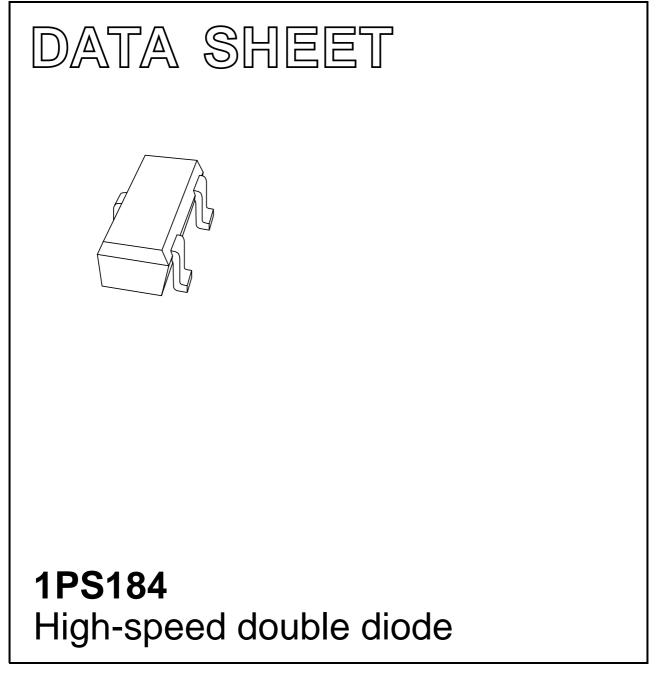
DISCRETE SEMICONDUCTORS



Product data sheet Supersedes data of April 1996 1996 Sep 03



FEATURES

- Small plastic SMD package
- High switching speed: max. 4 ns
- Continuous reverse voltage: max. 80 V
- Repetitive peak reverse voltage: max. 85 V
- Repetitive peak forward current: max. 500 mA.

APPLICATIONS

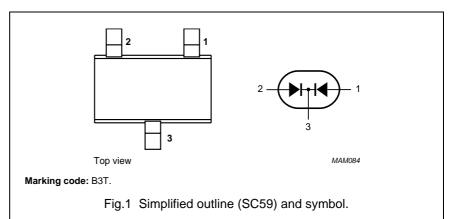
• High-speed switching in e.g. surface mounted circuits.

DESCRIPTION

The 1PS184 consists of two high-speed switching diodes with common cathodes, fabricated in planar technology, and encapsulated in the small plastic SMD SC59 package.

PINNING

PIN	DESCRIPTION	
1	anode (a1)	
2	anode (a2)	
3	common cathode	



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		_	85	V
V _R	continuous reverse voltage		-	80	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		_	500	mA
I _{FSM}	non-repetitive peak forward current	square wave; T _j = 25 °C prior to surge			
		t = 1 μs	-	4	А
		t = 1 s	_	0.5	A
P _{tot}	total power dissipation	T _{amb} = 25 °C; note 1	_	250	mW
T _{stg}	storage temperature		-65	+150	°C
Tj	junction temperature		_	150	°C

Note

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

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ELECTRICAL CHARACTERISTICS

T_j = 25 °C; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
Per diode					
V _F	forward voltage	see Fig.3			
		I _F = 1 mA	610	-	mV
		I _F = 10 mA	740	-	mV
		I _F = 50 mA	_	1.0	V
		I _F = 100 mA	_	1.2	V
I _R	reverse current	see Fig.4			
		V _R = 25 V	_	30	nA
		V _R = 80 V	_	0.5	μA
		V _R = 25 V; T _j = 150 °C	_	30	μA
		V _R = 80 V; T _j = 150 °C	_	100	μA
C _d	diode capacitance	$f = 1 \text{ MHz}; V_R = 0; \text{ see Fig.5}$	_	1.5	pF
t _{rr}	reverse recovery time	when switched from $I_F = 10$ mA to $I_R = 10$ mA; $R_L = 100 \Omega$; measured at $I_R = 1$ mA; see Fig.6	-	4	ns
V _{fr}	forward recovery voltage	when switched from $I_F = 10$ mA; t _r = 20 ns; see Fig.7	_	1.75	V

THERMAL CHARACTERISTICS

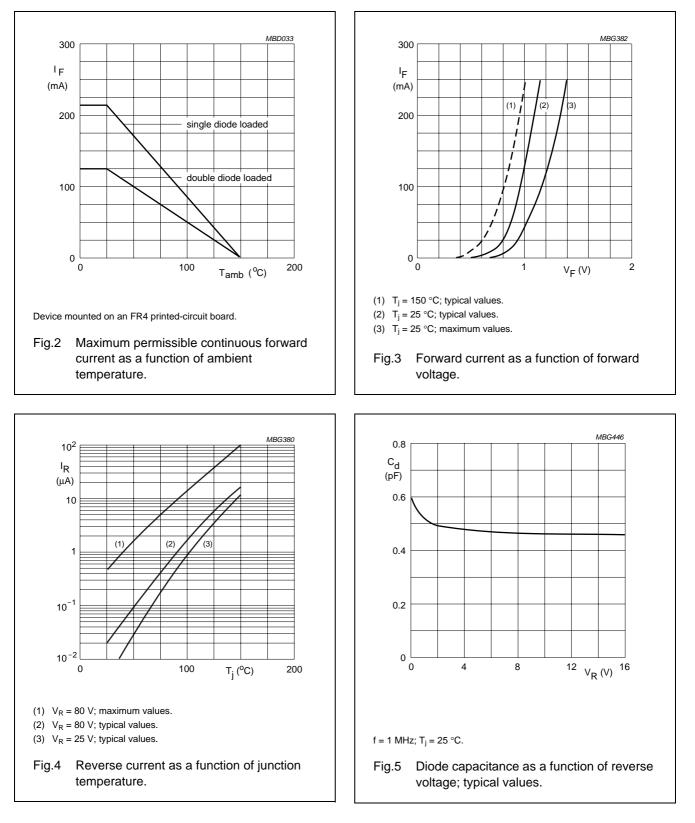
SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{th j-tp}	thermal resistance from junction to tie-point		250	K/W
R _{th j-a}	thermal resistance from junction to ambient	note 1	500	K/W

Note

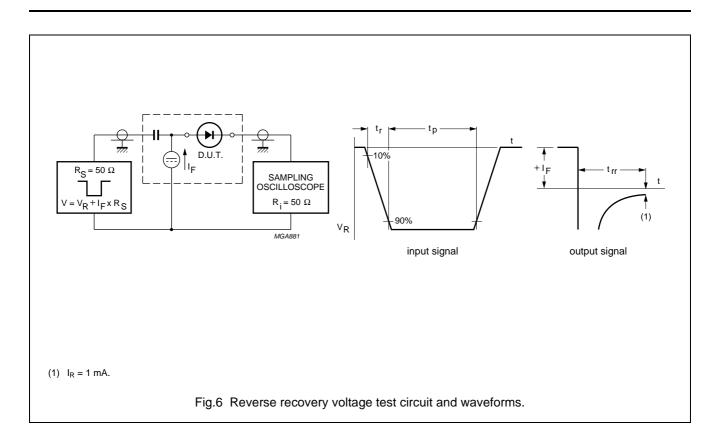
1. Device mounted on an FR4 printed-circuit board.

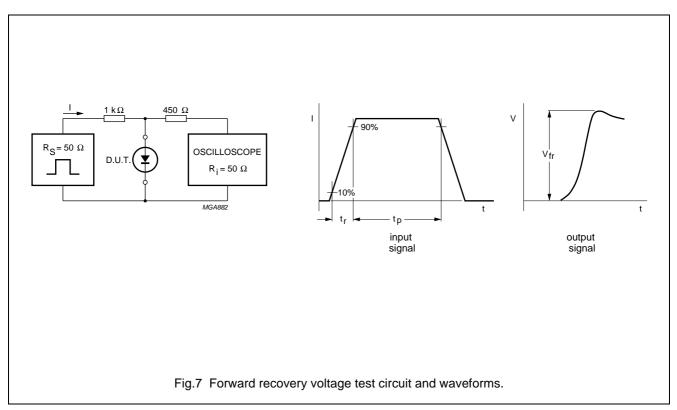
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GRAPHICAL DATA



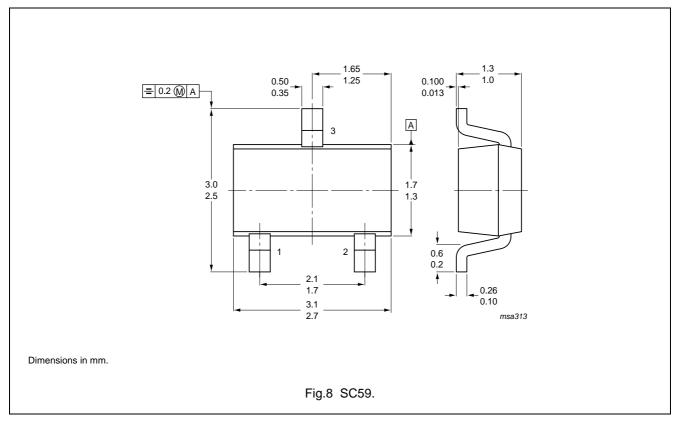
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PACKAGE OUTLINE



1PS184

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

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This data sheet was changed to reflect the new company name NXP Semiconductors. No changes were made to the content, except for the legal definitions and disclaimers.

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