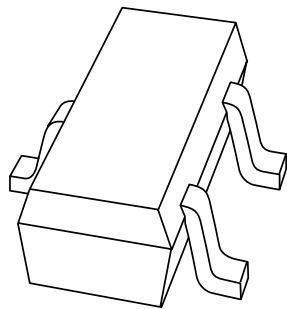


# DATA SHEET



## **1PS75SB45** Schottky barrier double diode

Product specification  
Supersedes data of 1997 Nov 07

1999 Apr 26

# Schottky barrier double diode

# 1PS75SB45

### FEATURES

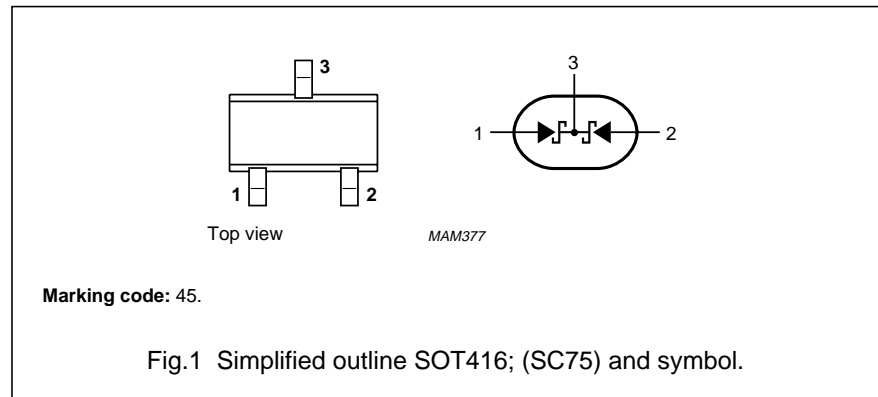
- Low forward voltage
- Guard ring protected
- Ultra small plastic SMD package
- Low diode capacitance.

### APPLICATIONS

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

### DESCRIPTION

Planar Schottky barrier double diode encapsulated in a SOT416 (SC75) ultra small plastic SMD package.



### LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
<b>Per diode</b>					
$V_R$	continuous reverse voltage		–	40	V
$I_F$	continuous forward current		–	120	mA
$I_{FRM}$	repetitive peak forward current	$t_p \leq 1 \text{ s}; \delta \leq 0.5$	–	120	mA
$I_{FSM}$	non-repetitive peak forward current	$t_p < 10 \text{ ms}$	–	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 double diode

## 1PS75SB45

**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
<b>Per diode</b>				
$V_F$	continuous forward voltage	see Fig.2 $I_F = 1\text{ mA}$ $I_F = 10\text{ mA}$ $I_F = 40\text{ mA}$	380 500 1	mV mV V
$I_R$	continuous reverse current	$V_R = 30\text{ V}$ ; note 1; see Fig.3	1	$\mu\text{A}$
		$V_R = 40\text{ V}$ ; note 1; see Fig.3	10	$\mu\text{A}$
$\tau$	charge carrier life time	$I_F = 5\text{ mA}$ ; Krakauer method	100	ps
$C_d$	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
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	833	K/W

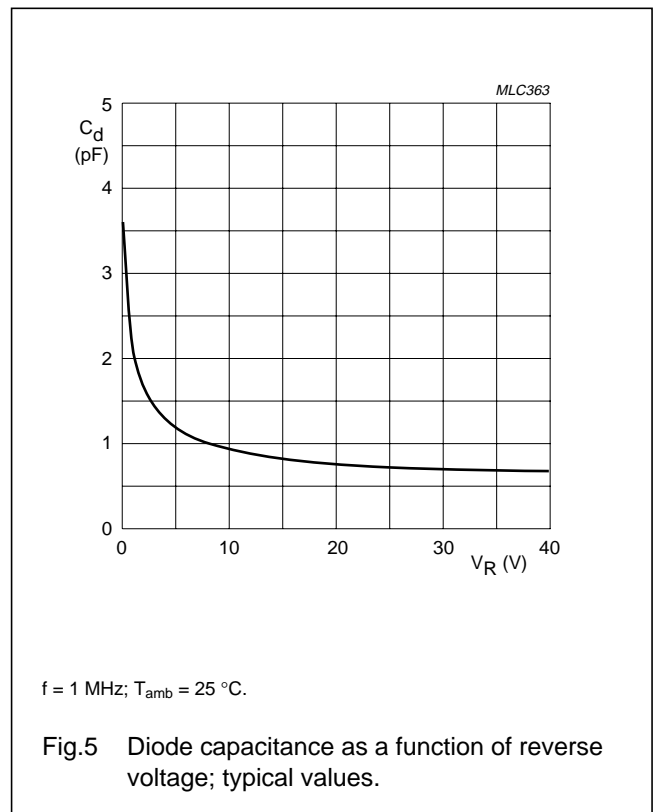
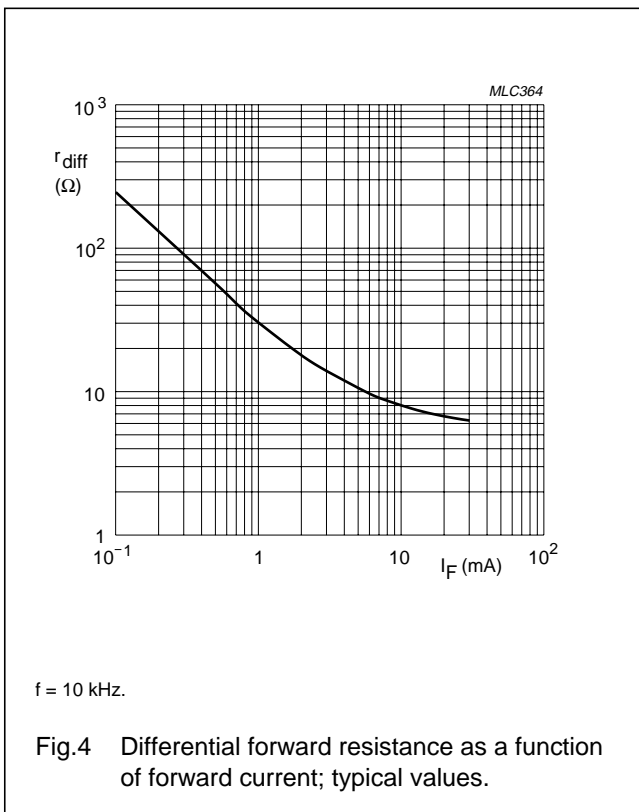
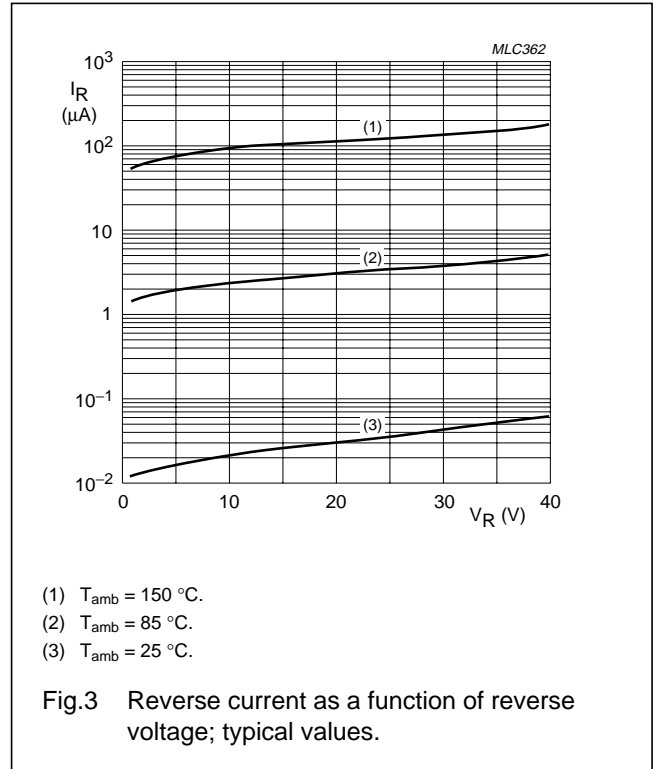
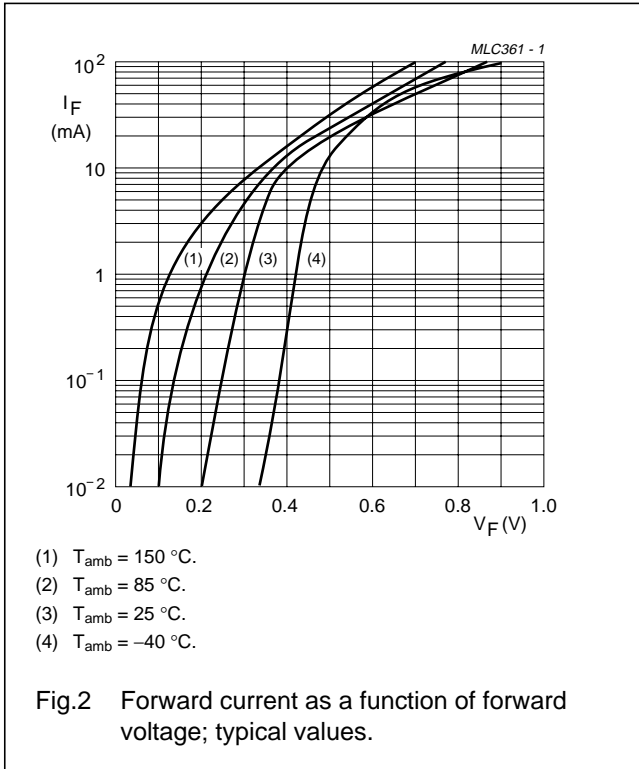
**Note**

1. Refer to SC75 standard mounting conditions.

Schottky barrier double diode

1PS75SB45

GRAPHICAL DATA



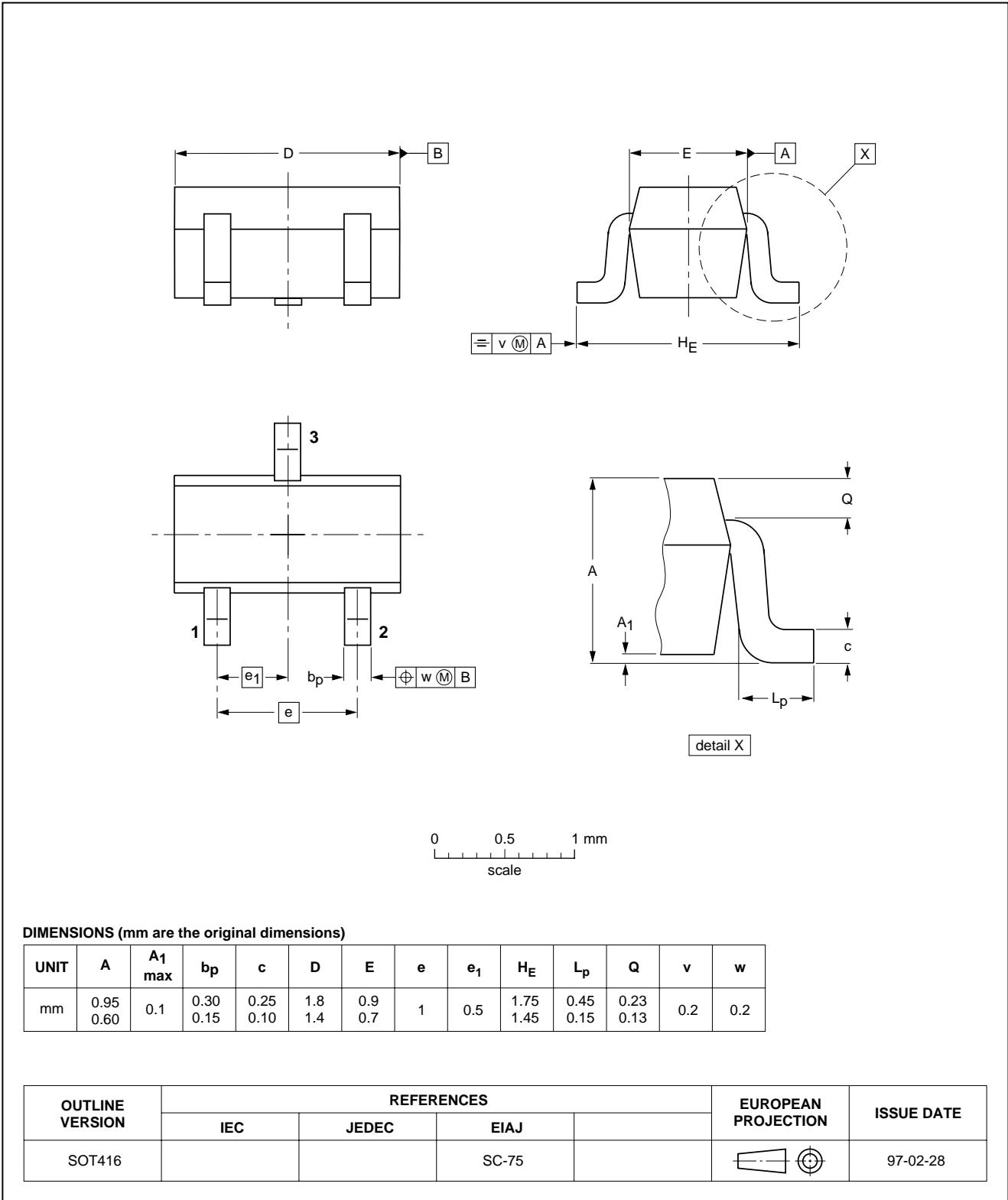
Schottky barrier double diode

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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT416



## Schottky barrier double diode

1PS75SB45

**DEFINITIONS**

<b>Data sheet status</b>	
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.
<b>Limiting values</b>	
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.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

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Schottky barrier double diode

1PS75SB45

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