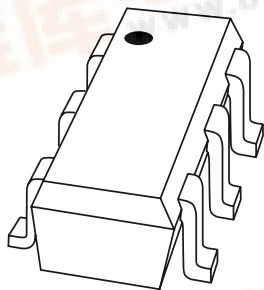


DISCRETE SEMICONDUCTORS

DATA SHEET



1PS88SB48

Schottky barrier diodes

Product specification

Supersedes data of 1998 Aug 05

1999 Apr 26

Schottky barrier diodes

1PS88SB48

FEATURES

- Ultra fast switching speed
- Low forward voltage
- Small SMD package
- Guard ring protected
- Absorbs very high surge pulse
- Low capacitance.

APPLICATIONS

- High speed switching
- Circuit protection
- Voltage clamping.

DESCRIPTION

The 1PS88SB48 consists of two dual high-speed switching diodes with common cathodes, fabricated in planar technology, and encapsulated in the small SMD SC-88 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)

The figure shows the top view and symbol of the 1PS88SB48 diode package. The top view is a rectangular package with six pins: pins 1, 2, and 3 on the bottom edge, and pins 6, 5, and 4 on the top edge. A small circle is located near pin 1. The symbol shows two diodes with common cathodes. Pin 1 is anode (a1), pin 2 is anode (a2), pin 3 is common cathode (k1), pin 4 is anode (a3), pin 5 is anode (a4), and pin 6 is common cathode (k2). The symbol is labeled MGL160.

Top view MSA370

Marking code: 8t5.

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

LIMITING VALUES

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

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 ≤ 1 s; δ ≤ 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

Schottky barrier diodes

1PS88SB48

ELECTRICAL CHARACTERISTICS

$T_{\text{amb}} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

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

Note

1. Pulse test: $t_p = 300\text{ }\mu\text{s}$; $\delta = 0.02$.

THERMAL CHARACTERISTICS

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

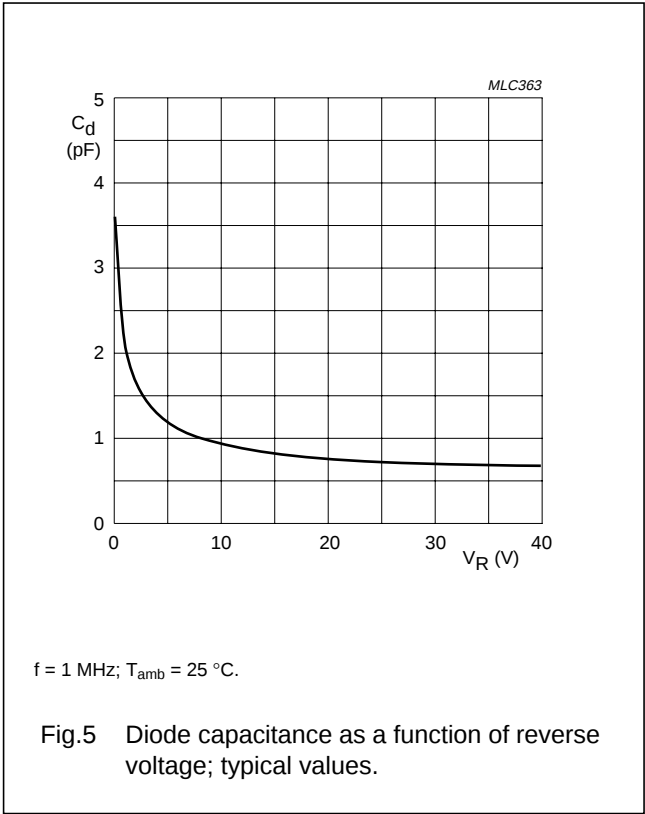
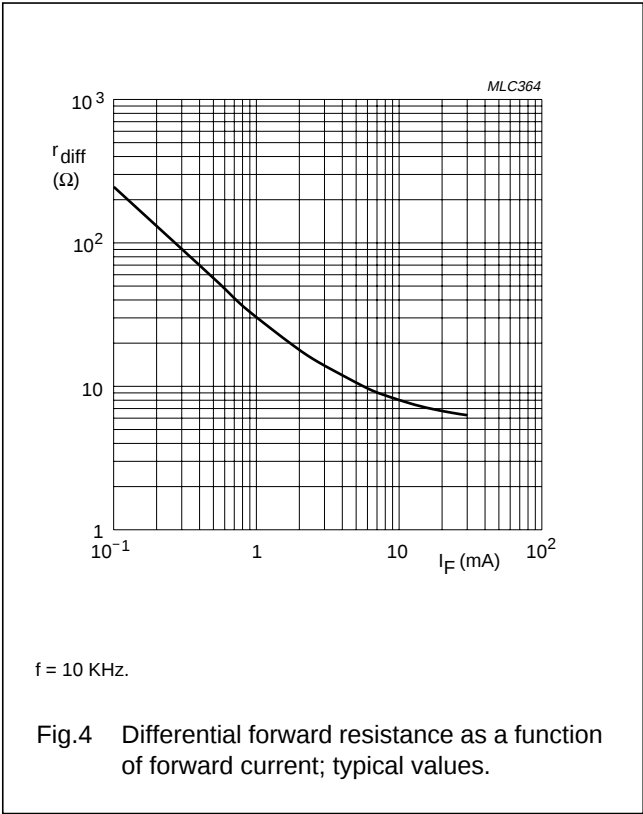
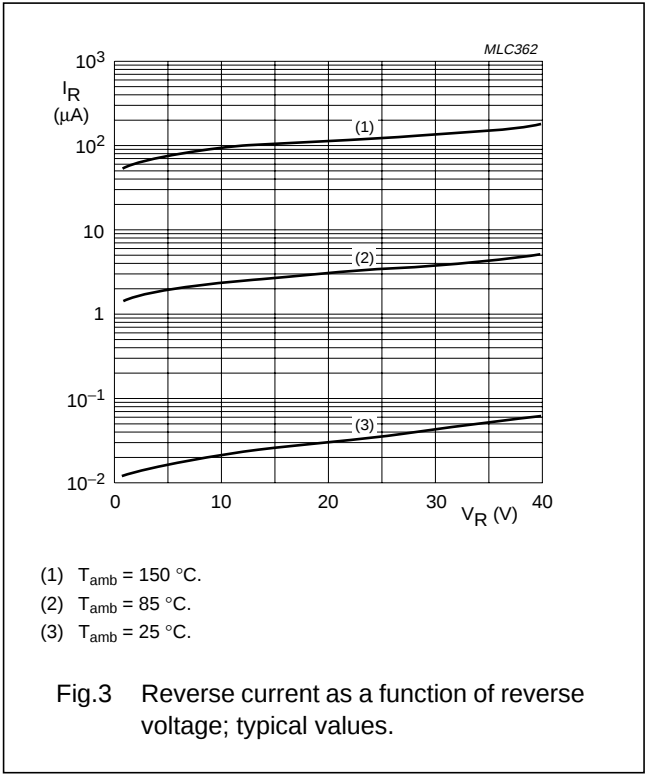
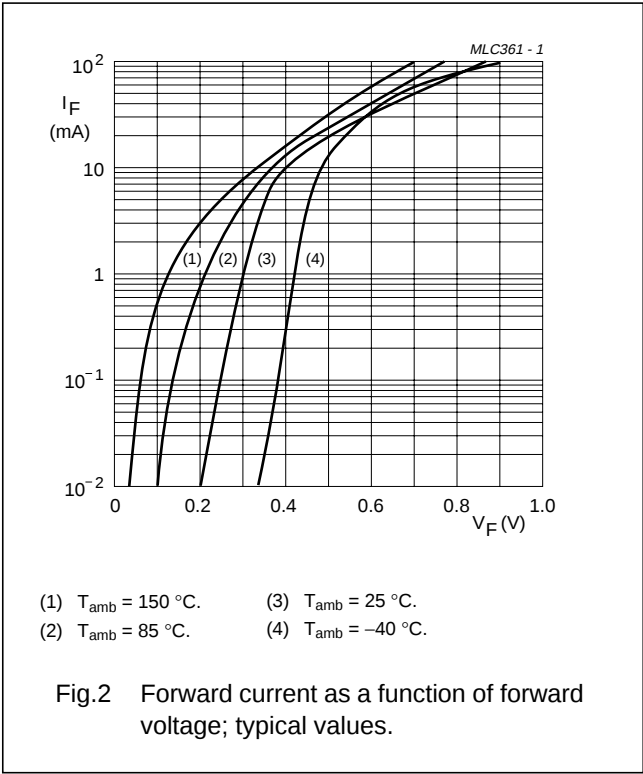
Note

1. Refer to SC-88 standard mounting conditions.

Schottky barrier diodes

1PS88SB48

GRAPHICAL DATA



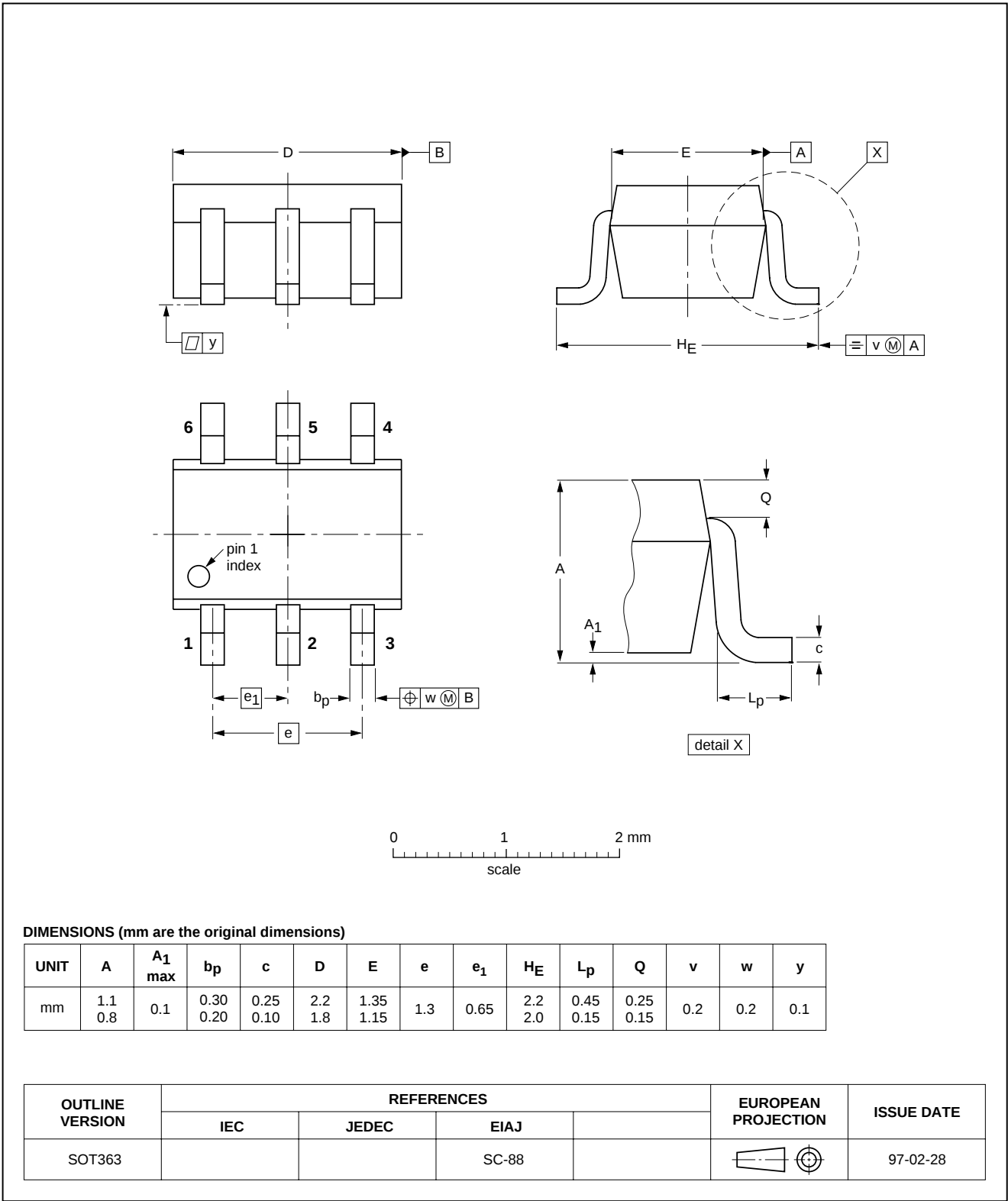
Schottky barrier diodes

1PS88SB48

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT363



Schottky barrier diodes**1PS88SB48**

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.

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