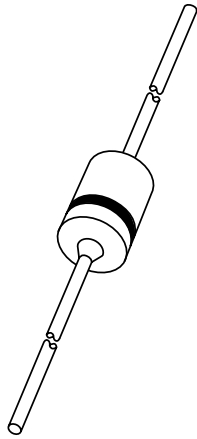


DATA SHEET



BAV20; BAV21 General purpose diodes

Product data sheet
Supersedes data of 1996 Sep 17

1999 May 25

General purpose diodes

BAV20; BAV21

FEATURES

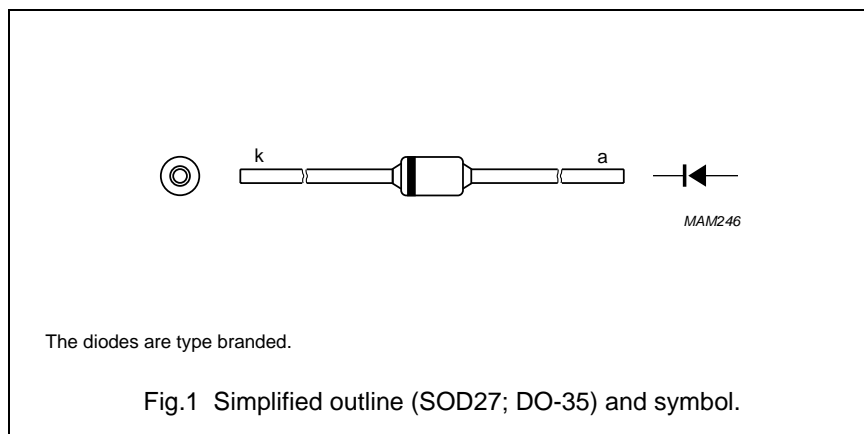
- Hermetically sealed leaded glass SOD27 (DO-35) package
- Switching speed: max. 50 ns
- General application
- Continuous reverse voltage: max. 150 V, 200 V
- Repetitive peak reverse voltage: max. 200 V, 250 V
- Repetitive peak forward current: max. 625 mA.

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 $I_F = 100\text{ mA}$ $I_F = 200\text{ mA}$	– –	1.0 1.25	V V
I_R	reverse current	see Fig.5 $V_R = V_{Rmax}$ $V_R = V_{Rmax}; T_j = 150\text{ °C}$	– –	100 100	nA 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

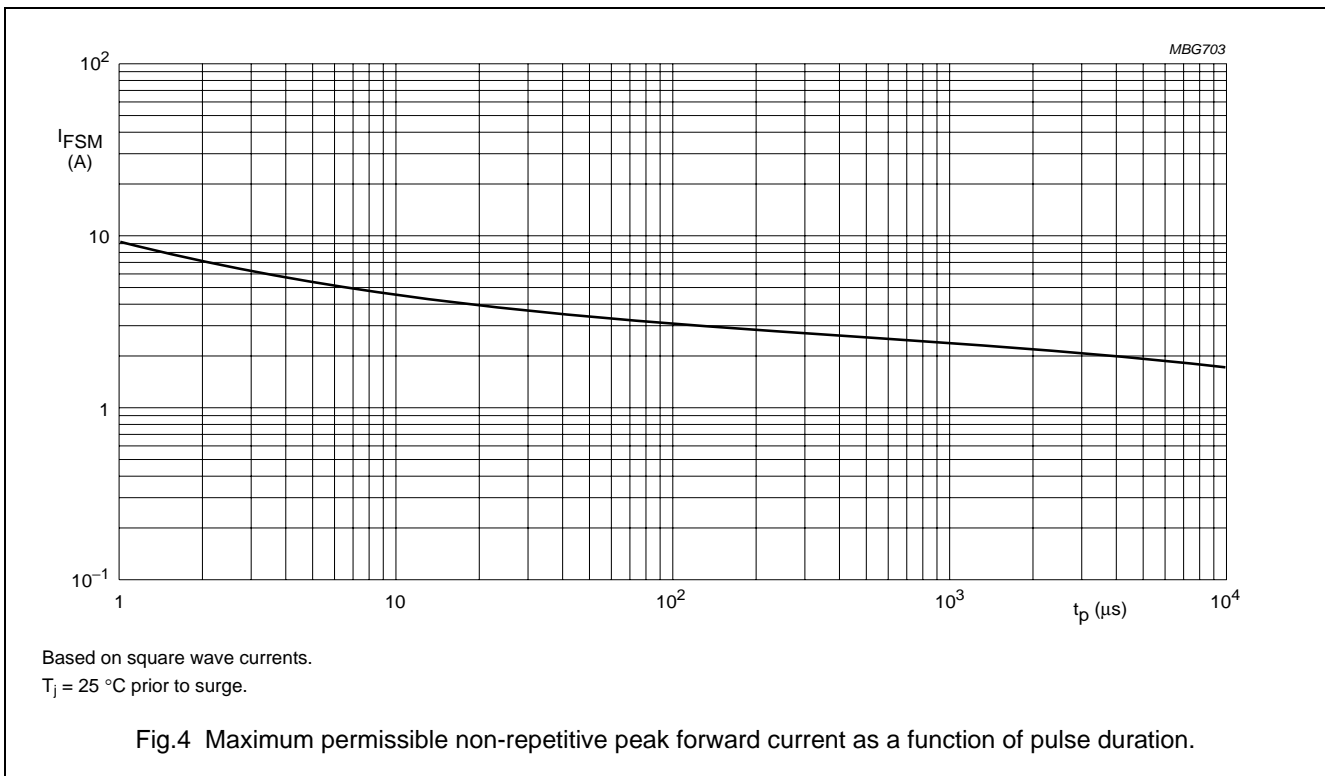
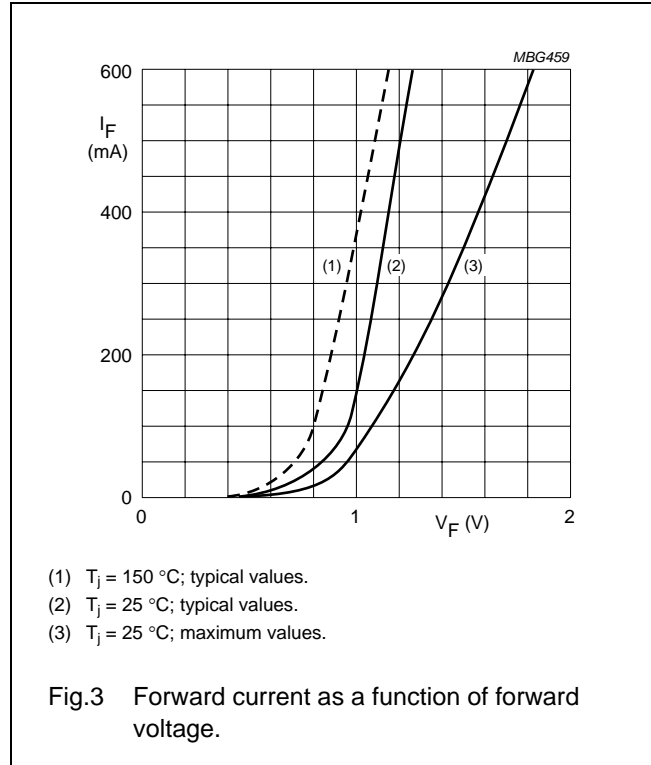
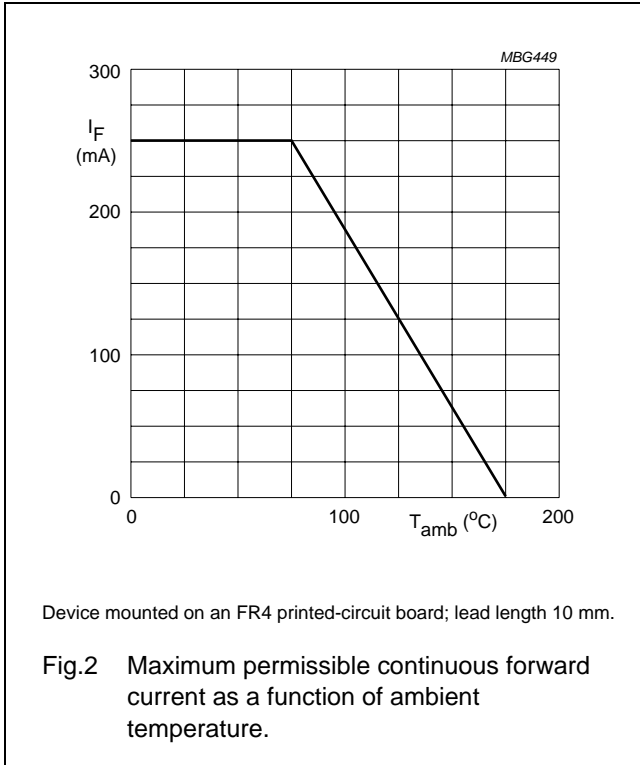
Note

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

General purpose diodes

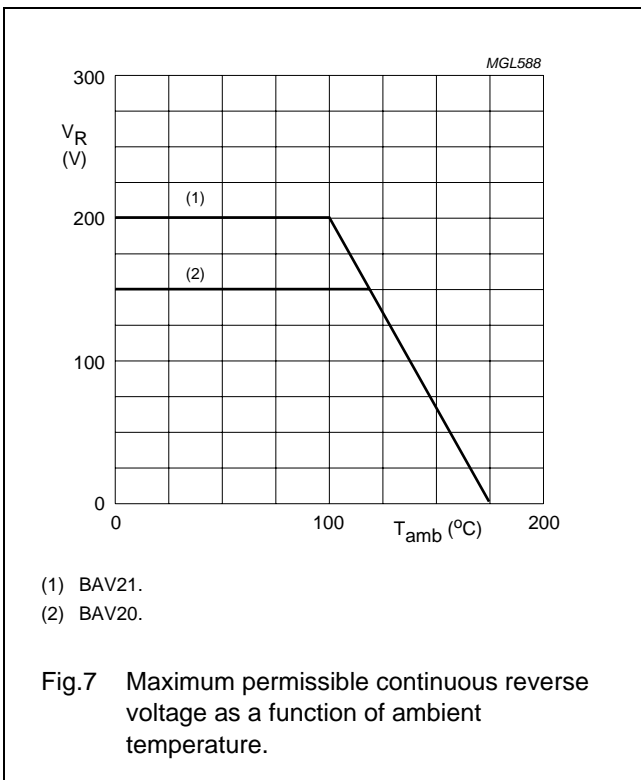
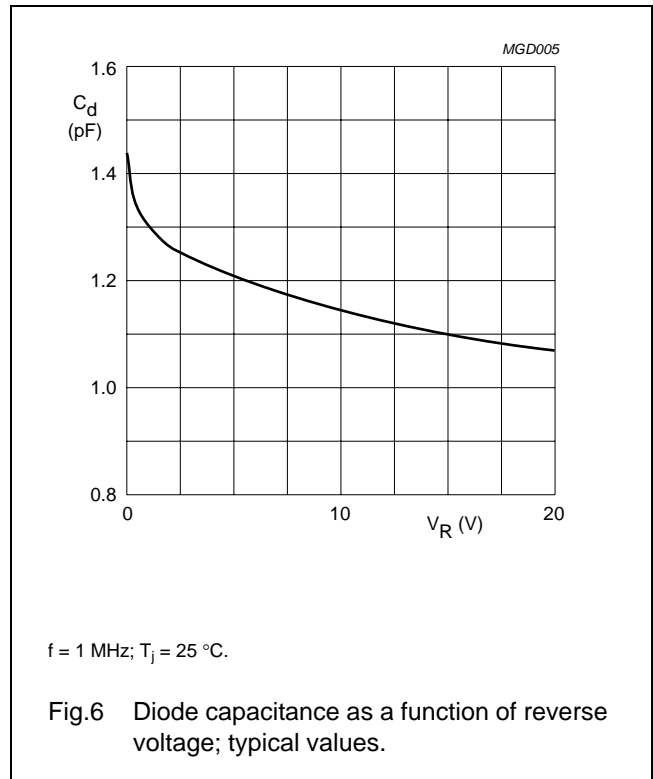
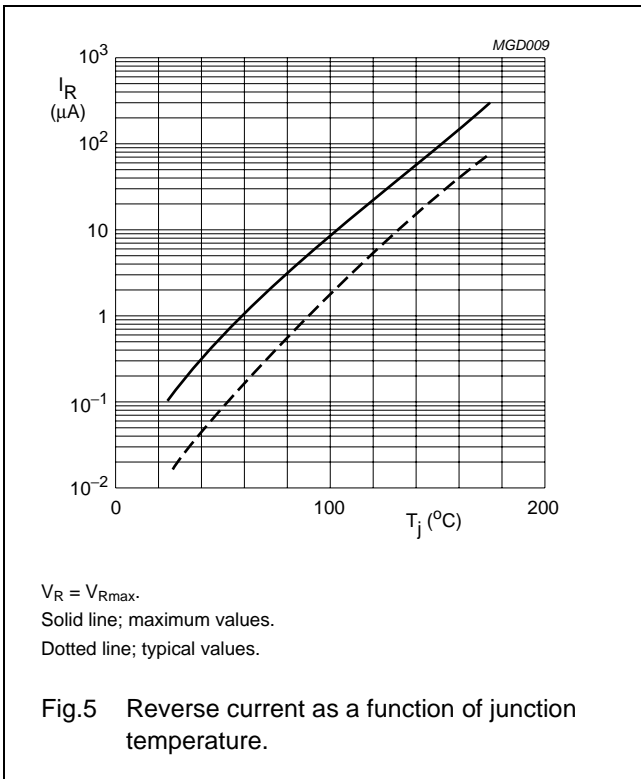
BAV20; BAV21

GRAPHICAL DATA



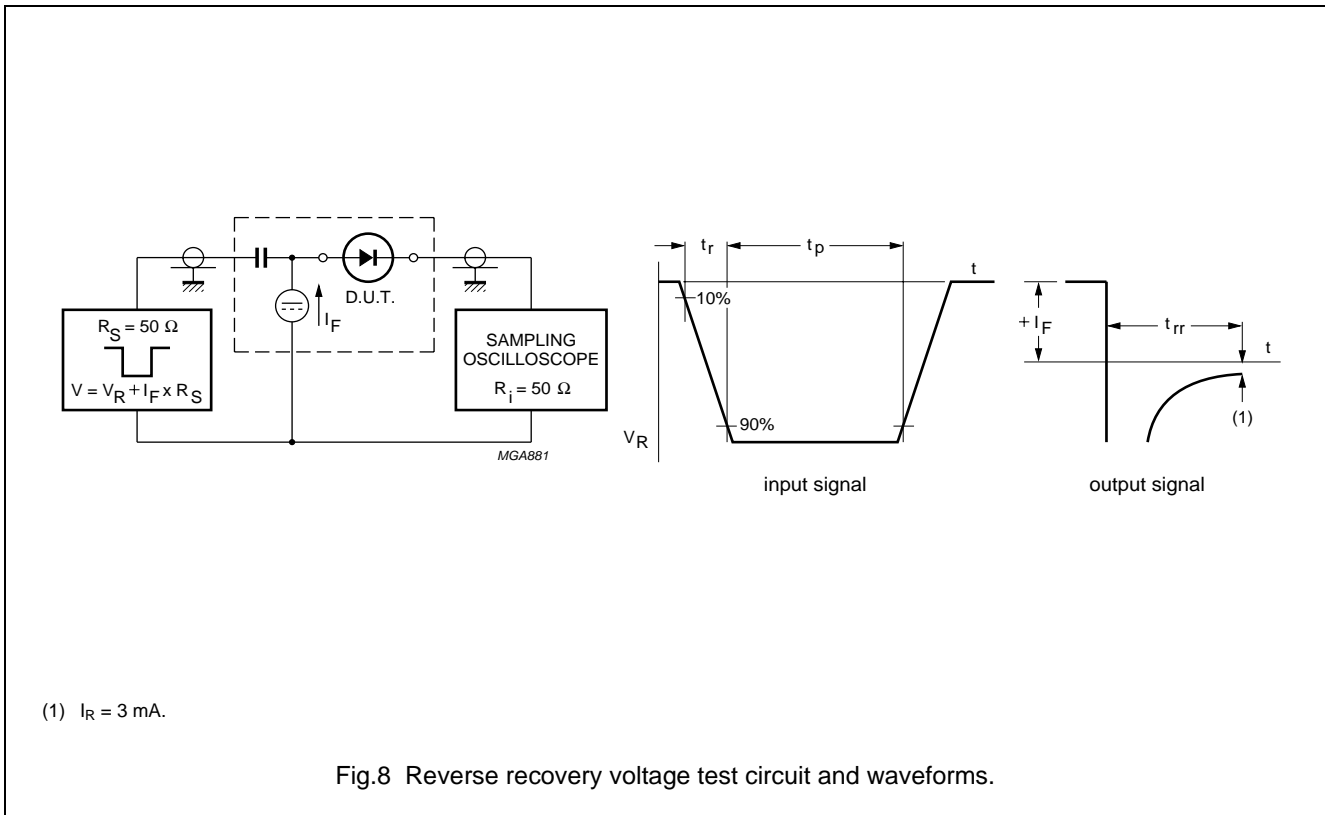
General purpose diodes

BAV20; BAV21



General purpose diodes

BAV20; BAV21



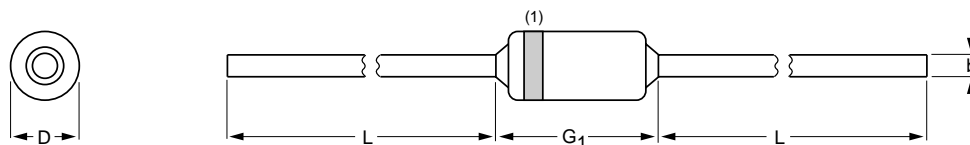
General purpose diodes

BAV20; BAV21

PACKAGE OUTLINE

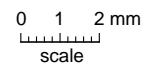
Hermetically sealed glass package; axial leaded; 2 leads

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.

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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BAV20

General purpose diodes



Products / Packages

Type number	Orderable part number	Ordering code (12NC)	Product status	Package	Packing	Marking	ECCN
BAV20	BAV20,113	9331 892 00113	Volume production	ALF2 (SOD27)	Reel pack axial radial	Standard Marking	
BAV20	BAV20,143	9331 892 00143	Volume production	ALF2 (SOD27)	Ammo pack axial radial taped	Standard Marking	
BAV20	BAV20,133	9331 892 00133	Volume production	ALF2 (SOD27)	Ammo pack axial radial taped	Standard Marking	
BAV21	BAV21,113	9331 892 10113	Volume production	ALF2 (SOD27)	Reel pack axial radial	Standard Marking	
BAV21	BAV21,133	9331 892 10133	Volume production	ALF2 (SOD27)	Ammo pack axial radial taped	Standard Marking	
BAV21	BAV21,143	9331 892 10143	Volume production	ALF2 (SOD27)	Ammo pack axial radial taped	Standard Marking	

The variants in the table below are discontinued. See the table [Discontinuation information](#) at the bottom of this page for more information.

Type number	Orderable part number	Ordering code (12NC)	Product status	Package	Packing	Marking	ECCN
BAV20/N	BAV20/N,113	9340 594 44113	Withdrawn Replacement product	ALF2 (SOD27)	Reel pack axial radial	Standard Marking	
BAV21/N	BAV21/N,113	9340 594 45113	Withdrawn Replacement product	ALF2 (SOD27)	Reel pack axial radial	Standard Marking	
BAV21/N	BAV21/N,133	9340 594 45133	Withdrawn Replacement product	ALF2 (SOD27)	Ammo pack axial radial taped	Standard Marking	
BAV21/G	BAV21/G,133	9340 590 78133	Withdrawn Replacement product	ALF2 (SOD27)	Ammo pack axial radial taped	Standard Marking	

Discontinuation information

Type number	Ordering code (12NC)	Last-time buy date	Last-time delivery date	Replacement product	DN Notice	Status	Comments
BAV20/N	934059444113	30-Jun-06	31-Dec-06	BAV20	DN 56	<ul style="list-style-type: none"> ■ Multi source product ■ Type number fully withdrawn ■ Standard availability 	Standard type. See Replacement.
BAV21/N	934059445113	30-Jun-06	31-Dec-06	BAV21	DN 56	<ul style="list-style-type: none"> ■ Multi source product ■ Type number fully withdrawn ■ Standard availability 	Standard type. See Replacement.
BAV21/N	934059445133	30-Jun-06	31-Dec-06	BAV21	DN 56	<ul style="list-style-type: none"> ■ Multi source product ■ Type number fully withdrawn ■ Standard availability 	Standard type. See Replacement.
BAV21/G	934059078133				DN		