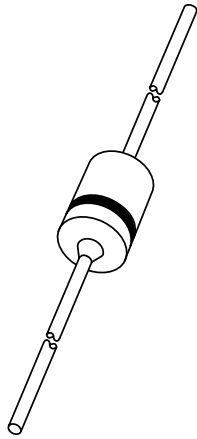


DATA SHEET



BAW62 High-speed diode

Product data sheet
Supersedes data of April 1996

1996 Sep 17

High-speed diode

BAW62

FEATURES

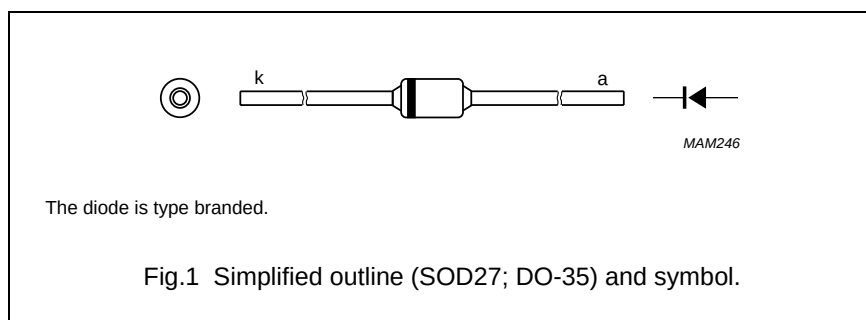
- Hermetically sealed leaded glass SOD27 (DO-35) package
- High switching speed: max. 4 ns
- Continuous reverse voltage: max. 75 V
- Repetitive peak reverse voltage: max. 75 V
- Repetitive peak forward current: max. 450 mA.

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.



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; $T_j = 25\text{ °C}$ prior to surge; see Fig.4 $t = 1\text{ }\mu\text{s}$ $t = 1\text{ ms}$ $t = 1\text{ s}$	— — —	4 1 0.5	A A A
P_{tot}	total power dissipation	$T_{amb} = 25\text{ °C}$; 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

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_F	forward voltage	see Fig.3 $I_F = 5\text{ mA}$ $I_F = 100\text{ mA}$ $I_F = 100\text{ mA}; T_j = 100\text{ }^{\circ}\text{C}$	620 – –	750 1000 930	mV mV mV
I_R	reverse current	see Fig.5 $V_R = 20\text{ V}$ $V_R = 50\text{ V}$ $V_R = 75\text{ V}$ $V_R = 20\text{ V}; T_j = 150\text{ }^{\circ}\text{C}$ $V_R = 75\text{ V}; T_j = 150\text{ }^{\circ}\text{C}$	– – – – –	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 $I_R = 10\text{ mA}$; $R_L = 100\text{ }\Omega$; 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
$R_{th\ j-tp}$	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	500	K/W

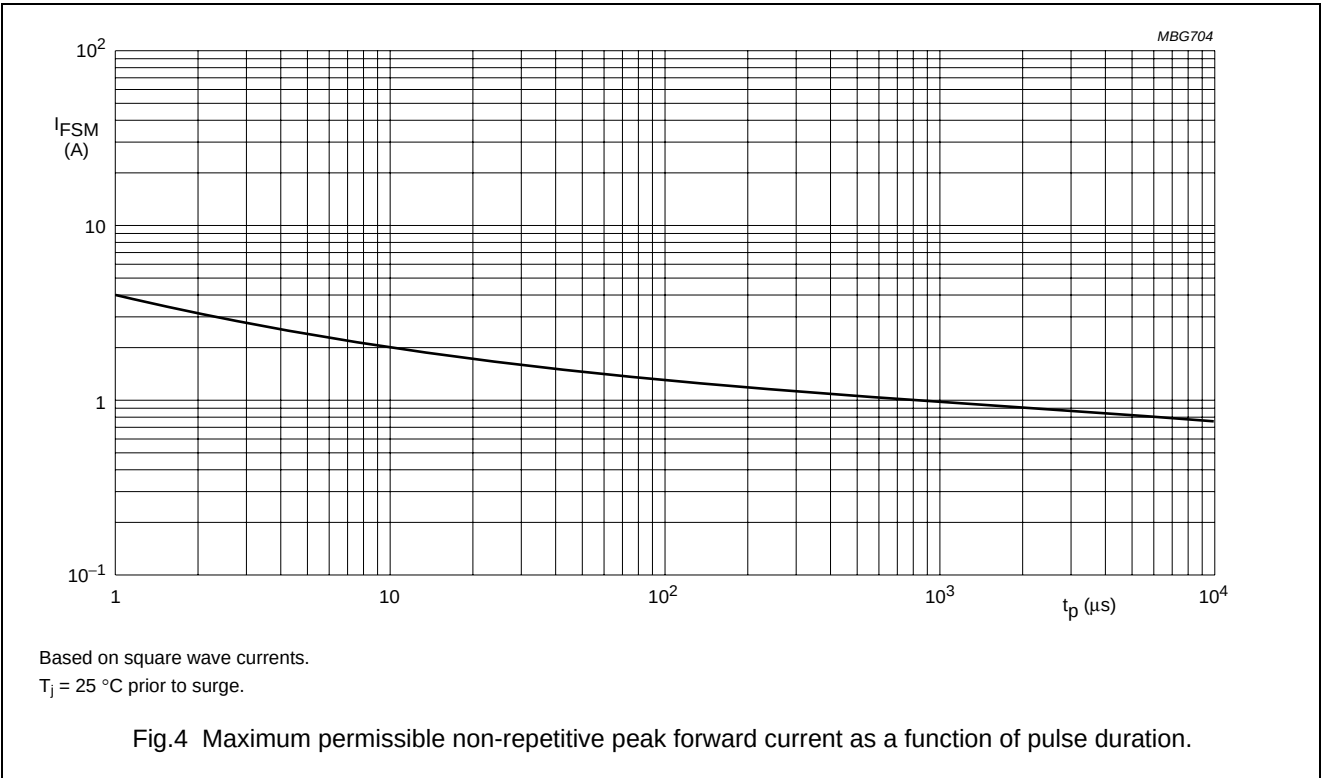
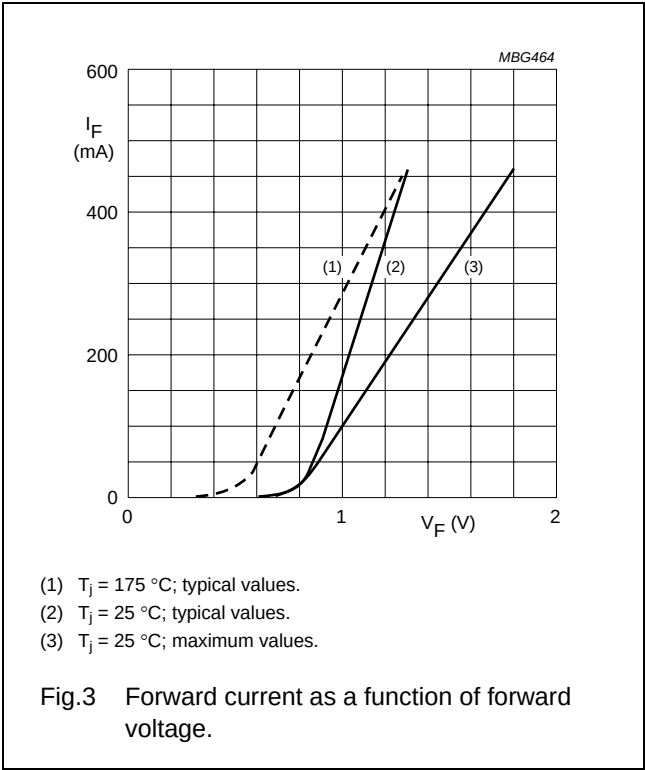
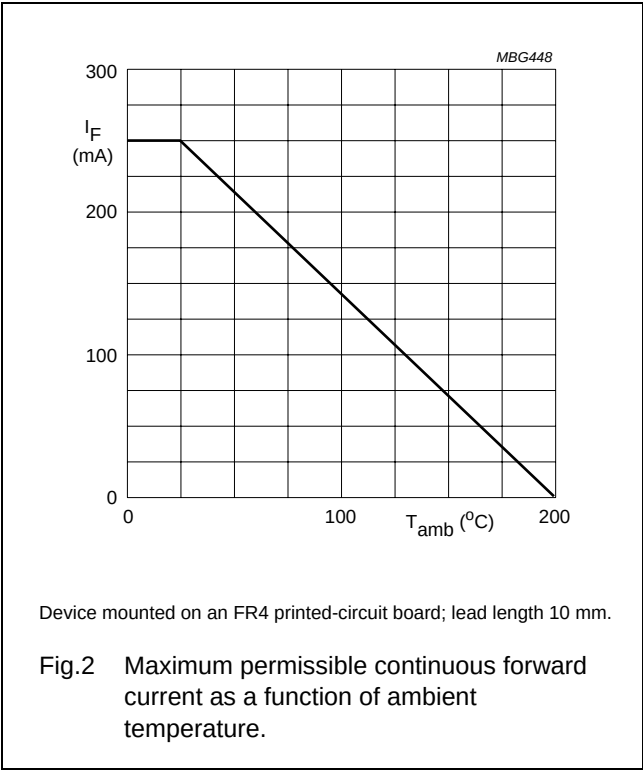
Note

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

High-speed diode

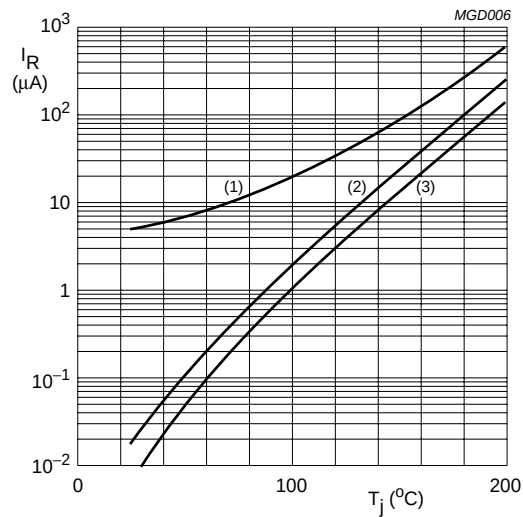
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GRAPHICAL DATA



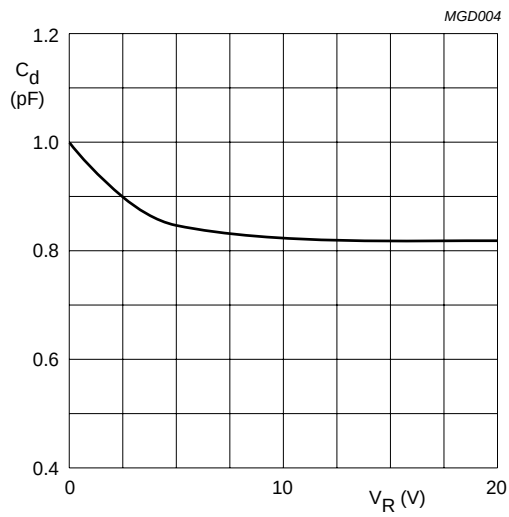
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- (1) $V_R = 75 V$; maximum values.
- (2) $V_R = 75 V$; typical values.
- (3) $V_R = 20 V$; typical values.

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

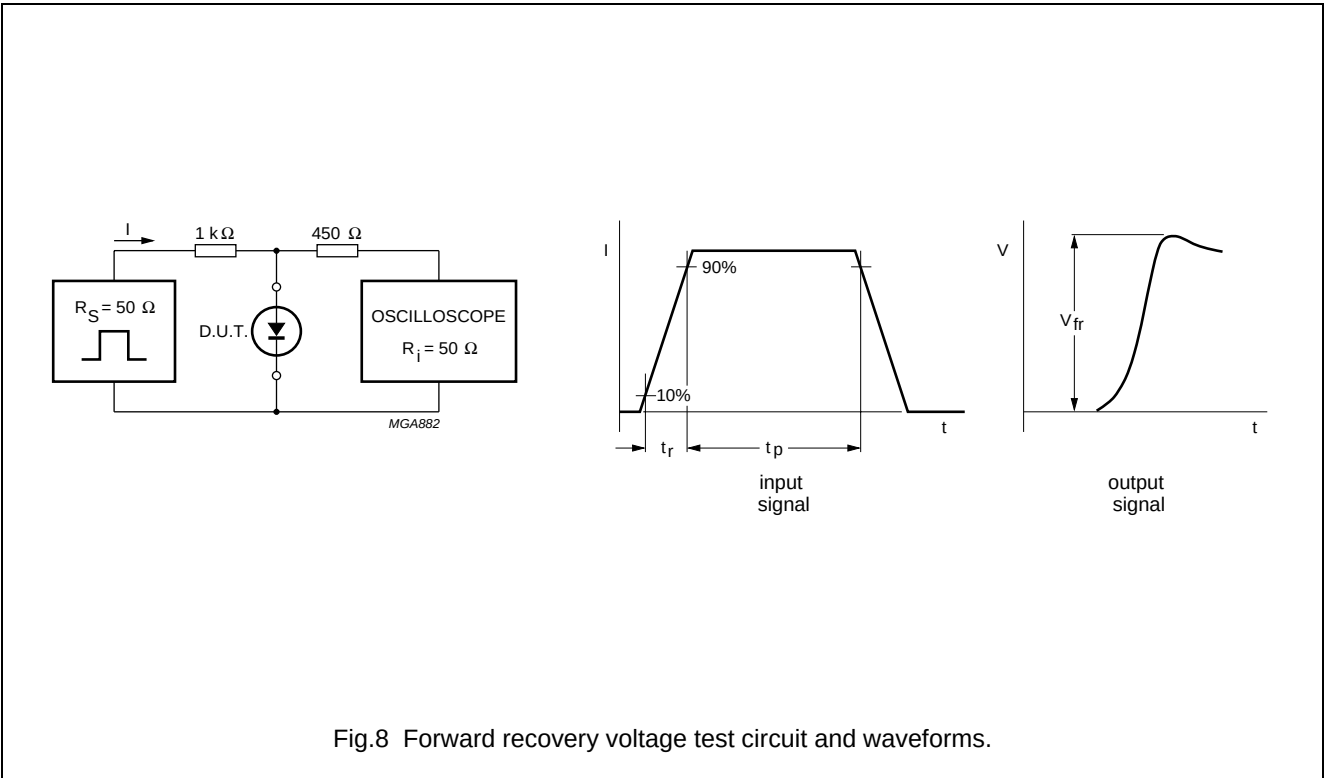
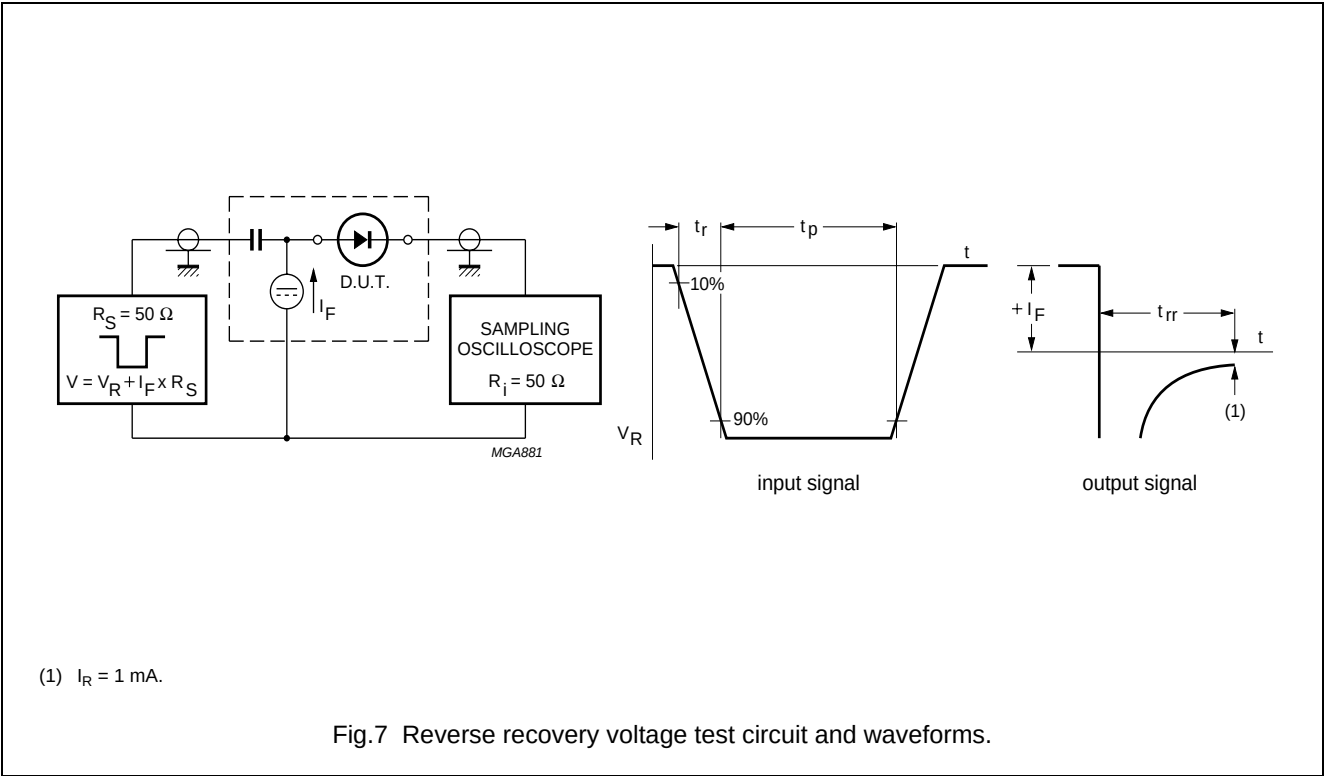


$f = 1 MHz$; $T_j = 25^{\circ}C$.

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

High-speed diode

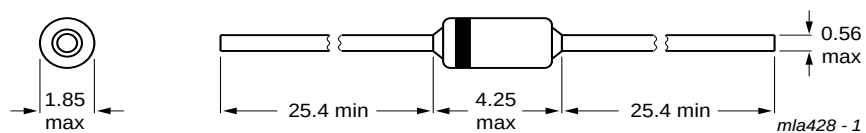
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High-speed diode

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PACKAGE OUTLINE



Dimensions in mm.

Fig.9 SOD27 (DO-35).

High-speed diode

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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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