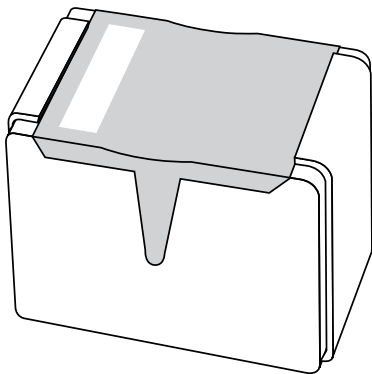


DATA SHEET



BAS216 High-speed switching diode

Product specification
Supersedes data of 1999 Apr 22

2002 May 28

High-speed switching diode

BAS216

FEATURES

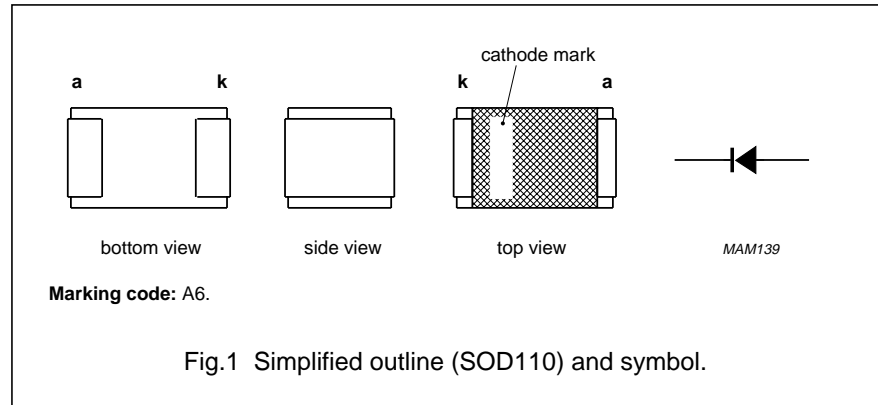
- Small ceramic SMD package
- High switching speed: max. 4 ns
- Continuous reverse voltage: max. 75 V
- Repetitive peak reverse voltage: max. 85 V
- Repetitive peak forward current: max. 500 mA.

APPLICATIONS

- High-speed switching in e.g. surface mounted circuits.

DESCRIPTION

The BAS216 is a high-speed switching diode fabricated in planar technology, and encapsulated in the SOD110 very small rectangular ceramic SMD package.



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{RRM}	repetitive peak reverse voltage		–	85	V
V_R	continuous reverse voltage		–	75	V
I_F	continuous forward current	note 1	–	250	mA
I_{FRM}	repetitive peak forward current		–	500	mA
I_{FSM}	non-repetitive peak forward current	square wave; $T_j = 25\text{ °C}$ prior to surge; see Fig.4 $t = 1\ \mu\text{s}$ $t = 1\ \text{ms}$ $t = 1\ \text{s}$	–	4 1 0.5	A A A
P_{tot}	total power dissipation	$T_{amb} = 25\text{ °C}$; see Fig.2; note 1	–	400	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C

Note

1. Device mounted on an FR4 printed-circuit board.

High-speed switching diode

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_F	forward voltage	see Fig.3			
		$I_F = 1\text{ mA}$	–	715	mV
		$I_F = 10\text{ mA}$	–	855	mV
		$I_F = 50\text{ mA}$	–	1	V
I_R	reverse current	see Fig.5			
		$V_R = 25\text{ V}$	–	30	nA
		$V_R = 75\text{ V}$	–	1	μA
		$V_R = 25\text{ V}; T_j = 150\text{ °C}$	–	30	μA
		$V_R = 75\text{ V}; T_j = 150\text{ °C}$	–	50	μA
C_d	diode capacitance	$f = 1\text{ MHz}; V_R = 0$; see Fig.6	–	1.5	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 $I_F = 10\text{ mA}$; $t_r = 20\text{ ns}$; see Fig.8	–	1.75	V

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-tp}$	thermal resistance from junction to tie-point		200	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	315	K/W

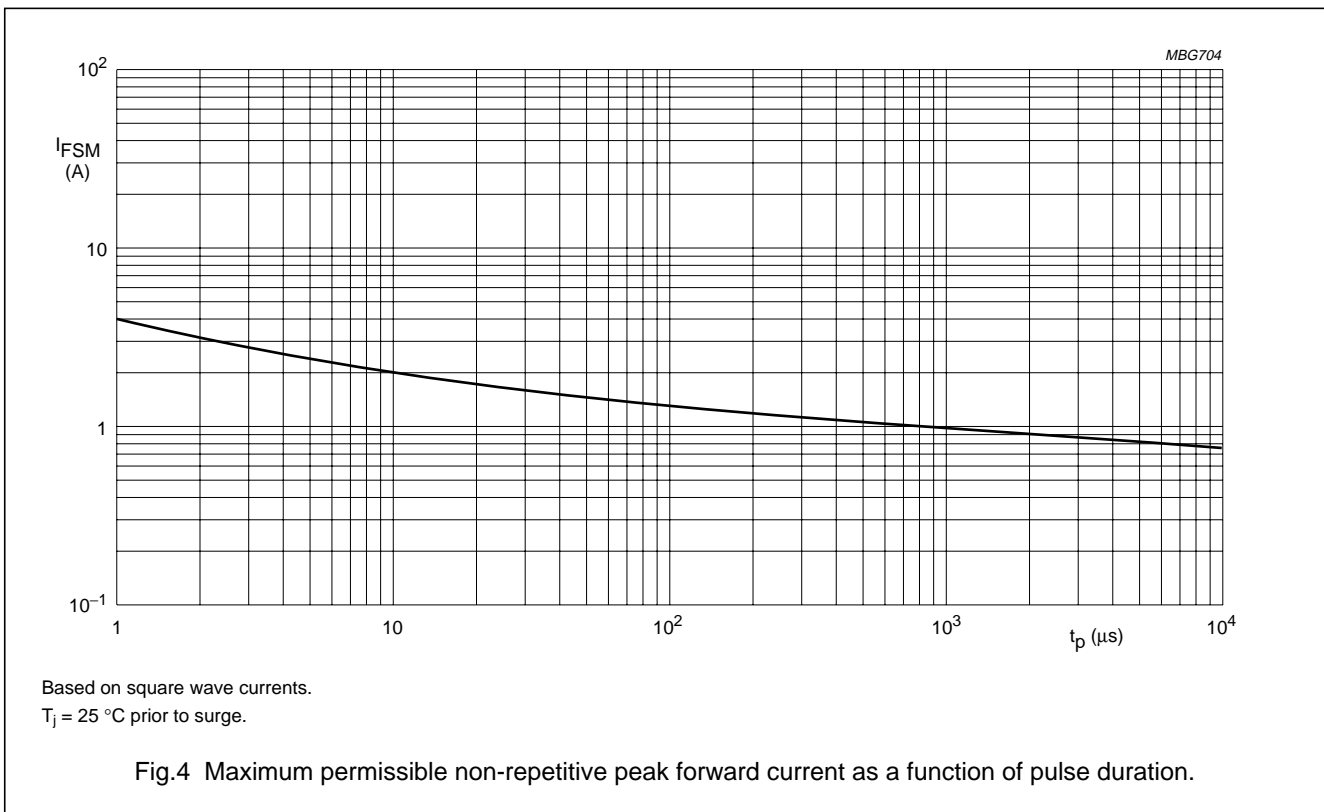
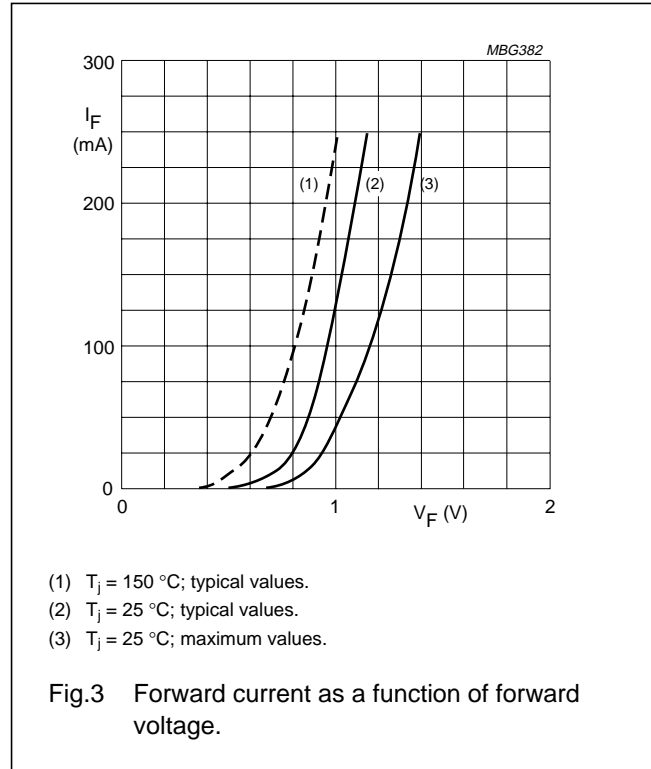
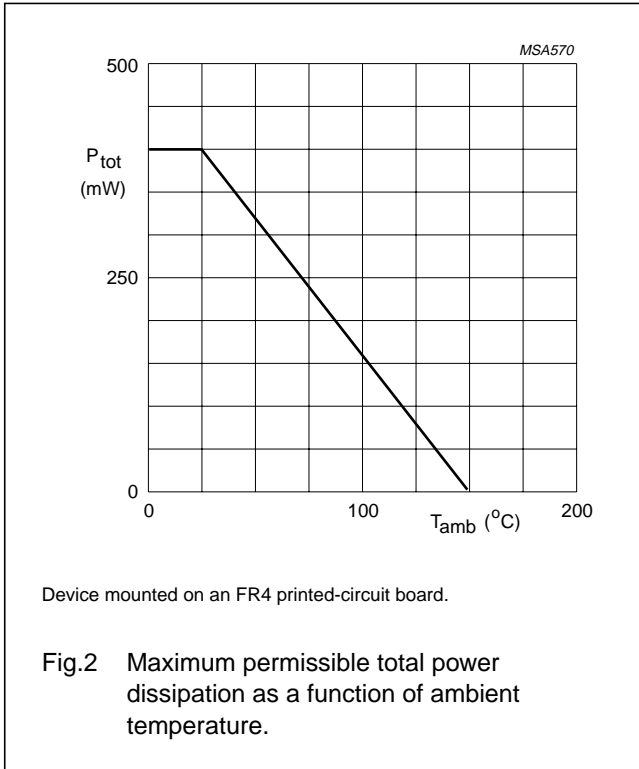
Note

1. Device mounted on an FR4 printed-circuit board.

High-speed switching diode

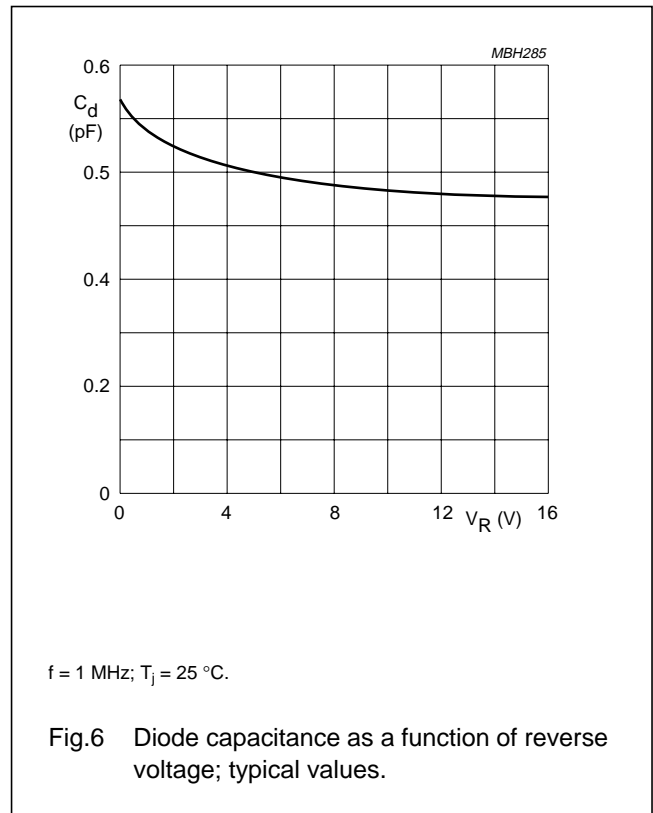
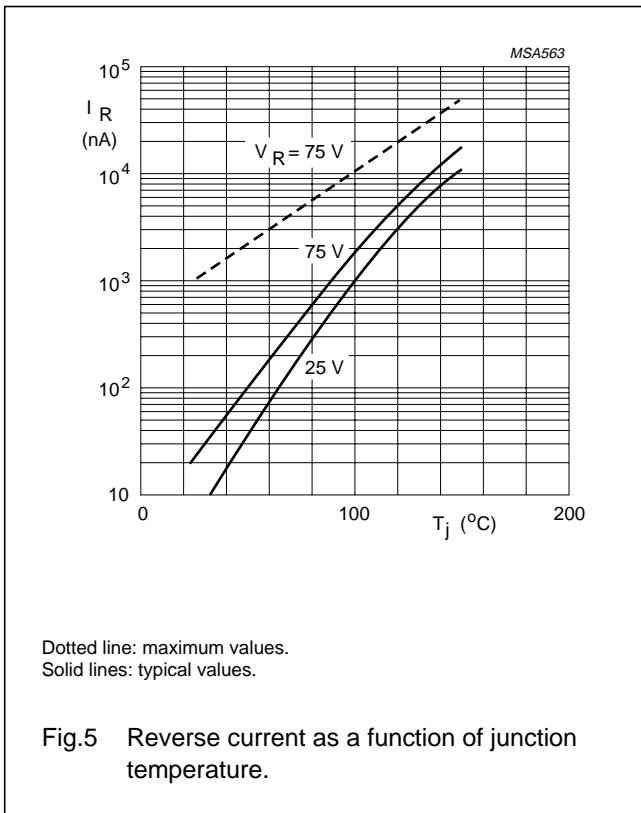
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GRAPHICAL DATA



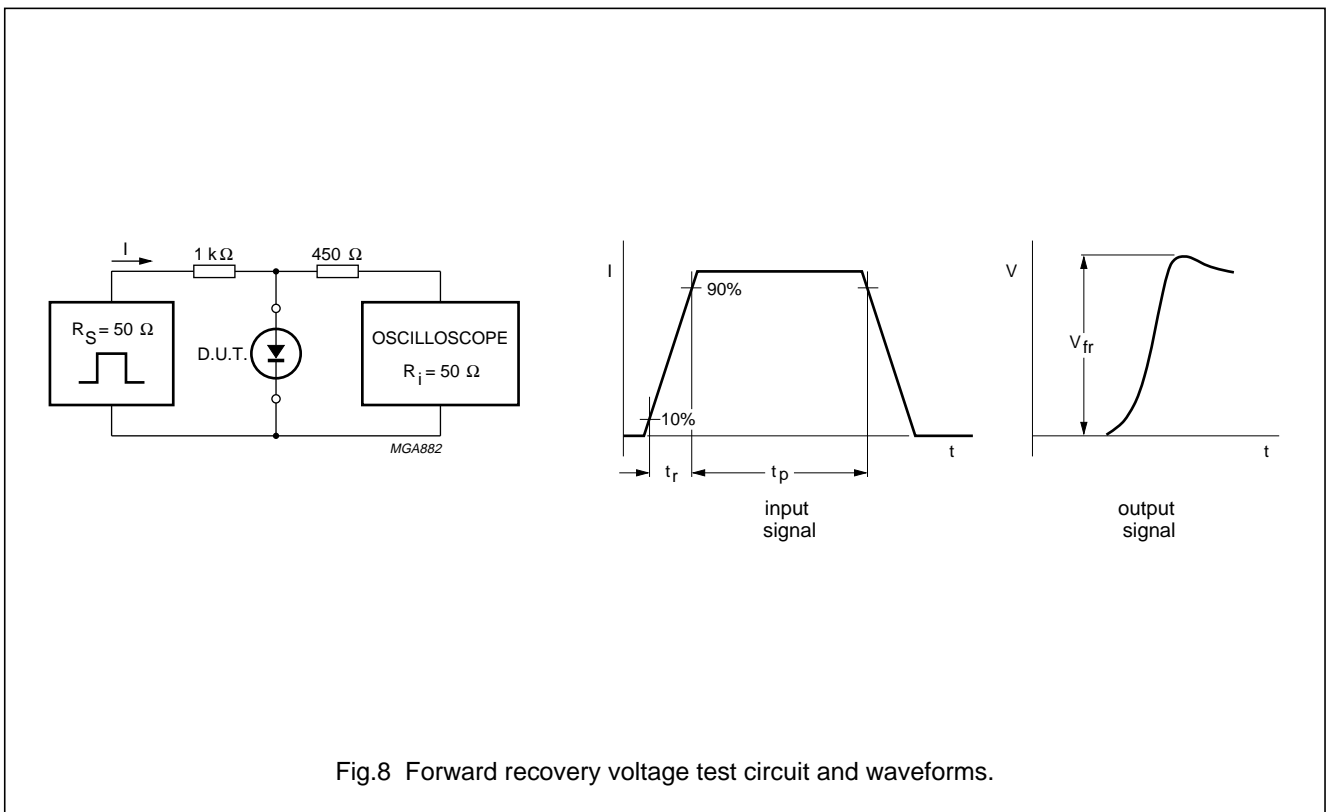
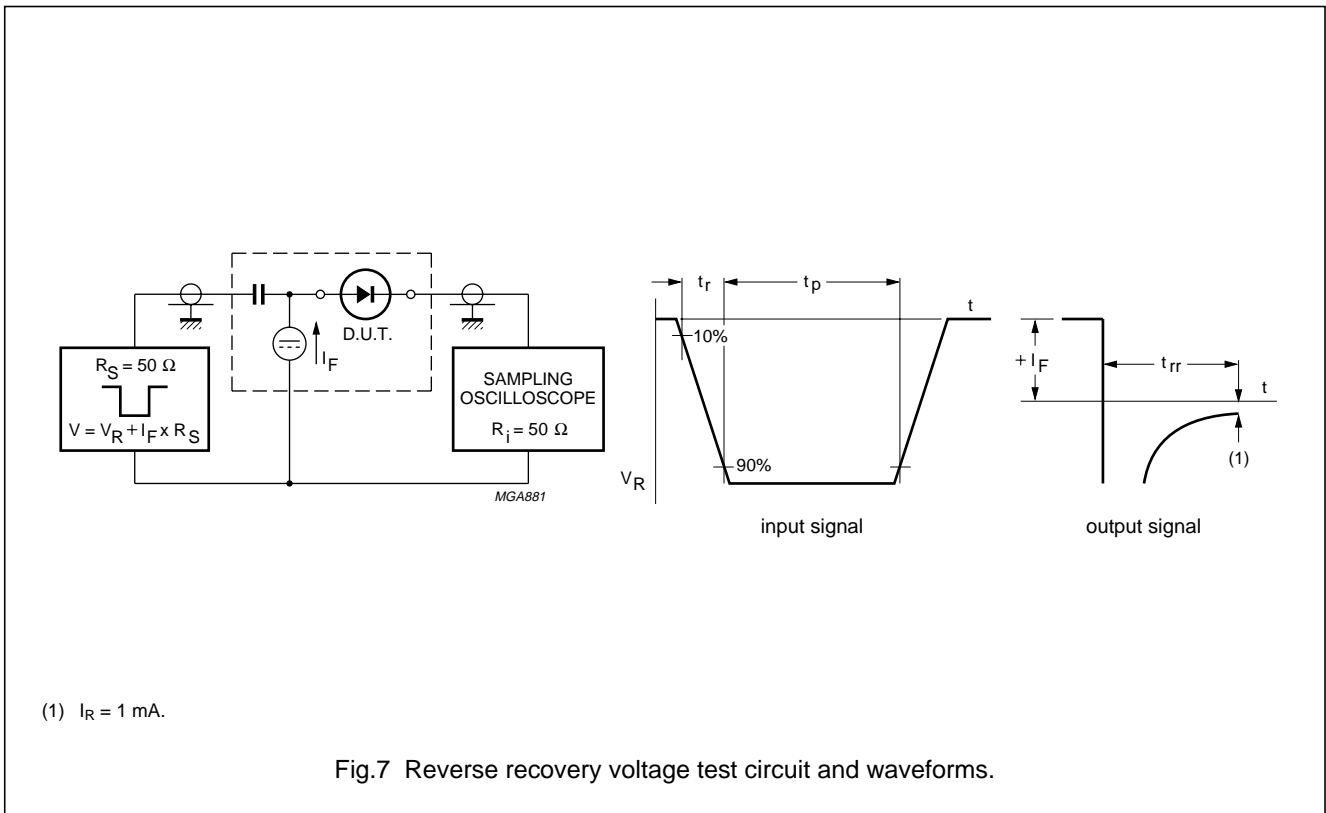
High-speed switching diode

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High-speed switching diode

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High-speed switching diode

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PACKAGE OUTLINE

Very small ceramic rectangular surface mounted package

SOD110

DIMENSIONS (mm are the original dimensions)

UNIT	A max.	D	E	y
mm	1.6	2.10 1.90	1.40 1.10	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD110						97-04-14

High-speed switching diode

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DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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NOTES

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Contact information

For additional information please visit <http://www.semiconductors.philips.com>. Fax: +31 40 27 24825

For sales offices addresses send e-mail to: sales.addresses@www.semiconductors.philips.com.

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