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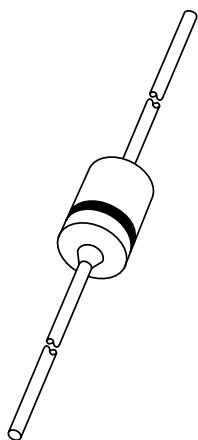
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If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via salesaddresses@nexperia.com). Thank you for your cooperation and understanding,

Kind regards,

Team Nexperia

DATA SHEET



BAW62 High-speed diode

Product data sheet
Supersedes data of April 1996

1996 Sep 17

High-speed diode**BAW62****FEATURES**

- Hermetically sealed leaded glass SOD27 (DO-35) package
- High switching speed: max. 4 ns
- Continuous reverse voltage: max. 75 V
- Repetitive peak reverse voltage: max. 75 V
- Repetitive peak forward current: max. 450 mA.

APPLICATIONS

- High-speed switching
- Fast logic applications.

DESCRIPTION

The BAW62 is a high-speed switching diode fabricated in planar technology, and encapsulated in the hermetically sealed leaded glass SOD27 (DO-35) package.



The diode is type branded.

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

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{RRM}	repetitive peak reverse voltage		—	75	V
V_R	continuous reverse voltage		—	75	V
I_F	continuous forward current	see Fig.2; note 1	—	250	mA
I_{FRM}	repetitive peak forward current		—	450	mA
I_{FSM}	non-repetitive peak forward current	square wave; $T_j = 25^\circ\text{C}$ prior to surge; see Fig.4 $t = 1 \mu\text{s}$ $t = 1 \text{ ms}$ $t = 1 \text{ s}$	— — —	4 1 0.5	A
P_{tot}	total power dissipation	$T_{\text{amb}} = 25^\circ\text{C}$; note 1	—	350	mW
T_{stg}	storage temperature		—65	+200	°C
T_j	junction temperature		—	200	°C

Note

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

High-speed diode

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_F	forward voltage	see Fig.3 $I_F = 5 \text{ mA}$ $I_F = 100 \text{ mA}$ $I_F = 100 \text{ mA}; T_j = 100^\circ\text{C}$	620 — —	750 1000 930	mV mV mV
I_R	reverse current	see Fig.5 $V_R = 20 \text{ V}$ $V_R = 50 \text{ V}$ $V_R = 75 \text{ V}$ $V_R = 20 \text{ V}; T_j = 150^\circ\text{C}$ $V_R = 75 \text{ V}; T_j = 150^\circ\text{C}$	— — — — —	25 200 5 50 100	nA nA μA μA μA
C_d	diode capacitance	$f = 1 \text{ MHz}; V_R = 0$; see Fig.6	—	2	pF
t_{rr}	reverse recovery time	when switched from $I_F = 10 \text{ mA}$ to $I_R = 10 \text{ mA}$; $R_L = 100 \Omega$; measured at $I_R = 1 \text{ mA}$; see Fig.7	—	4	ns
V_{fr}	forward recovery voltage	when switched from $I_F = 50 \text{ mA}$; $t_r = 20 \text{ ns}$; see Fig.8	—	2.5	V

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th j\text{-tp}}$	thermal resistance from junction to tie-point	lead length 10 mm	240	K/W
$R_{th j\text{-a}}$	thermal resistance from junction to ambient	lead length 10 mm; note 1	500	K/W

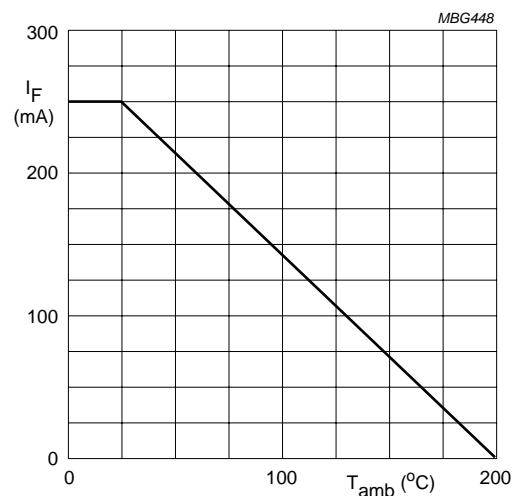
Note

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

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GRAPHICAL DATA



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

Fig.2 Maximum permissible continuous forward current as a function of ambient temperature.

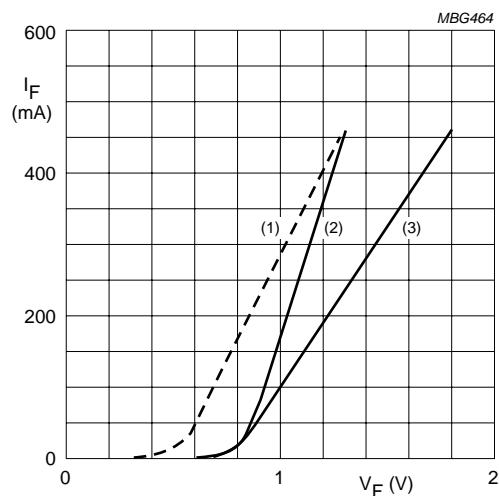
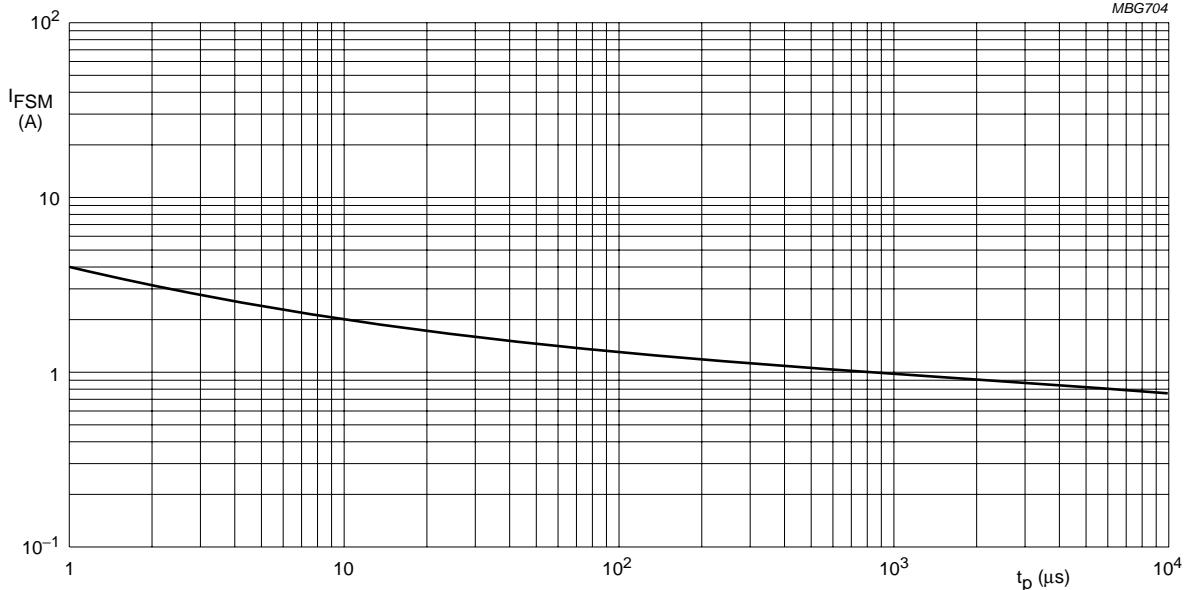


Fig.3 Forward current as a function of forward voltage.



Based on square wave currents.

$T_j = 25$ °C prior to surge.

Fig.4 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

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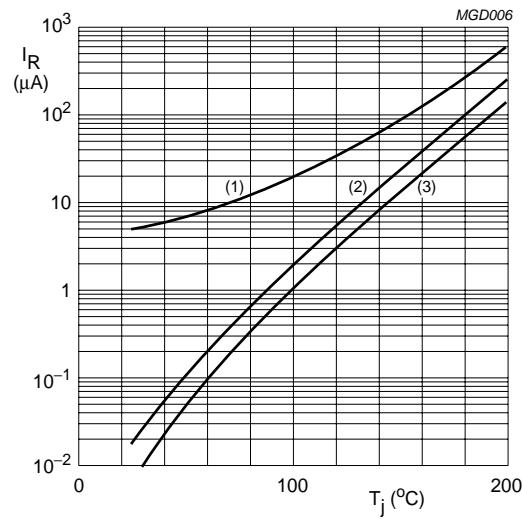


Fig.5 Reverse current as a function of junction temperature.

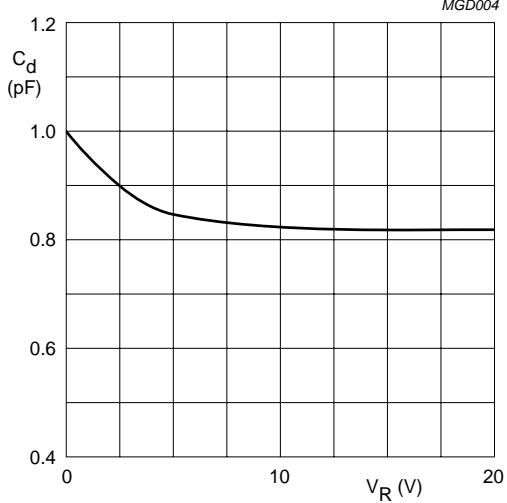


Fig.6 Diode capacitance as a function of reverse voltage; typical values.

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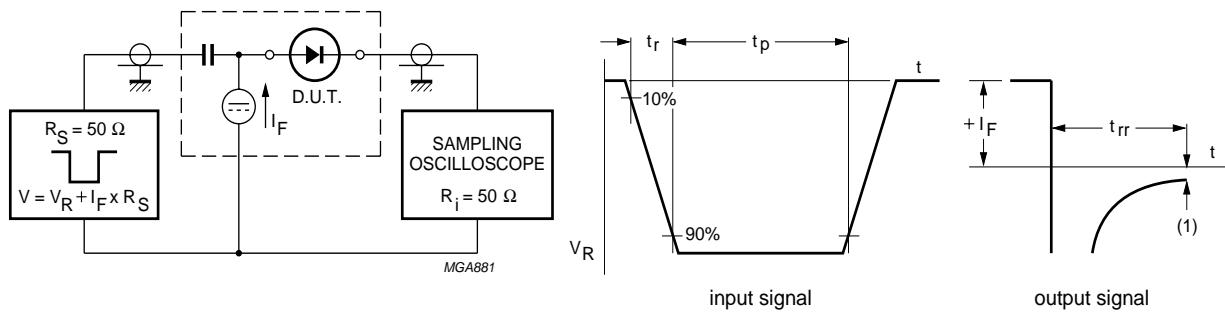
(1) $I_R = 1 \text{ mA.}$

Fig.7 Reverse recovery voltage test circuit and waveforms.

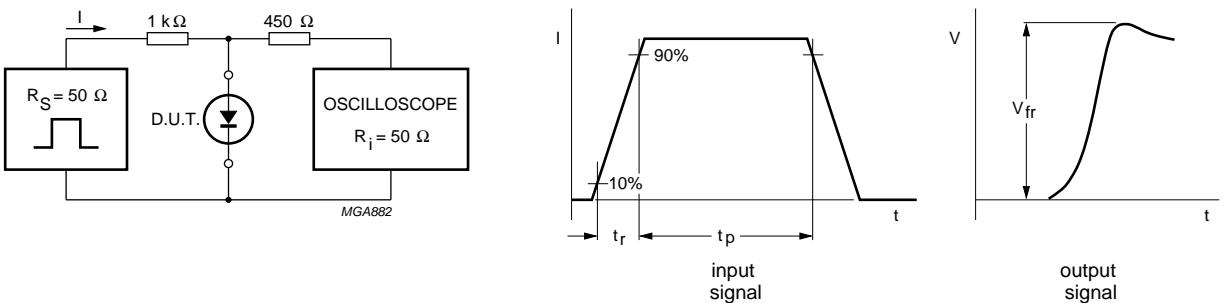
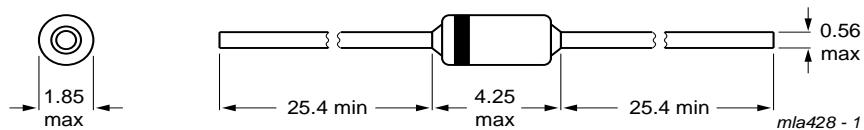


Fig.8 Forward recovery voltage test circuit and waveforms.

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PACKAGE OUTLINE



Dimensions in mm.

Fig.9 SOD27 (DO-35).

High-speed diode

BAW62**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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NXP Semiconductors

Customer notification

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Contact information

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