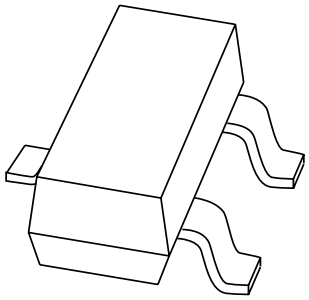
DATA SHEET



BAT720
Schottky barrier diode

Product data sheet
Supersedes data of 1999 May 26

2003 Mar 25

Schottky barrier diode BAT720

FEATURES

- Ultra high switching speed
- Low forward voltage
- Guard ring protected
- Small plastic SMD package.

APPLICATIONS

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

DESCRIPTION

Planar Schottky barrier diode with an integrated guard ring for stress protection in a small SOT23 plastic SMD package.

MARKING

TYPE NUMBER	MARKING CODE(1)
BAT720	L6*

Note

1. ∗ = p : Made in Hong Kong.
   ∗ = t : Made in Malaysia.
   ∗ = W : Made in China.

PINNING

PIN	DESCRIPTION
1	anode
2	not connected
3	cathode

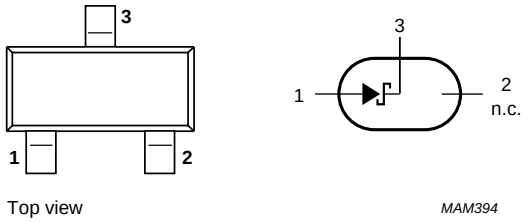


Fig.1 Simplified outline (SOT23) and symbol.

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_R	continuous reverse voltage		–	40	V
I_F	continuous forward current		–	500	mA
I_{FSM}	non-repetitive peak forward current	$t_p < 10$ ms	–	2	A
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	125	°C

ELECTRICAL CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_F	forward voltage	I_F = 500 mA; see Fig.2	–	550	mV
I_R	reverse current	V_R = 35 V; see Fig.3	–	100	μA
		V_R = 35 V; T_j = 100 °C; see Fig.3	–	10	mA
C_d	diode capacitance	f = 1 MHz; V_R = 0; see Fig.4	60	90	pF

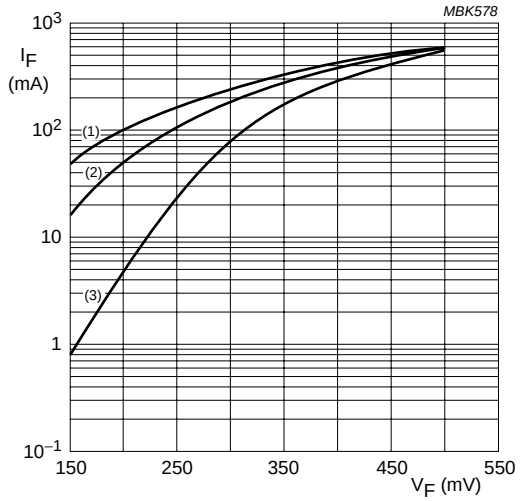
THERMAL CHARACTERISTICS

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

Note

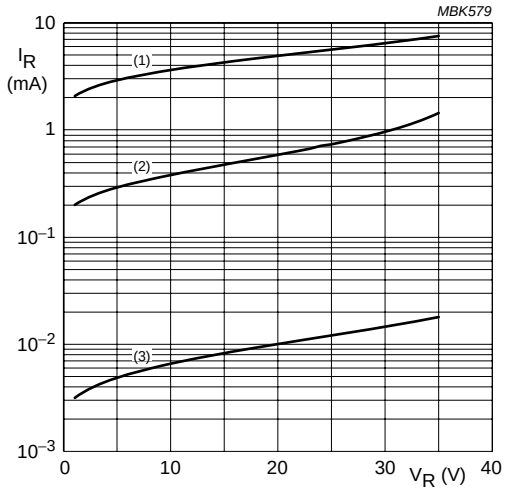
1. Refer to SOT23 standard mounting conditions.

GRAPHICAL DATA



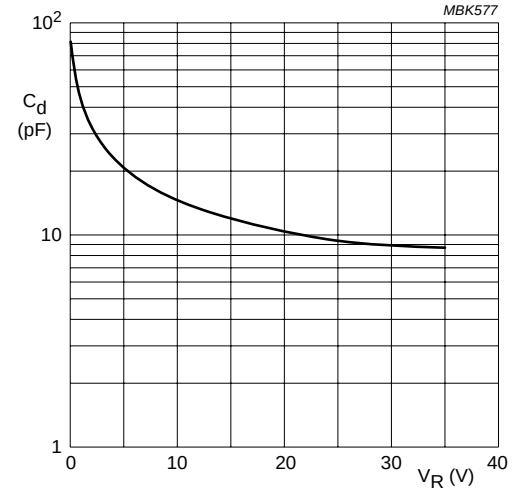
(1) T_{amb} = 125 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.

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



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

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

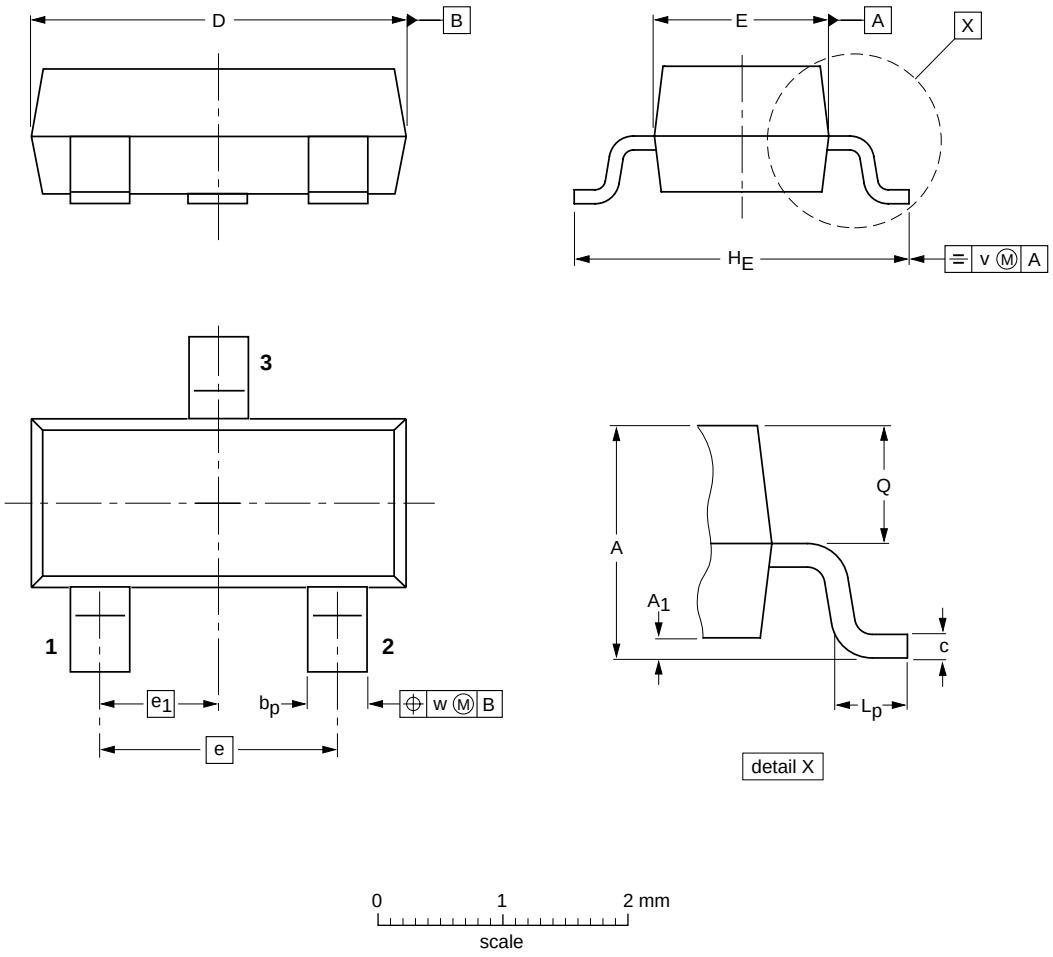


f = 1 MHz; T_j = 25 °C.

Fig.4 Diode capacitance as a function of reverse voltage; typical values.

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT23**



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
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT23		TO-236AB				~~97-02-28~~ 99-09-13

DATA SHEET STATUS

DOCUMENT STATUS[1]	PRODUCT STATUS[2]	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

Notes

1. Please consult the most recently issued document before initiating or completing a design.
2. The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL http://www.nxp.com.

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Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors. No changes were made to the content, except for the legal definitions and disclaimers.

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