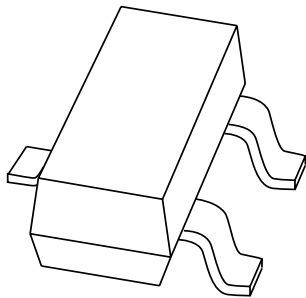


# DATA SHEET



## **BAT54 series** Schottky barrier (double) diodes

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**

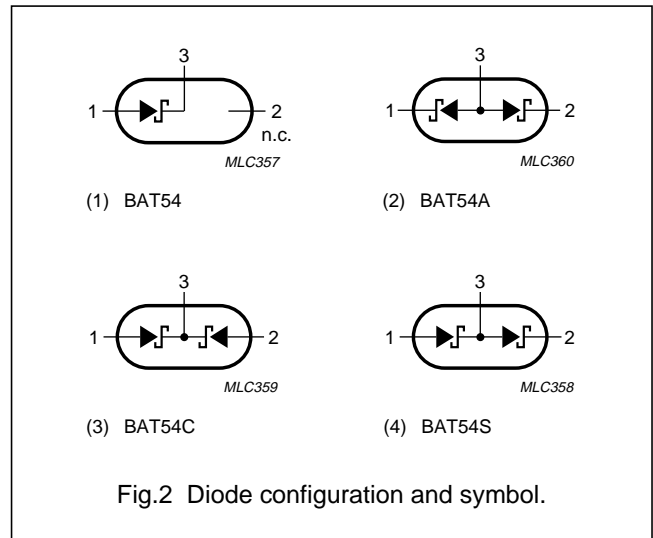
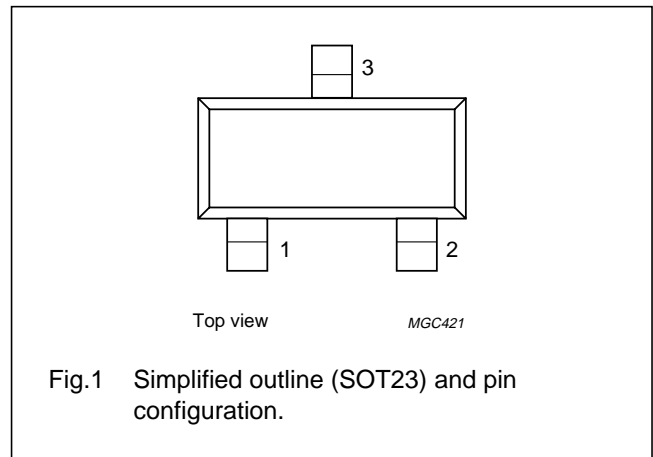
TYPE NUMBER	MARKING CODE <sup>(1)</sup>
BAT54	L4*
BAT54A	L42 or *V3
BAT54C	L43 or *W1
BAT54S	L44 or *V4

**Note**

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

**PINNING**

PIN	DESCRIPTION			
	BAT54	BAT54A	BAT54C	BAT54S
1	a	k <sub>1</sub>	a <sub>1</sub>	a <sub>1</sub>
2	n.c.	k <sub>2</sub>	a <sub>2</sub>	k <sub>2</sub>
3	k	a <sub>1</sub> , a <sub>2</sub>	k <sub>1</sub> , k <sub>2</sub>	k <sub>1</sub> , a <sub>2</sub>



## Schottky barrier (double) diodes

## BAT54 series

**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
<b>Per diode</b>					
$V_R$	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
<b>Per device</b>					
$P_{tot}$	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
<b>Per diode</b>				
$V_F$	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	$\mu\text{A}$
$t_{rr}$	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

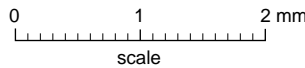
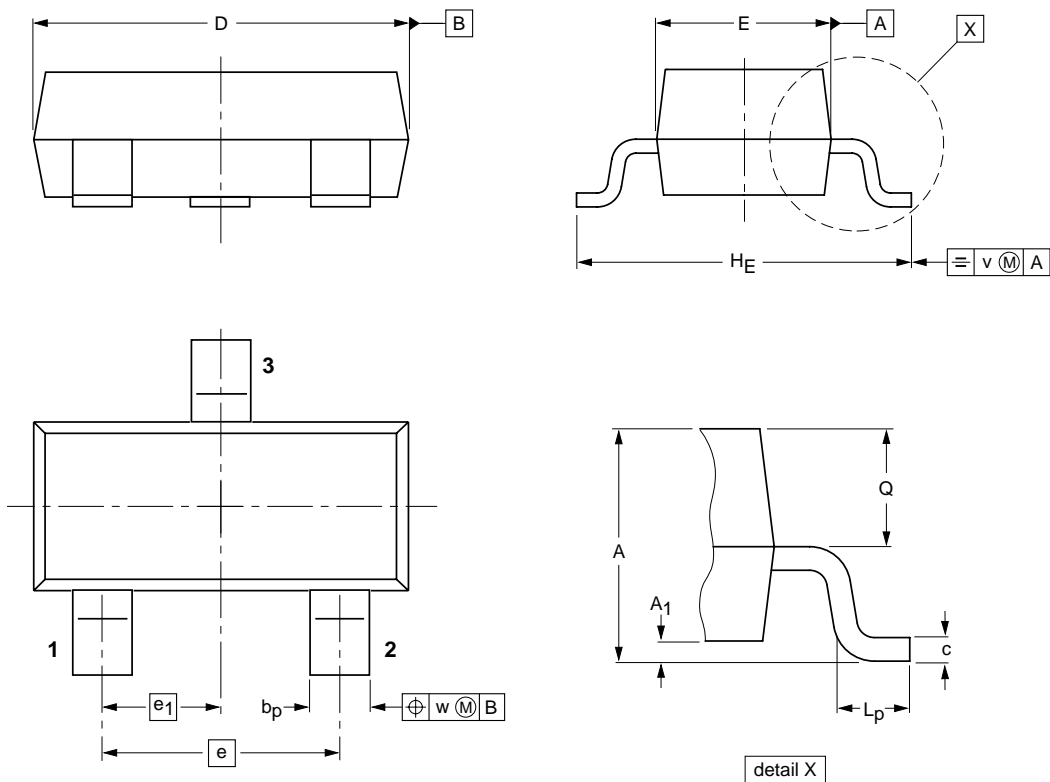
Schottky barrier (double) diodes

BAT54 series

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	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