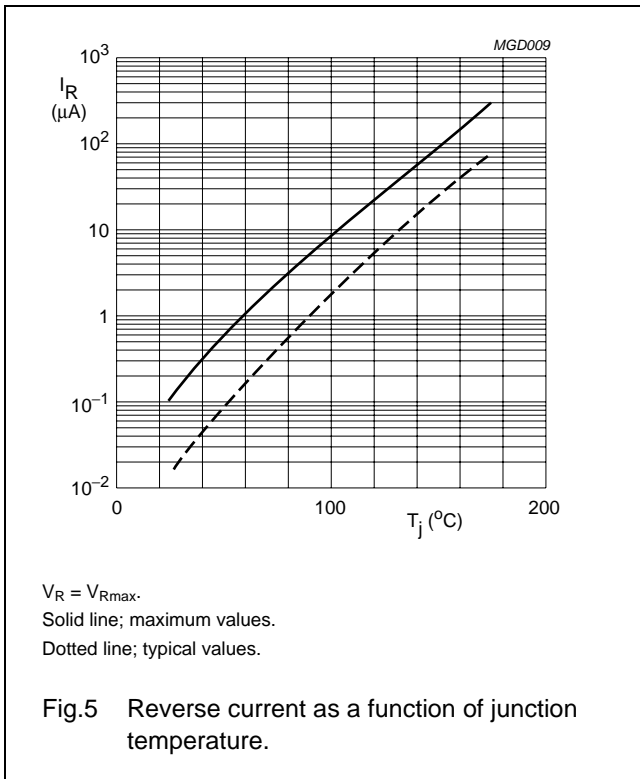
BAV20; BAV21

GRAPHICAL DATA



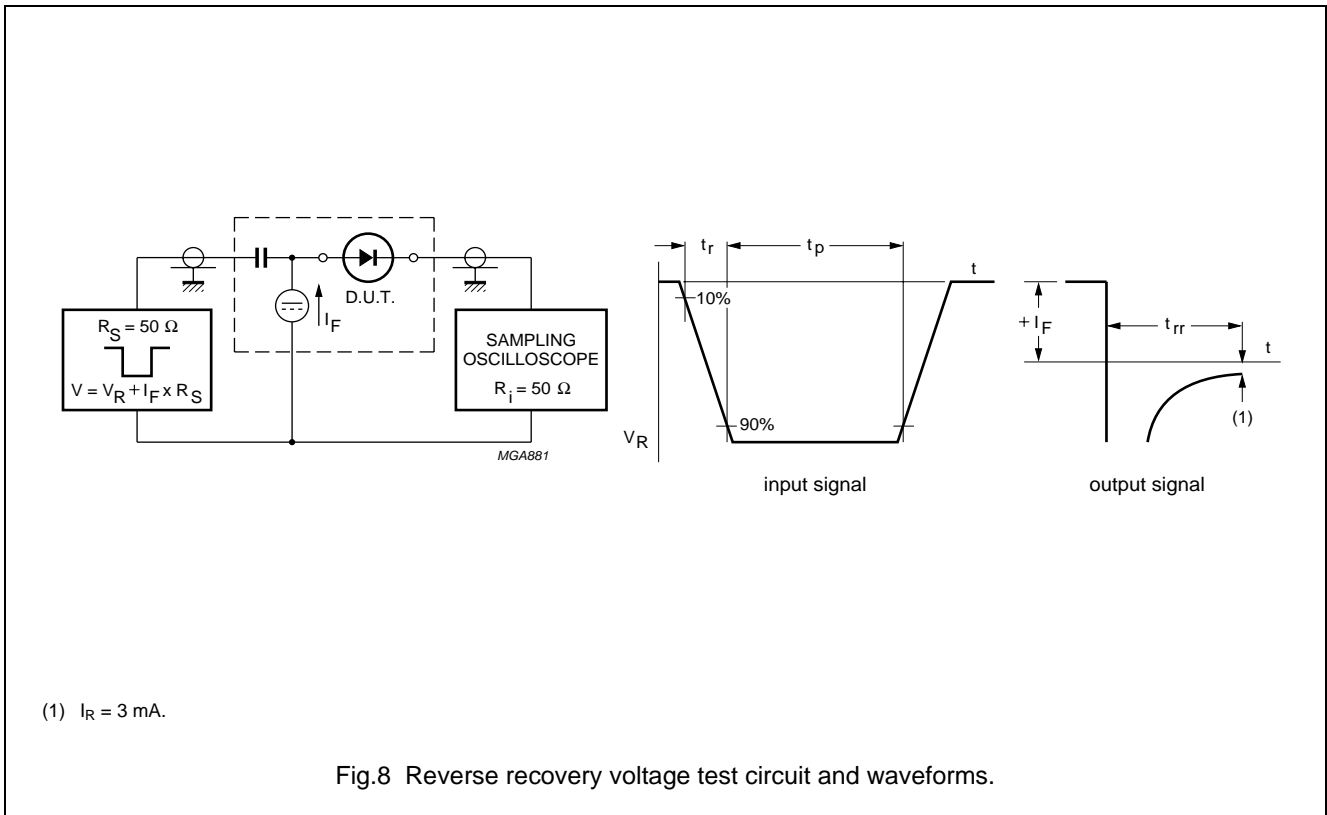
General purpose diodes

BAV20; BAV21



General purpose diodes

BAV20; BAV21



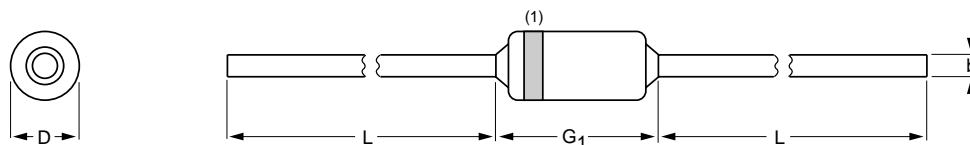
General purpose diodes

BAV20; BAV21

PACKAGE OUTLINE

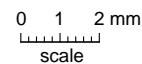
Hermetically sealed glass package; axial leaded; 2 leads

SOD27



DIMENSIONS (mm are the original dimensions)

| UNIT | b max. | D max. | G ₁ 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 ⁽¹⁾ | PRODUCT STATUS ⁽²⁾ | 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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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**

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