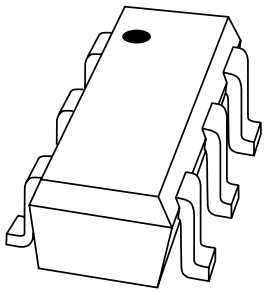
DATA SHEET



BAS70-07S
Schottky barrier double diode

Product specification
Supersedes data of 1998 Jul 10

2003 Apr 11

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Schottky barrier double diode BAS70-07S

FEATURES

- Low forward voltage
- Guard ring protected
- Small SMD package.

APPLICATIONS

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

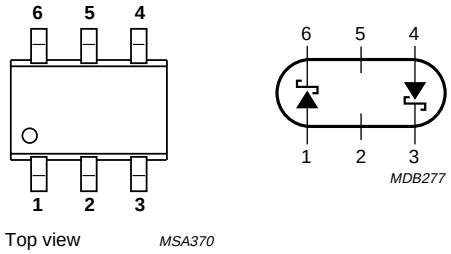
DESCRIPTION

Planar Schottky barrier double diode with an integrated guard ring for stress protection.

Two separate dies are encapsulated in a SOT363 (SC-88) small SMD plastic package.

PINNING

PIN	DESCRIPTION
1	anode 1
2	not connected
3	cathode 2
4	anode 2
5	not connected
6	cathode 1



Marking code: 77.

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		–	70	V
I_F	continuous forward current		–	70	mA
I_{FRM}	repetitive peak forward current	$t_p \leq 1$ s; $\delta \leq 0.5$	–	70	mA
I_{FSM}	non-repetitive peak forward current	$t_p < 10$ ms	–	100	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	forward voltage	see Fig.2		
		I_F = 1 mA	410	mV
		I_F = 10 mA	750	mV
		I_F = 15 mA	1	V
I_R	reverse current	V_R = 50 V; note 1; see Fig.3	100	nA
		V_R = 70 V; note 1; see Fig.3	10	μA
τ	charge carrier life time (Krakauer method)	I_F = 5 mA	100	ps
C_d	diode capacitance	f = 1 MHz; V_R = 0 V; see Fig.5	2	pF

Note

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

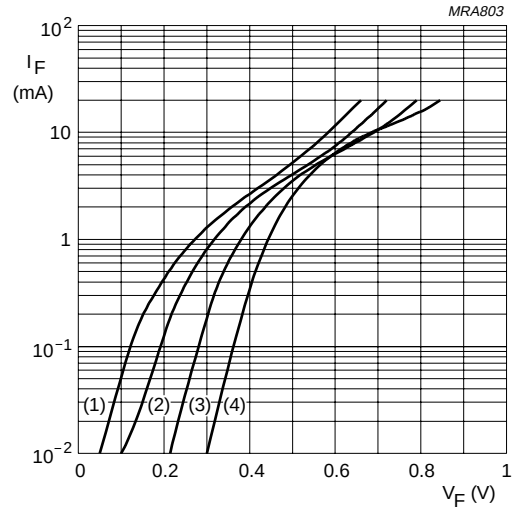
THERMAL CHARACTERISTICS

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

Note

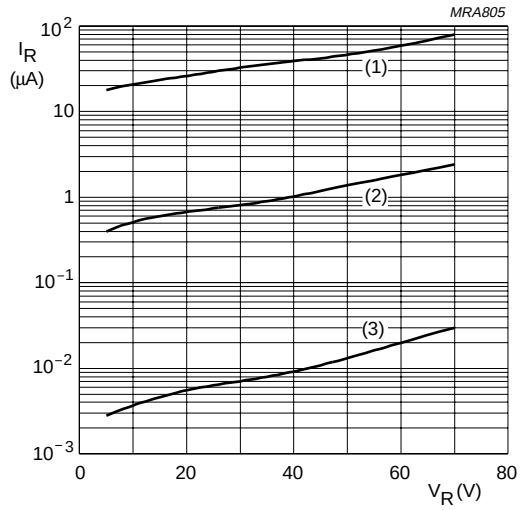
1. Refer to SOT363 standard mounting conditions.

GRAPHICAL DATA



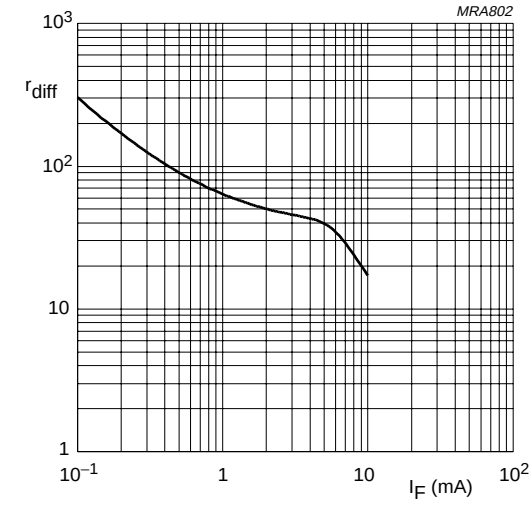
(1) T_{amb} = 125 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.
(4) T_{amb} = –40 °C.

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



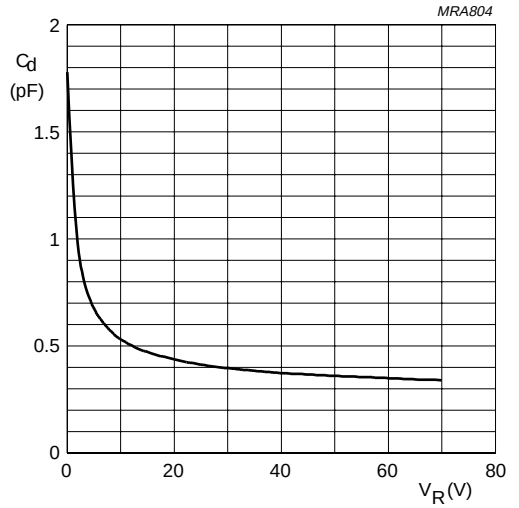
(1) T_{amb} = 150 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.

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.

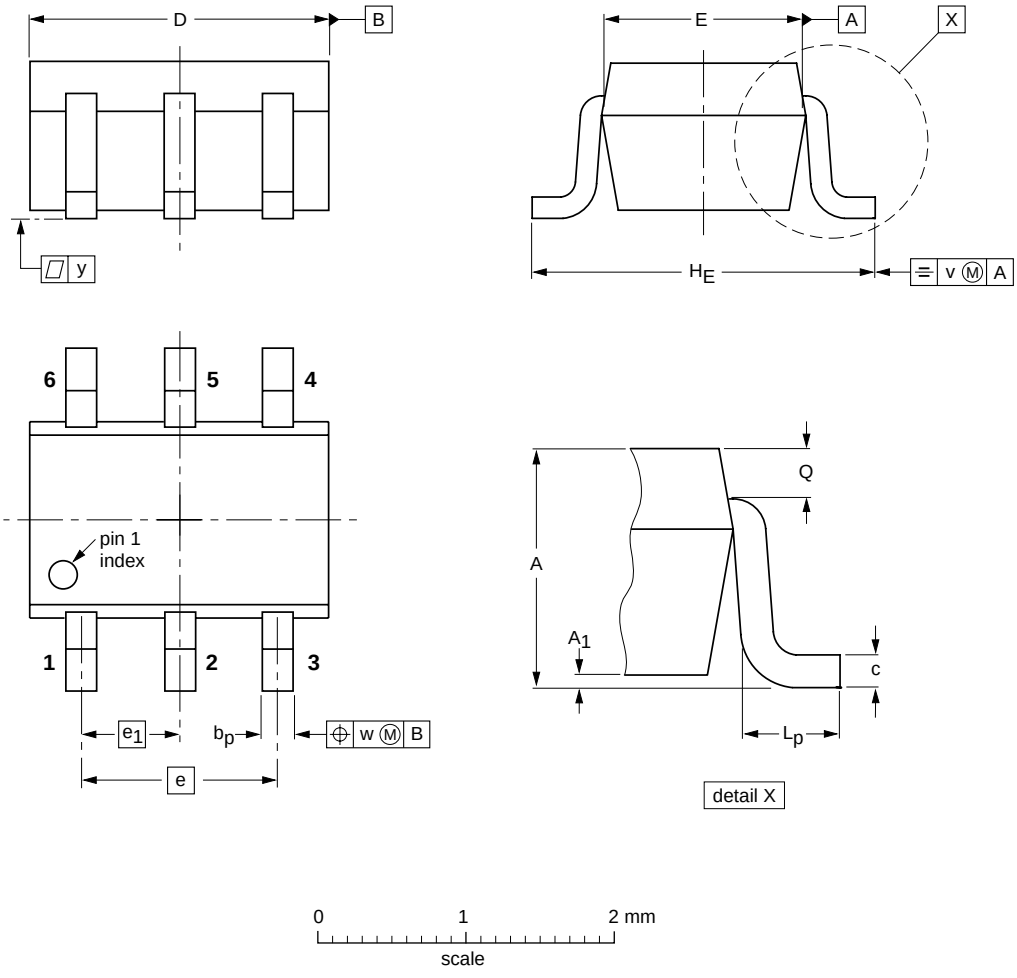


f = 1 MHz.

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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Contact information

For additional information please visit **http://www.semiconductors.philips.com**. Fax: **+31 40 27 24825**
For sales offices addresses send e-mail to: **sales.addresses@www.semiconductors.philips.com**.

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