



FUKUCOM COMPANY LTD.

福 靈 有 限 公 司

FLAT P, 3/F, EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,
 KWUN TONG, KOWLOON, HONG KONG.
 TEL: 2790-0314 FAX: 2790-0206

Philips Semiconductors

Product specification

Schottky barrier (double) diodes

BAT54 series

FEATURES

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

APPLICATIONS

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

DESCRIPTION

Planar Schottky barrier diodes encapsulated in a SOT23 small plastic SMD package. Single diodes and double diodes with different pinning are available.

MARKING

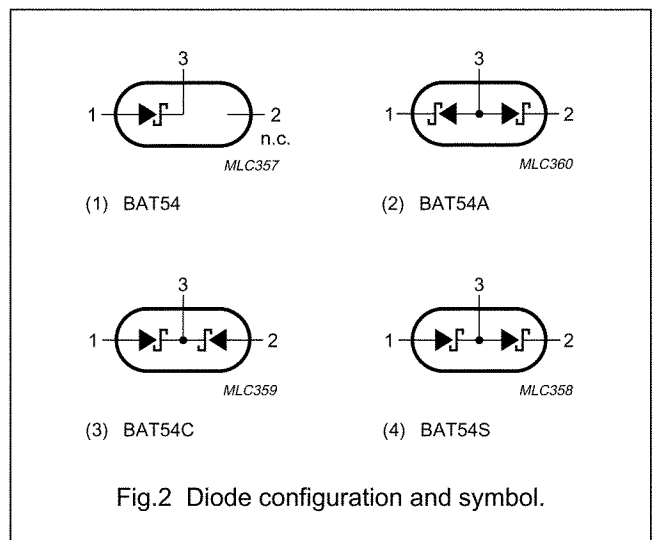
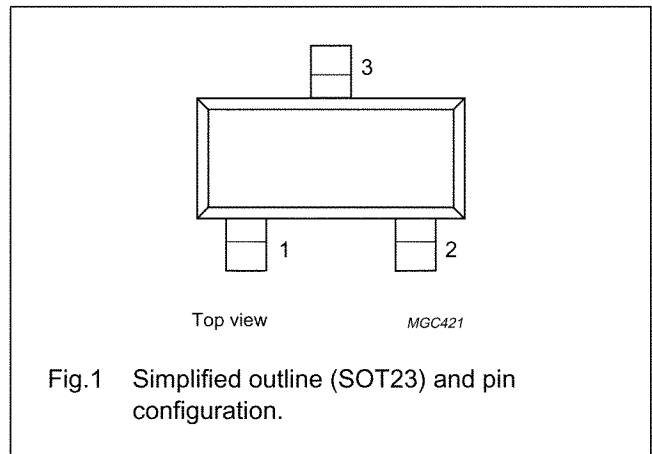
TYPE NUMBER	MARKING CODE ⁽¹⁾
BAT54	L4*
BAT54A	L42 or *V3
BAT54C	L43 or *W1
BAT54S	L44 or *V4

Note

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

PINNING

PIN	DESCRIPTION			
	BAT54	BAT54A	BAT54C	BAT54S
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





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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	$t_p \leq 1 \text{ s}; \delta \leq 0.5$	–	300	mA
I_{FSM}	non-repetitive peak forward current	$t_p < 10 \text{ ms}$	–	600	mA
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	125	°C
Per device					
P_{tot}	total power dissipation	$T_{amb} \leq 25 \text{ °C}$	–	230	mW

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.

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
Per diode				
V_F	forward voltage	see Fig.3 $I_F = 0.1 \text{ mA}$ $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 30 \text{ mA}$ $I_F = 100 \text{ mA}$	240 320 400 500 800	mV mV mV mV mV
I_R	reverse current	$V_R = 25 \text{ V}$; see Fig.4	2	μA
t_{rr}	reverse recovery time	when switched from $I_F = 10 \text{ mA}$ to $I_R = 10 \text{ mA}$; $R_L = 100 \text{ }\Omega$; measured at $I_R = 1 \text{ mA}$; see Fig.6	5	ns
C_d	diode capacitance	$f = 1 \text{ MHz}$; $V_R = 1 \text{ V}$; see Fig.5	10	pF



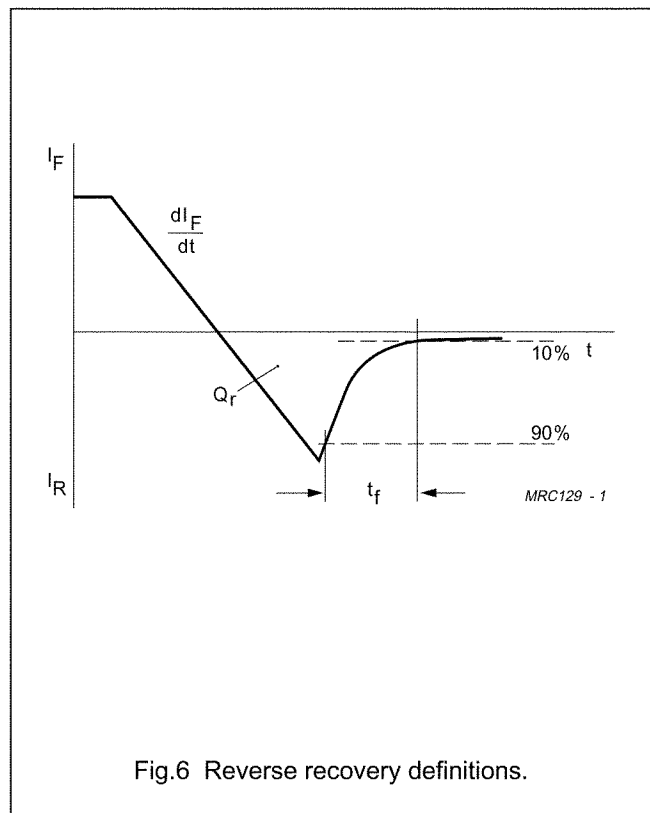
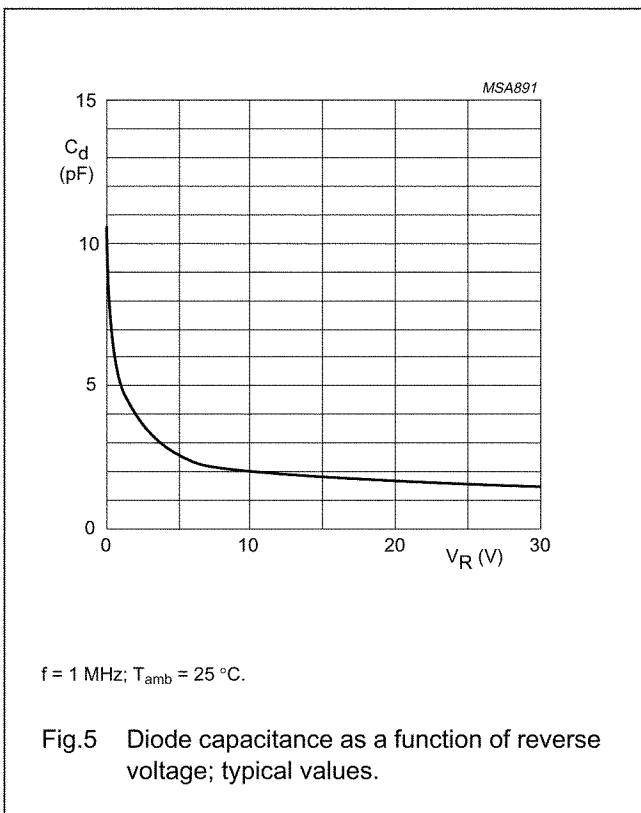
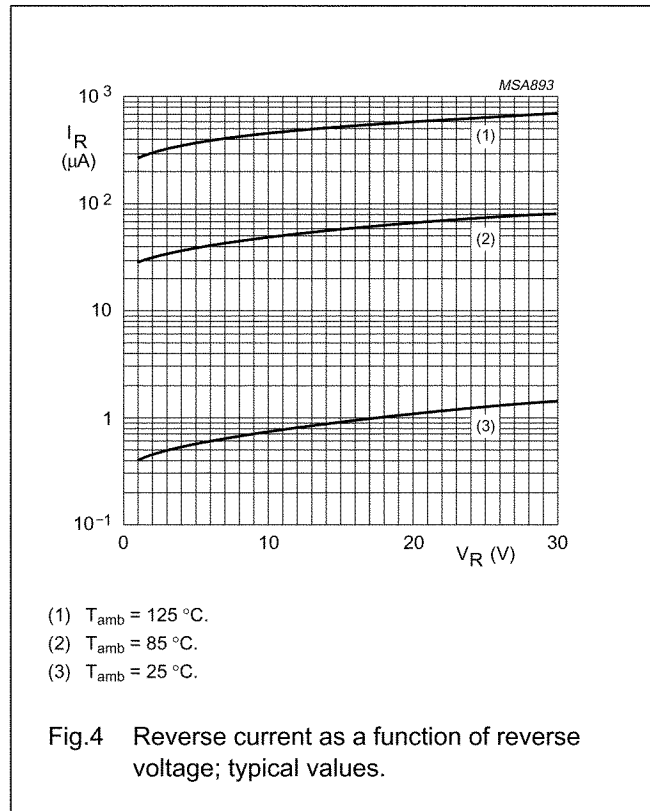
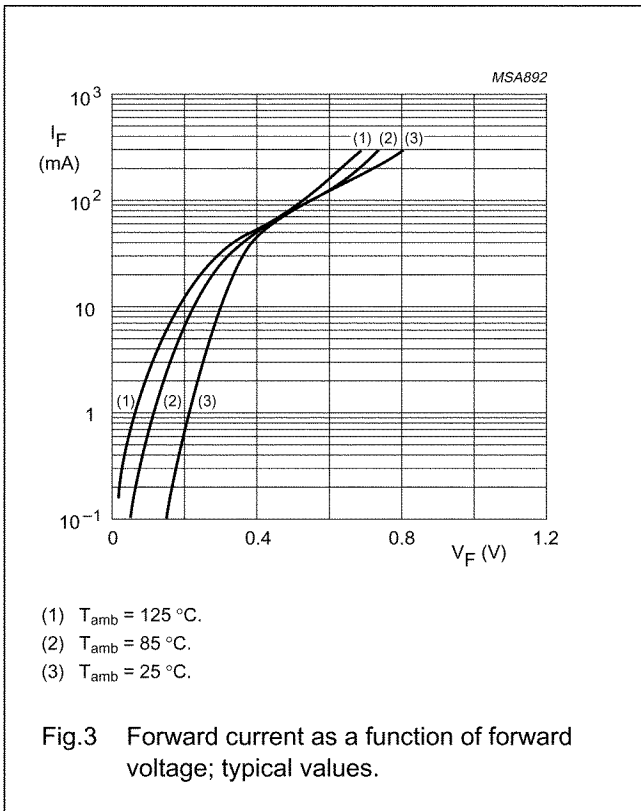
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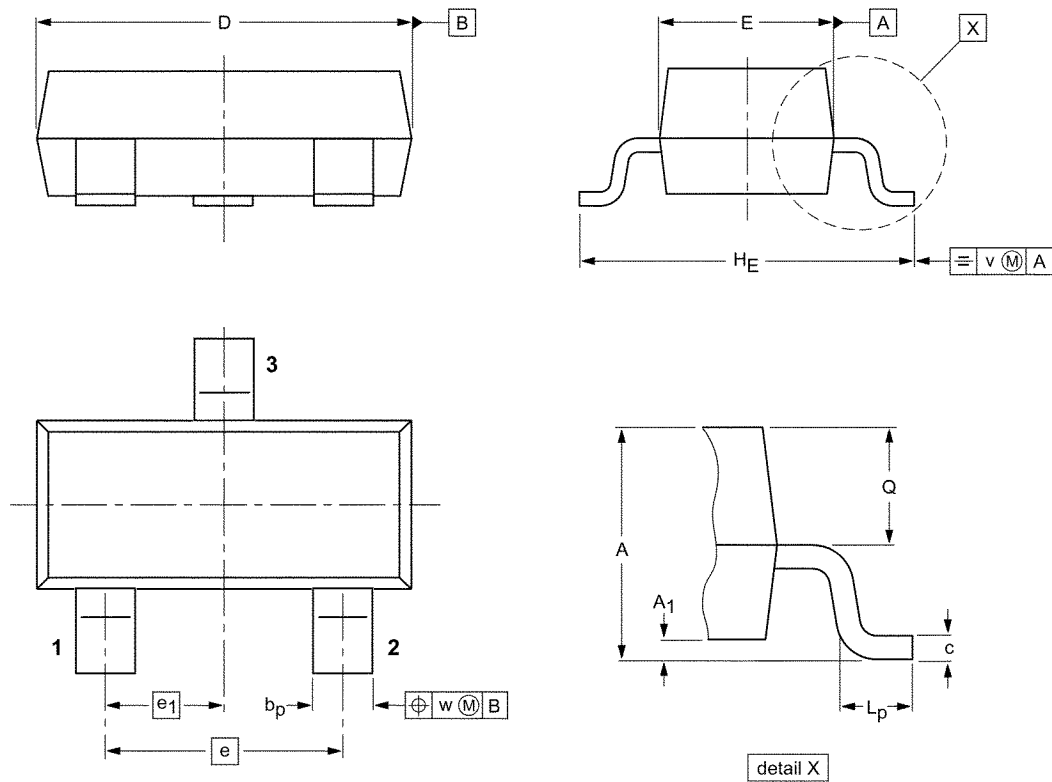
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PACKAGE OUTLINE

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