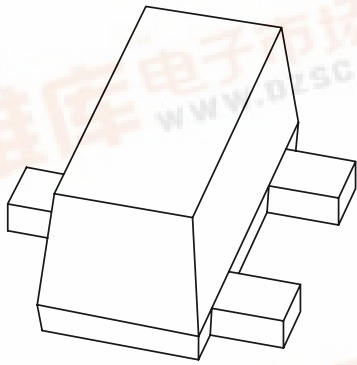


DISCRETE SEMICONDUCTORS

DATA SHEET



**1PS89SB14; 1PS89SB15;
1PS89SB16**
Schottky barrier double diodes

Preliminary specification

1998 Nov 10

Schottky barrier double diodes

1PS89SB14; 1PS89SB15; 1PS89SB16

FEATURES

- Power dissipation comparable to SOT23
- Low forward voltage
- Guard ring protected
- Ultra small SMD package.

APPLICATIONS

- Ultra high speed switching
- Voltage clamping
- Protection circuits
- Blocking diodes.

DESCRIPTION

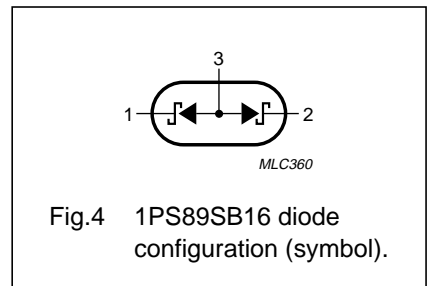
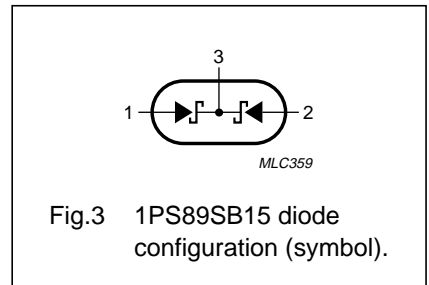
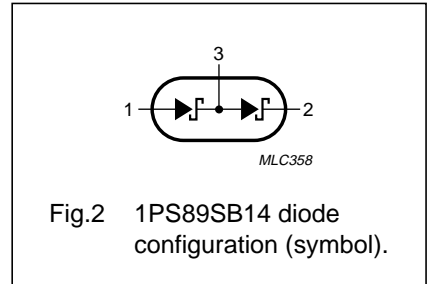
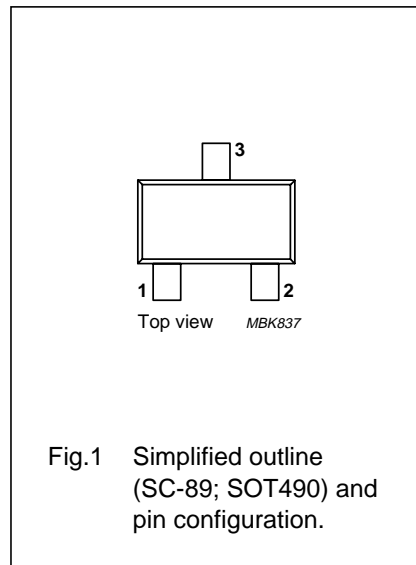
Planar Schottky barrier double diodes encapsulated in an ultra small plastic SMD SC-89 (SOT490) package.

MARKING

TYPE NUMBER	MARKING CODE
1PS89SB14	44
1PS89SB15	43
1PS89SB15	45

PINNING

PIN	1PS89SB..		
	14	15	16
1	a ₁	a ₁	k ₁
2	k ₂	a ₂	k ₂
3	k ₁ , a ₂	k ₁ , k ₂	a ₁ , a ₂



Schottky barrier double diodes

1PS89SB14; 1PS89SB15;
1PS89SB16**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per diode unless otherwise specified					
V_R	continuous reverse voltage		–	30	V
I_F	continuous forward current		–	200	mA
I_{FRM}	repetitive peak forward current	$t_p \leq 1$ s; $\delta \leq 0.5$	–	300	mA
I_{FSM}	non-repetitive peak forward current	$t_p < 10$ ms	–	600	mA
P_{tot}	total power dissipation (per package)	$T_{amb} \leq 25$ °C	–	200	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	125	°C
T_{amb}	operating ambient temperature		–65	+125	°C

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
Per diode unless otherwise specified				
V_F	forward voltage	see Fig.5 $I_F = 0.1$ mA $I_F = 1$ mA $I_F = 10$ mA $I_F = 30$ mA $I_F = 100$ mA	240 320 400 500 800	mV mV mV mV mV
I_R	reverse current	$V_R = 25$ V; note 1; see Fig.6	2	μ A
C_d	diode capacitance	$f = 1$ MHz; $V_R = 1$ V; see Fig.7	10	pF

Note

1. Pulse test: $t_p \leq 300$ μ s; $\delta \leq 0.02$.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	500	K/W

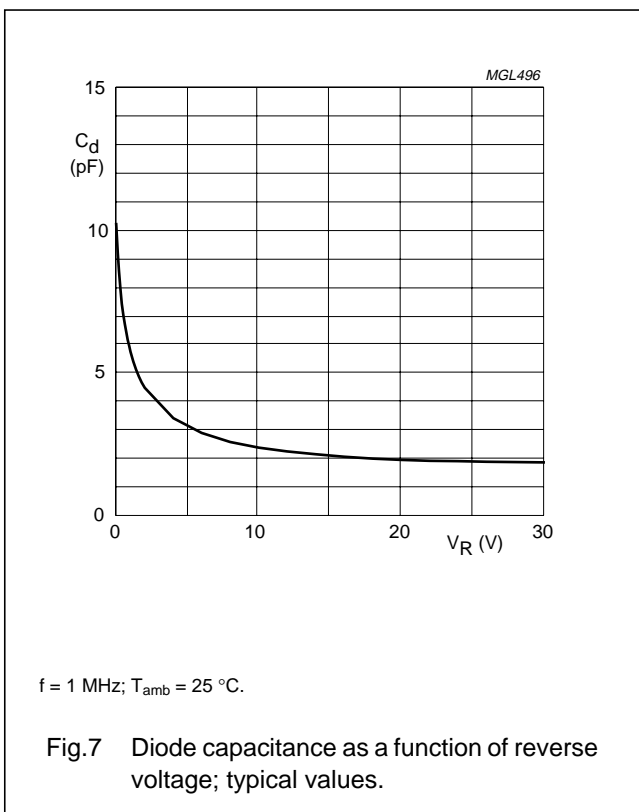
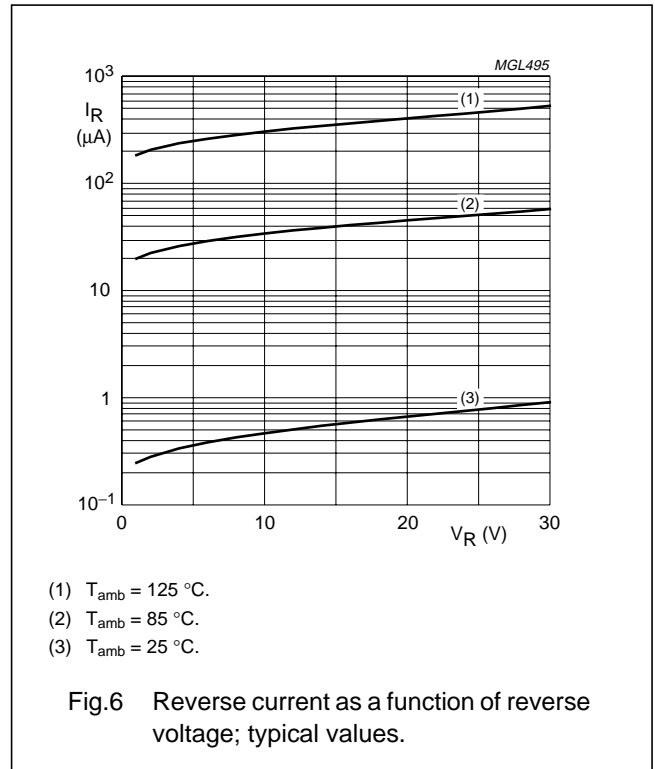
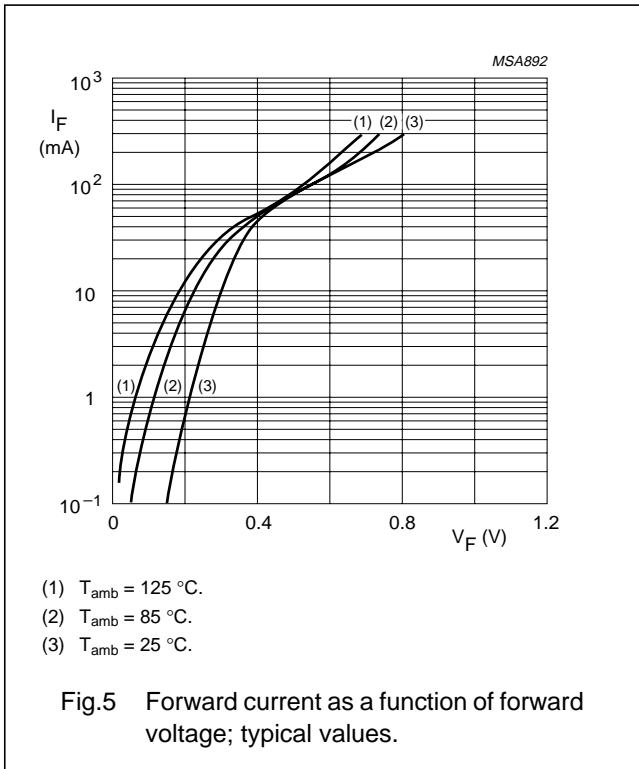
Note

1. Refer to SC-89 (SOT490) standard mounting conditions.

Schottky barrier double diodes

1PS89SB14; 1PS89SB15;
1PS89SB16

GRAPHICAL DATA



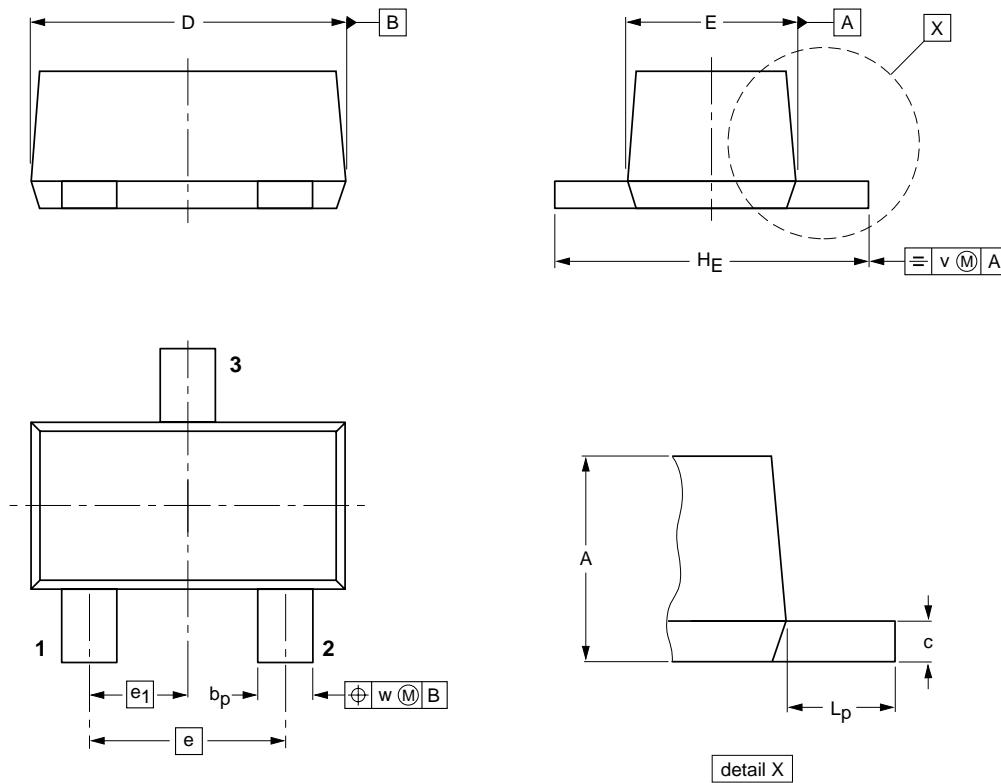
Schottky barrier double diodes

1PS89SB14; 1PS89SB15;
1PS89SB16

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT490



DIMENSIONS (mm are the original dimensions)

UNIT	A	b_p	c	D	E	e	e_1	H_E	L_p	v	w
mm	0.8 0.6	0.33 0.23	0.2 0.1	1.7 1.5	0.95 0.75	1.0	0.5	1.7 1.5	0.5 0.3	0.1	0.1

OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ		
SOT490			SC-89		98-10-23

Schottky barrier double diodes

1PS89SB14; 1PS89SB15;
1PS89SB16**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.

Schottky barrier double diodes

1PS89SB14; 1PS89SB15;
1PS89SB16

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Printed in The Netherlands

115104/00/01/pp8

Date of release: 1998 Nov 10

Document order number: 9397 750 04735

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