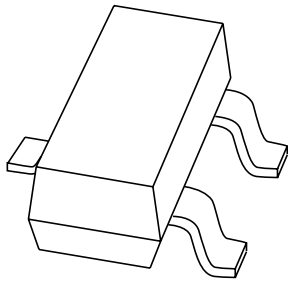


DATA SHEET



BAT754 series Schottky barrier (double) diodes

Product specification
Supersedes data of 1999 Aug 05

2003 Mar 25

Schottky barrier (double) diodes

BAT754 series

FEATURES

- Very low forward voltage
- Guard ring protected
- Small plastic SMD package
- Low diode capacitance.

APPLICATIONS

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Blocking diodes
- Low power consumption applications, e.g. hand-held applications.

DESCRIPTION

Planar Schottky barrier diodes encapsulated in a SOT23 small plastic SMD package. Low forward voltage selection of the BAT754 series. Single diodes and double diodes with different pinning are available.

MARKING

TYPE NUMBER	MARKING CODE ⁽¹⁾
BAT754	2K*
BAT754A	2L*
BAT754C	2M*
BAT754S	2N*

Note

- * = p : Made in Hong Kong.
 * = t : Made in Malaysia.
 * = W : Made in China.

PINNING

PIN	BAT754			
		A	C	S
1	a	k ₁	a ₁	a ₁
2	n.c.	k ₂	a ₂	k ₂
3	k	a ₁ , a ₂	k ₁ , k ₂	k ₁ , a ₂

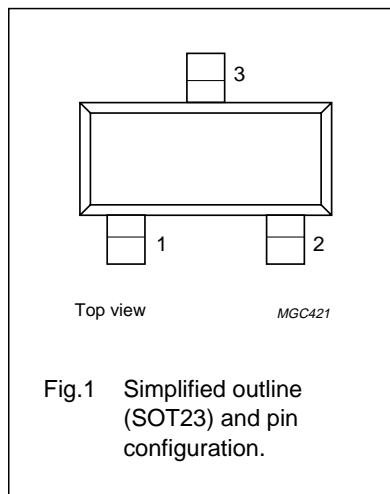


Fig.1 Simplified outline (SOT23) and pin configuration.

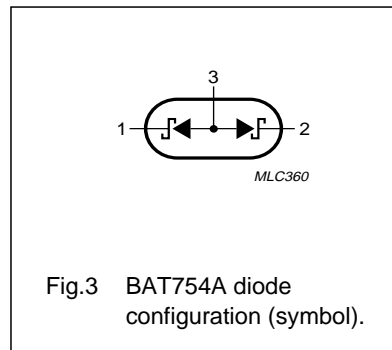


Fig.3 BAT754A diode configuration (symbol).

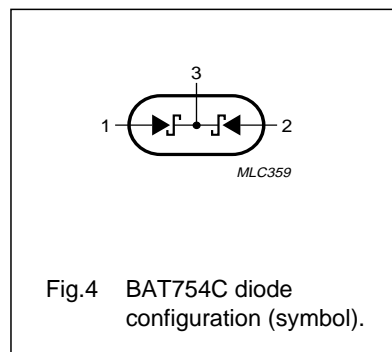


Fig.4 BAT754C diode configuration (symbol).

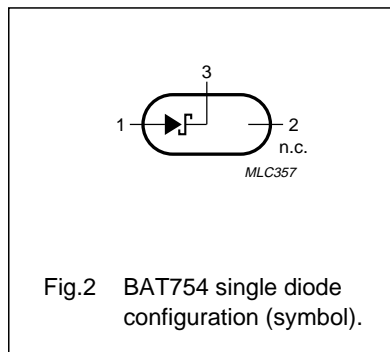


Fig.2 BAT754 single diode configuration (symbol).

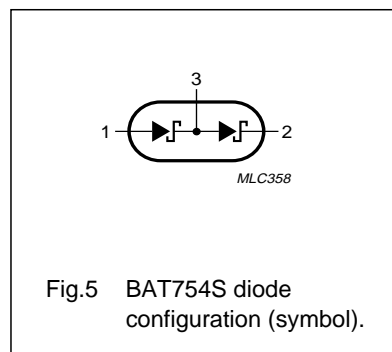


Fig.5 BAT754S diode configuration (symbol).

Schottky barrier (double) diodes

BAT754 series

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		–	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	$t = 8.3$ ms half sinewave; JEDEC method	–	600	mA
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	TYP.	MAX.	UNIT
Per diode					
V_F	forward voltage	see Fig.6 $I_F = 0.1$ mA $I_F = 1$ mA $I_F = 10$ mA $I_F = 30$ mA $I_F = 100$ mA	– – – – 600	200 260 340 420 –	mV mV mV mV mV
I_R	reverse current	$V_R = 25$ V; note 1; see Fig.7	–	2	μA
C_d	diode capacitance	$f = 1$ MHz; $V_R = 1$ V; see Fig.8	–	10	pF

Note

1. Pulse test: $t_p = 300$ μs; $\delta \leq 0.02$.

THERMAL CHARACTERISTICS

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

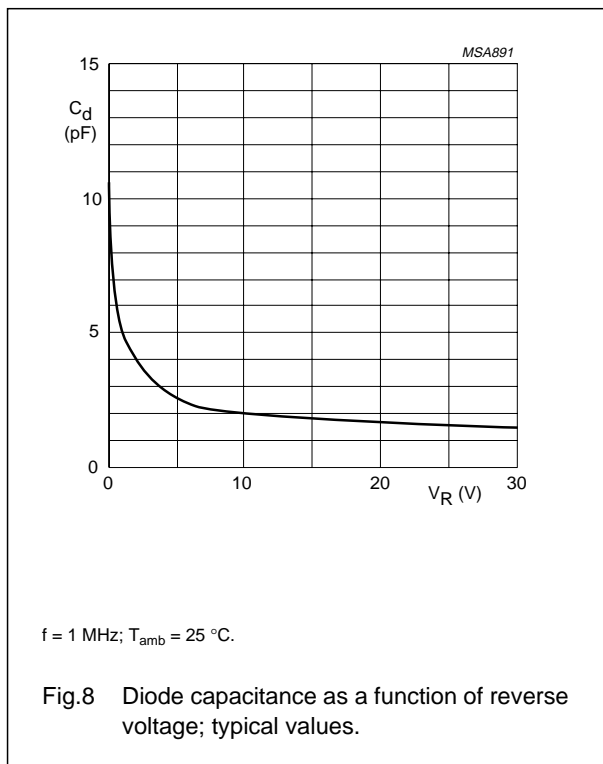
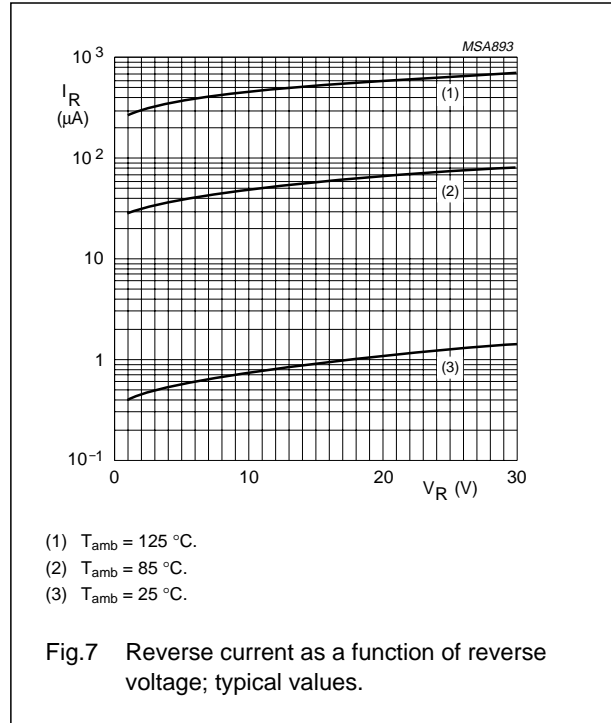
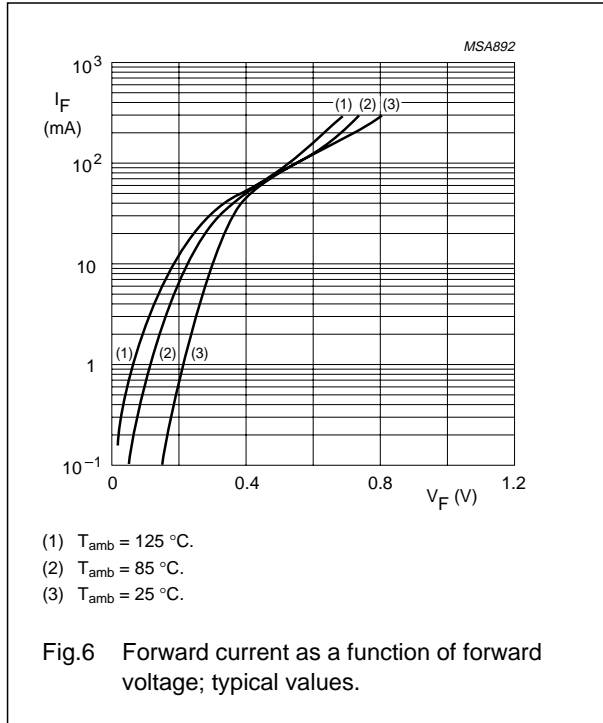
Note

1. Refer to SOT23 standard mounting conditions.

Schottky barrier (double) diodes

BAT754 series

GRAPHICAL DATA



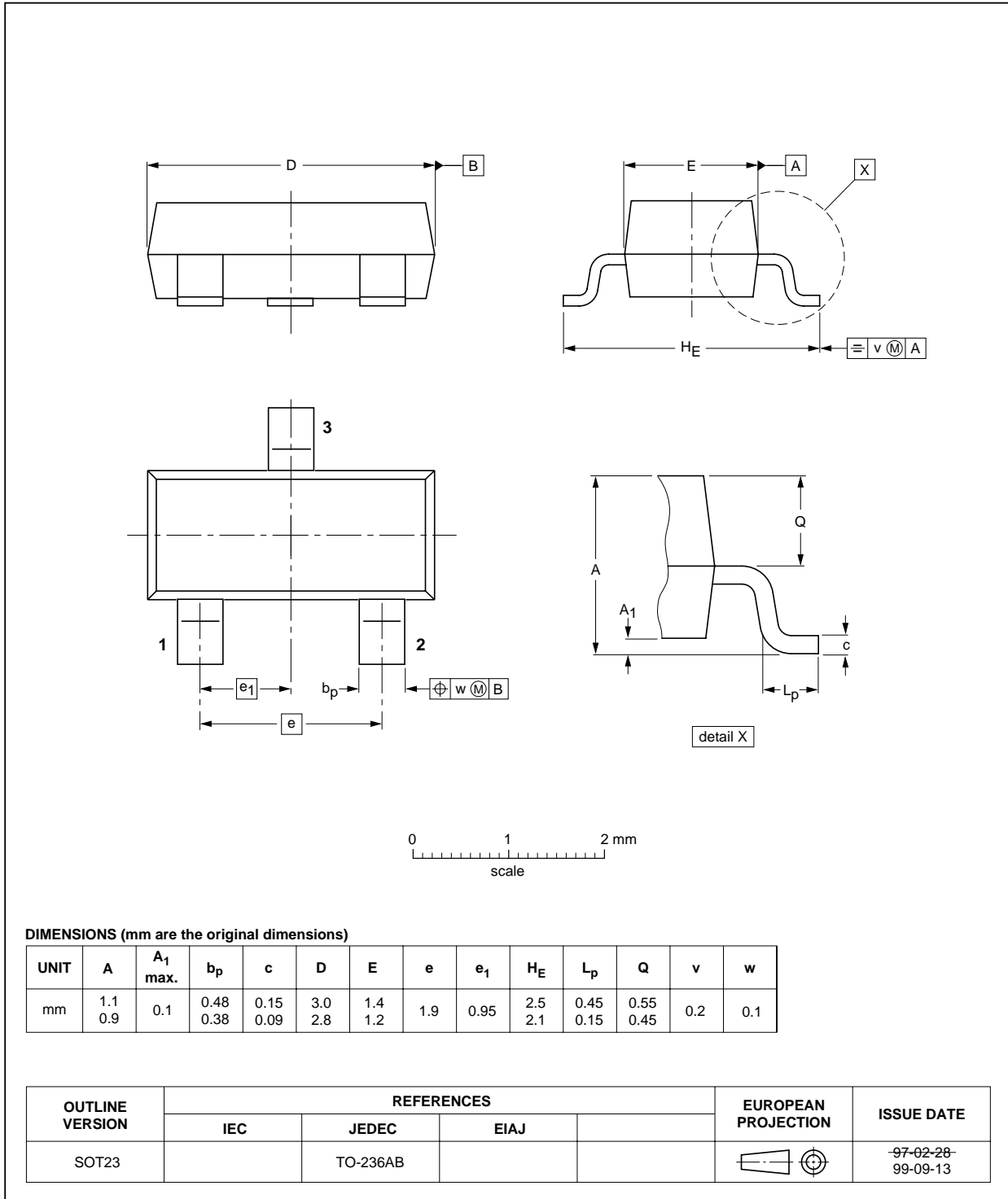
Schottky barrier (double) diodes

BAT754 series

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



Schottky barrier (double) diodes

BAT754 series

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.
II	Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
III	Product data	Production	This data sheet contains data from the product specification. Philips Semiconductors reserves the right to make changes at any time in order to improve the design, manufacturing and supply. Relevant changes will be communicated via a Customer Product/Process Change Notification (CPCN).

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2. The product status of the device(s) described in this data sheet may have changed since this data sheet was published. The latest information is available on the Internet at URL <http://www.semiconductors.philips.com>.
3. For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

DEFINITIONS

Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). 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.

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Schottky barrier (double) diodes

BAT754 series

NOTES

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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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