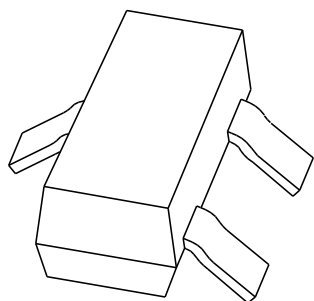


DATA SHEET



PMBD2835; PMBD2836 High-speed double diodes

Product specification
Supersedes data of November 1993
File under Discrete Semiconductors, SC01

1996 Apr 04

High-speed double diodes

PMBD2835; PMBD2836

FEATURES

- Small plastic SMD package
- High switching speed: max. 4 ns
- Continuous reverse voltage: max. 35 V and 75 V respectively
- Repetitive peak reverse voltage: max. 85 V
- Repetitive peak forward current: max. 450 mA
- Forward voltage: max. 1 V.

APPLICATIONS

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

DESCRIPTION

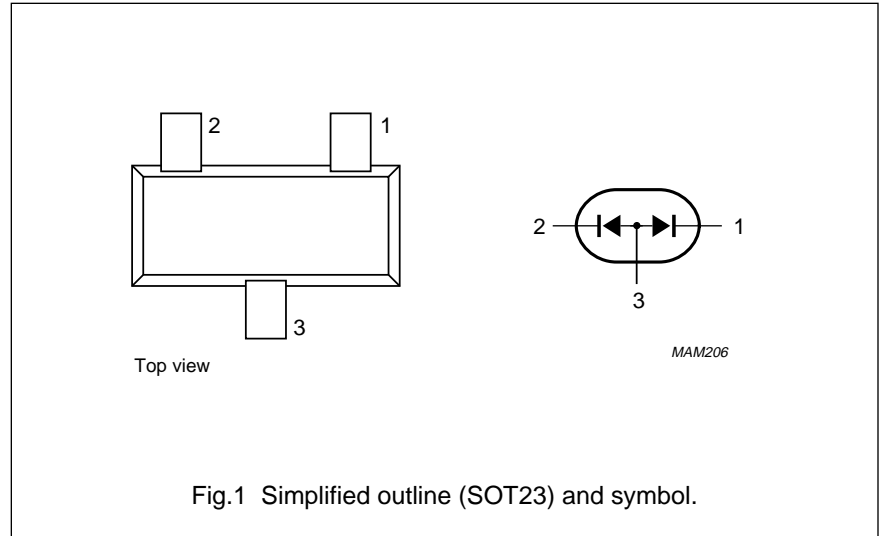
The PMD2835, PMD2836 consist of two high-speed switching diodes with common anodes, fabricated in planar technology, and encapsulated in small plastic SMD SOT23 packages.

MARKING

TYPE NUMBER	MARKING CODE
PMBD2835	pA3
PMBD2836	pA2

PINNING

PIN	DESCRIPTION
1	cathode (k1)
2	cathode (k2)
3	common anode



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LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per diode					
V_{RRM}	repetitive peak reverse voltage				
	PMBD2835		–	85	V
	PMBD2836		–	85	V
V_R	continuous reverse voltage				
	PMBD2835		–	35	V
	PMBD2836		–	75	V
I_F	continuous forward current	single diode loaded; see Fig.2; note 1	–	215	mA
		double diode loaded; see Fig.2; note 1	–	125	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			
		$t = 1\ \mu\text{s}$	–	4	A
		$t = 1\ \text{ms}$	–	1	A
		$t = 1\ \text{s}$	–	0.5	A
P_{tot}	total power dissipation	$T_{amb} = 25\text{ °C}$; note 1	–	250	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 double diodes

PMBD2835; PMBD2836

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per diode					
V_F	forward voltage	see Fig.3 $I_F = 1\text{ mA}$ $I_F = 10\text{ mA}$ $I_F = 50\text{ mA}$ $I_F = 150\text{ mA}$	– – – –	715 855 1 1.25	mV mV V V
I_R	reverse current PMBD2835 PMBD2836	see Fig.5 $V_R = 30\text{ V}$ $V_R = 30\text{ V}; T_j = 150\text{ }^\circ\text{C};$ $V_R = 50\text{ V}$ $V_R = 50\text{ V}; T_j = 150\text{ }^\circ\text{C}$	– – – –	100 40 100 50	nA μA nA μA
C_d	diode capacitance	$f = 1\text{ MHz}; V_R = 0$; see Fig.6	–	2.5	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		360	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	500	K/W

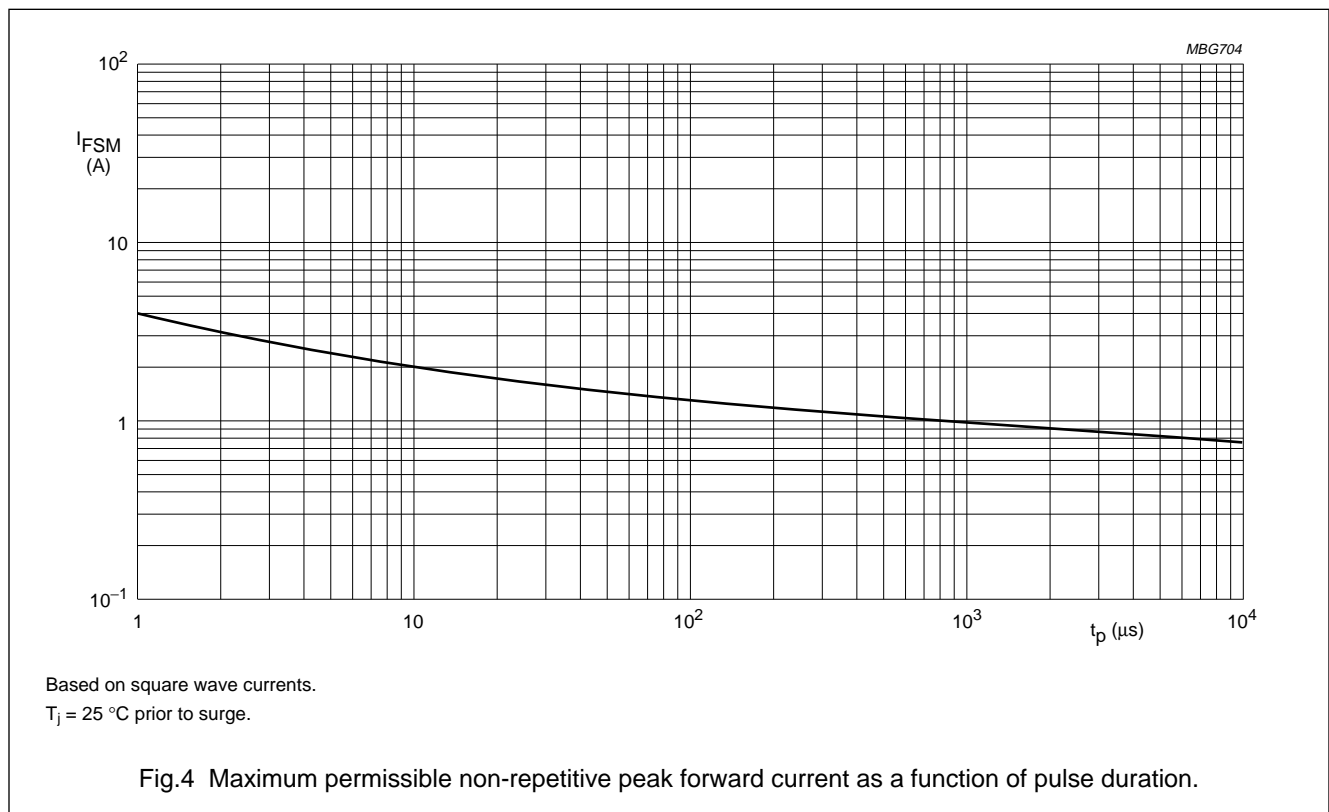
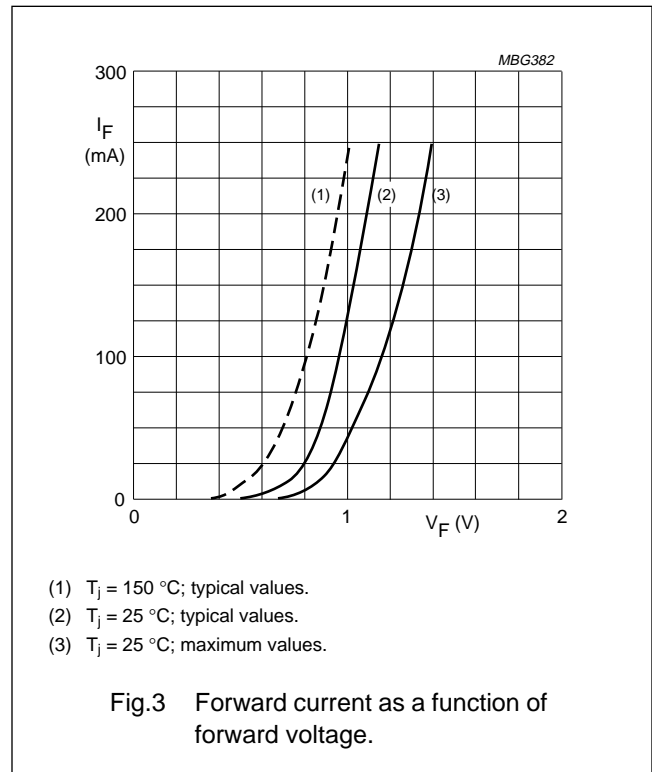
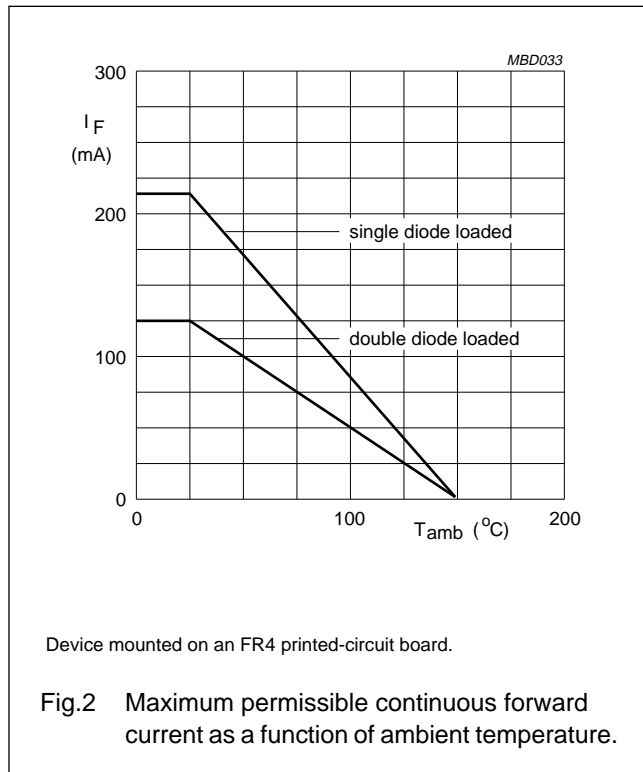
Note

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

High-speed double diodes

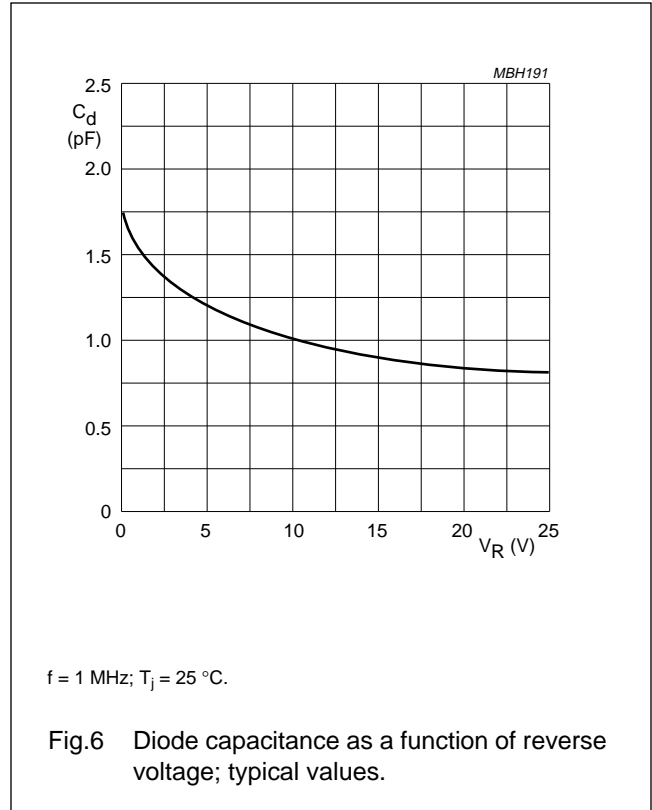
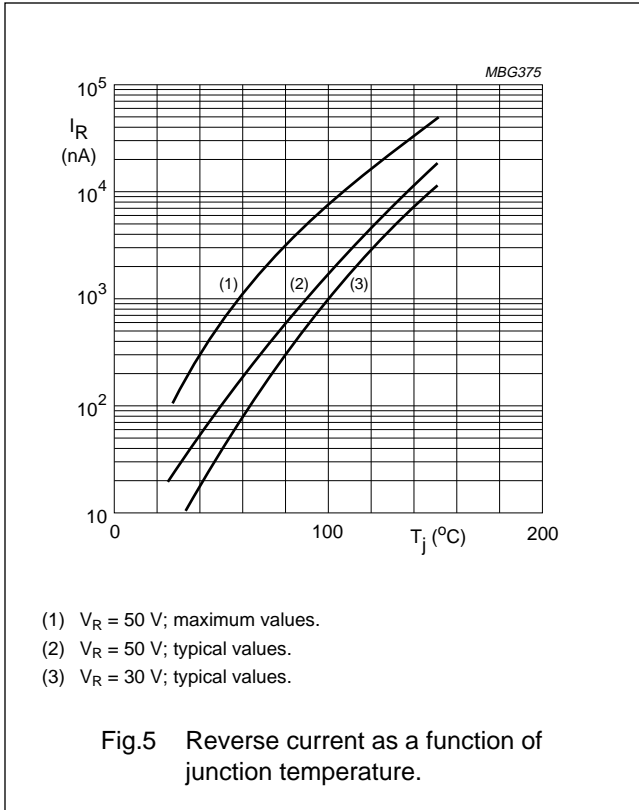
PMBD2835; PMBD2836

GRAPHICAL DATA



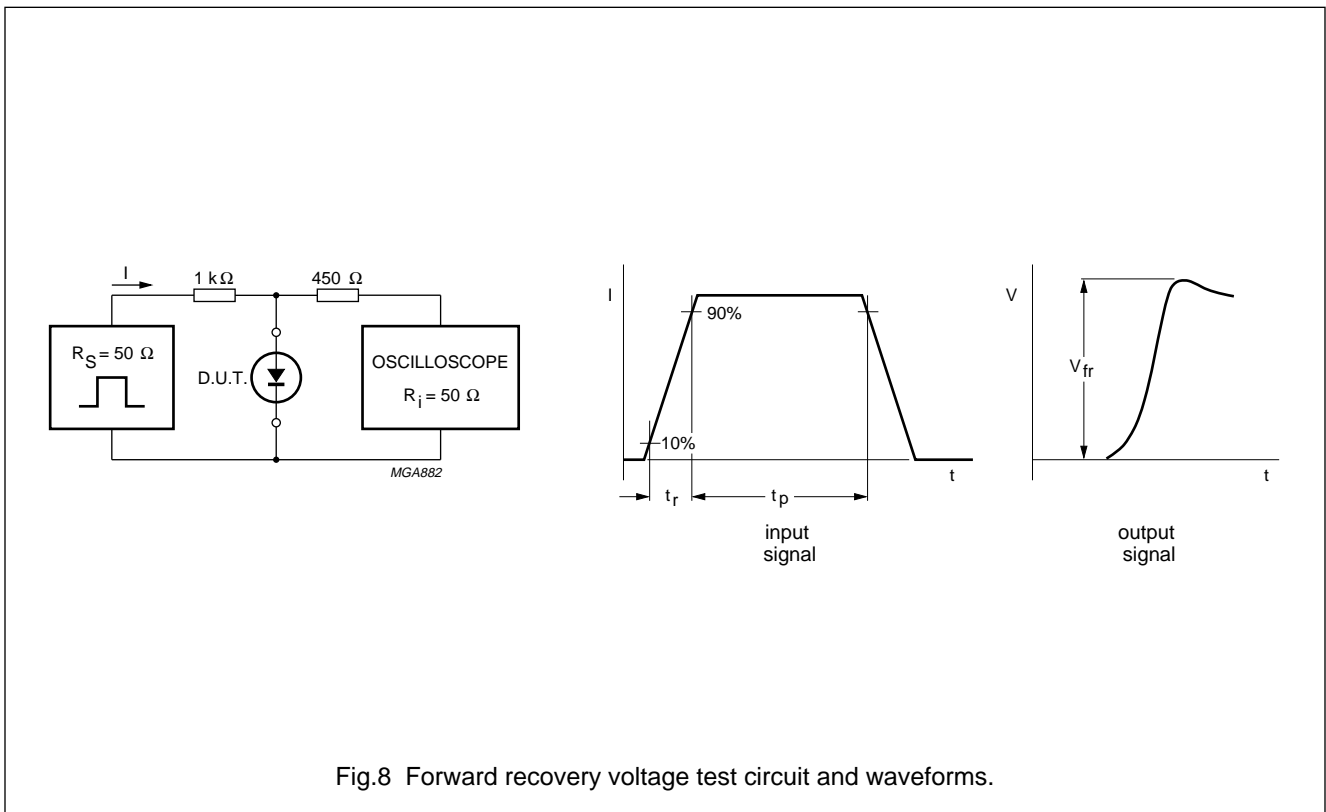
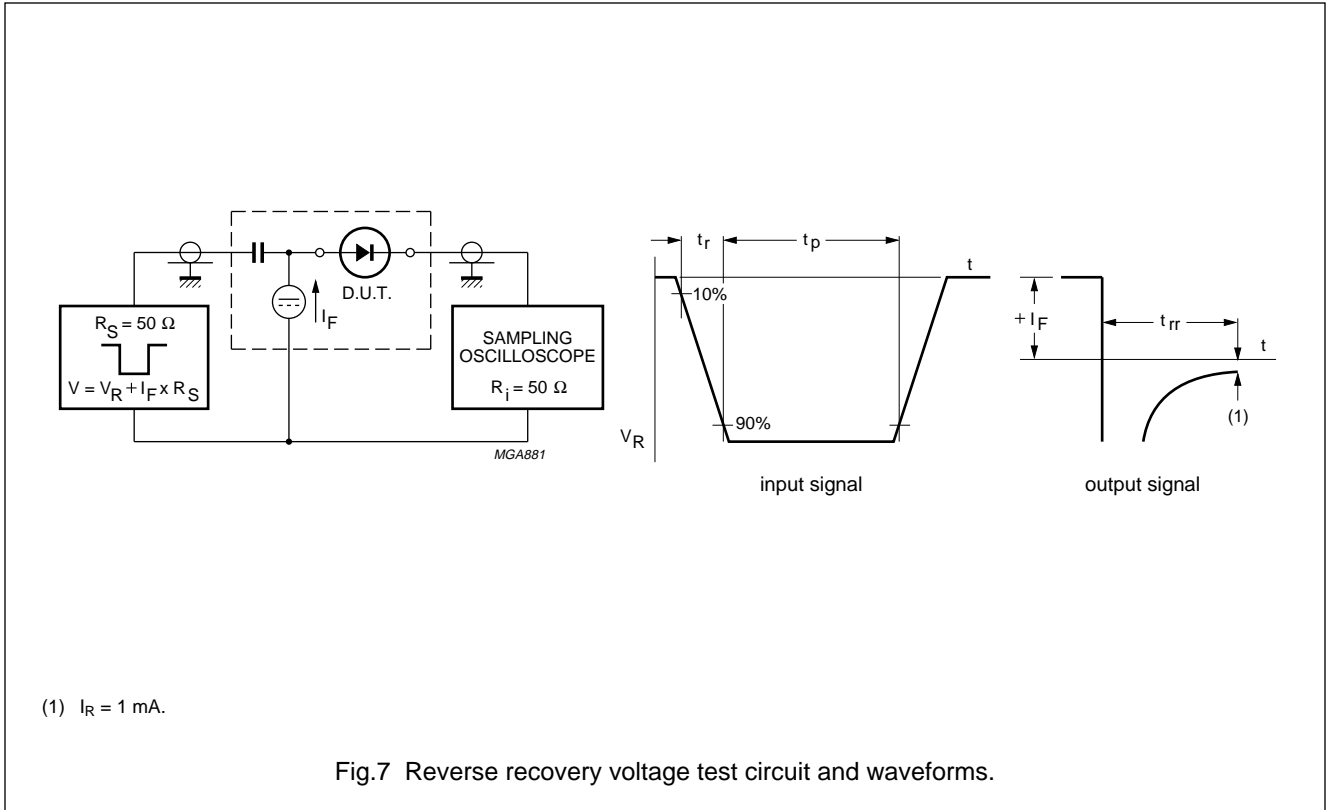
High-speed double diodes

PMBD2835; PMBD2836



High-speed double diodes

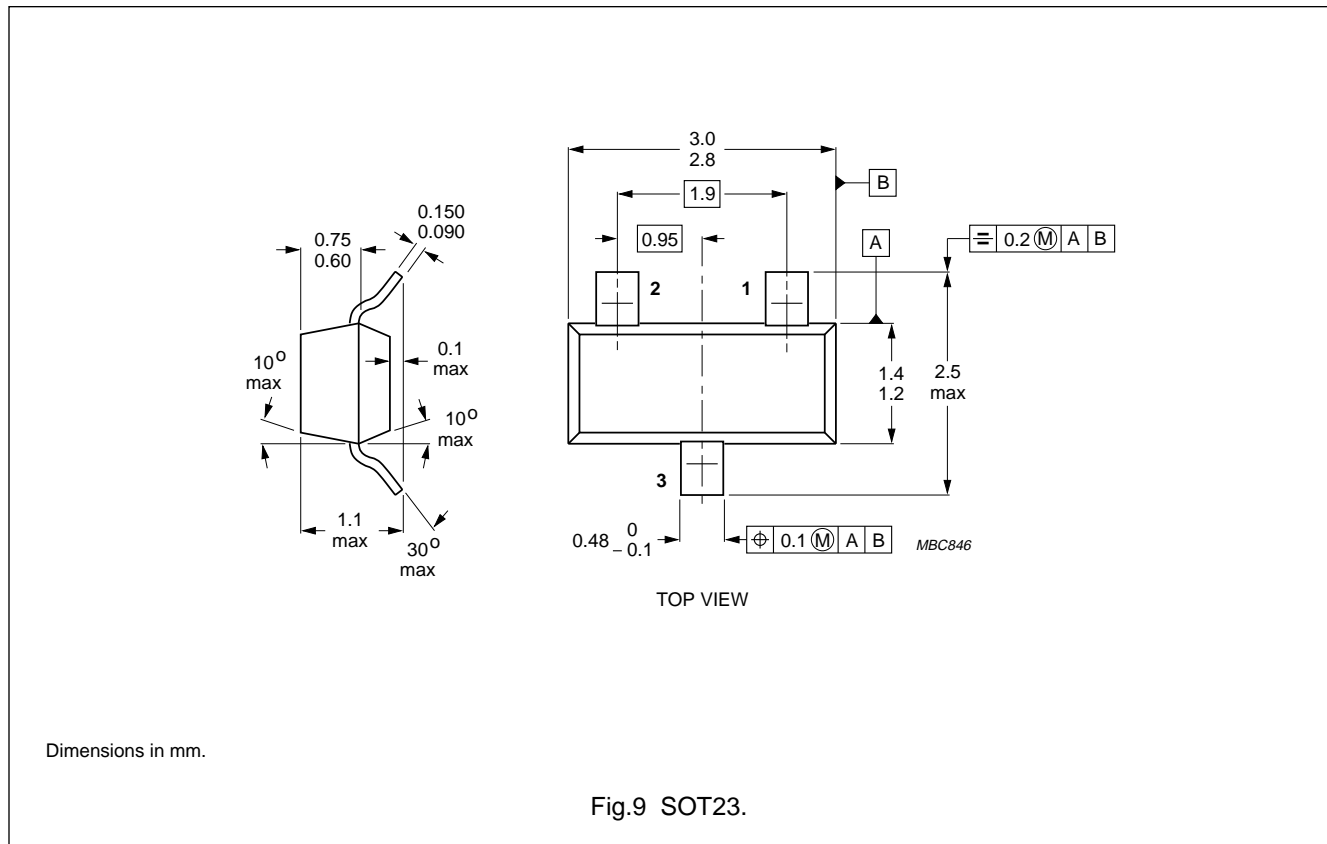
PMBD2835; PMBD2836



High-speed double diodes

PMBD2835; PMBD2836

PACKAGE OUTLINE



DEFINITIONS

Data Sheet Status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.