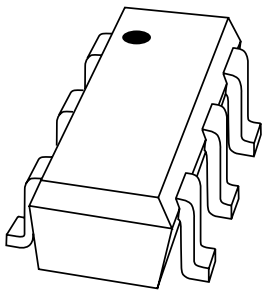
DATA SHEET



1PS88SB48
Schottky barrier diodes

Product specification
Supersedes data of 1999 Apr 26

2002 Nov 07

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Schottky barrier diodes 1PS88SB48

FEATURES

- Ultra fast switching speed
- Low forward voltage
- Small SMD package
- Guard ring protected
- Low capacitance.

APPLICATIONS

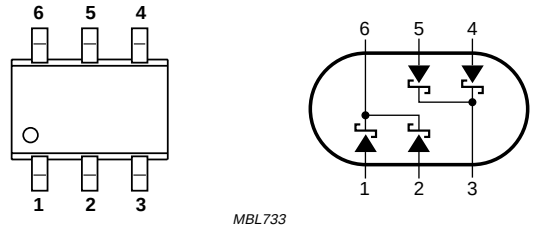
- High speed switching
- Circuit protection
- Voltage clamping.

DESCRIPTION

The 1PS88SB48 consists of two dual Schottky barrier diodes with common cathodes, fabricated in planar technology and encapsulated in the small SOT363 SMD plastic package.

PINNING

PIN	DESCRIPTION
1	anode (a1)
2	anode (a2)
3	common cathode (k1)
4	anode (a3)
5	anode (a4)
6	common cathode (k2)



Marking code: 8t5.

Fig.1 Simplified outline (SOT363; SC-88) and symbol.

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per diode					
V_R	continuous reverse voltage		–	40	V
I_F	continuous forward current		–	120	mA
I_{FRM}	repetitive peak forward current	$t_p \leq 1$ s; $\delta \leq 0.5$	–	120	mA
I_{FSM}	non-repetitive peak forward current	$t_p < 10$ ms	–	200	mA
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		–65	+150	°C

ELECTRICAL CHARACTERISTICS

T_{amb} = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
Per diode				
V_F	continuous forward voltage	see Fig.2		
		I_F = 1 mA	380	mV
		I_F = 10 mA	500	mV
		I_F = 40 mA	1	V
I_R	continuous reverse current	V_R = 30 V; note 1; see Fig.3	1	µA
		V_R = 40 V; note 1; see Fig.3	10	µA
C_d	diode capacitance	V_R = 0; f = 1 MHz; see Fig.5	5	pF

Note

1. Pulse test: t_p = 300 µs; δ = 0.02.

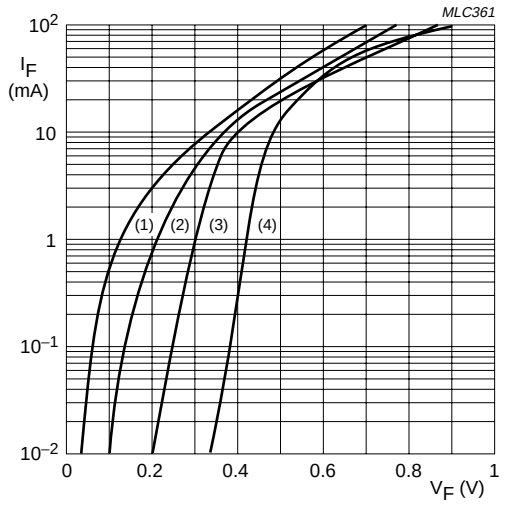
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	note 1	416	K/W

Note

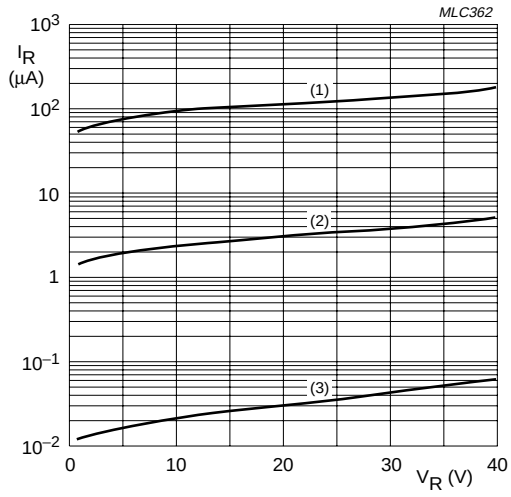
1. Refer to SOT363 (SC-88) standard mounting conditions.

GRAPHICAL DATA



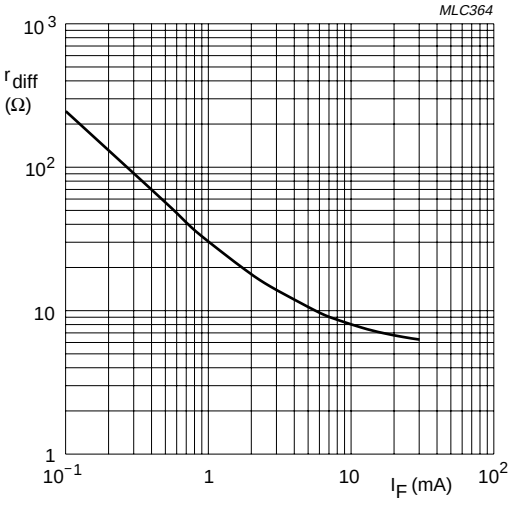
(1) T_{amb} = 150 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.
(4) T_{amb} = –40 °C.

Fig.2 Forward current as a function of forward voltage; typical values.



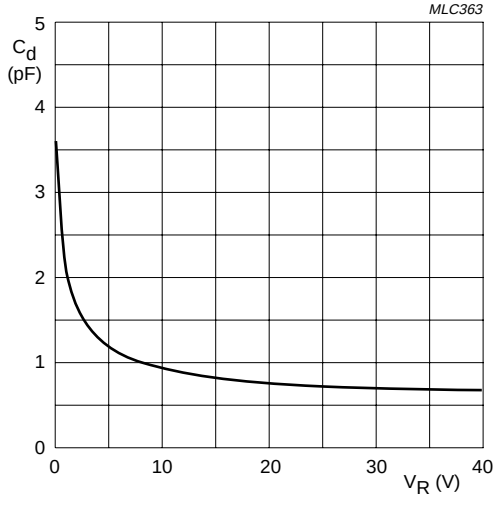
(1) T_{amb} = 150 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.

Fig.3 Reverse current as a function of reverse voltage; typical values.



f = 10 KHz.

Fig.4 Differential forward resistance as a function of forward current; typical values.

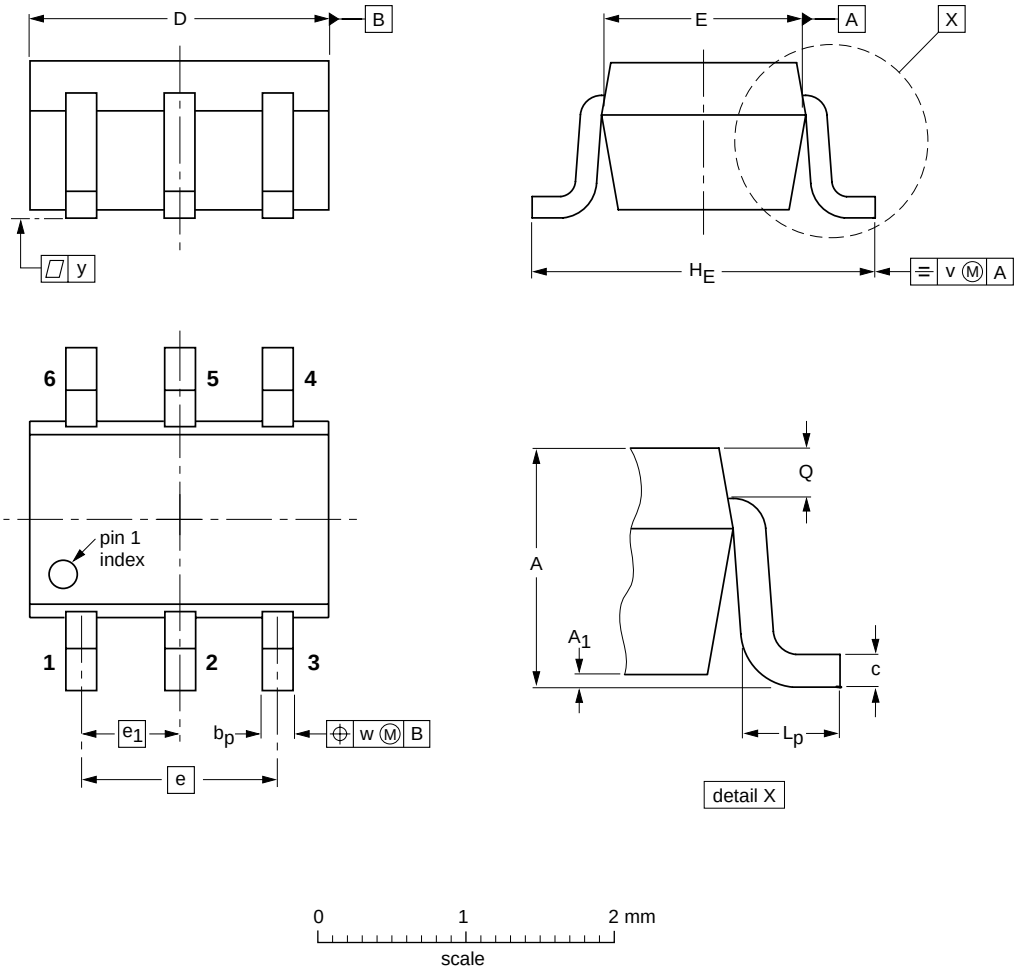


f = 1 MHz; T_{amb} = 25 °C.

Fig.5 Diode capacitance as a function of reverse voltage; typical values.

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads **SOT363**



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1 max	b_p	c	D	E	e	e_1	H_E	L_p	Q	v	w	y
mm	1.1 0.8	0.1	0.30 0.20	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.25 0.15	0.2	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT363			SC-88			97-02-28

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS(1)	PRODUCT STATUS(2)(3)	DEFINITION
I	Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
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Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). 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.

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Printed in The Netherlands 613514/03/pp8 Date of release: 2002 Nov 07 Document order number: 9397 750 10283

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