

# DATA SHEET



**BSS64**

NPN high voltage transistor

Product data sheet  
Supersedes data of 2004 Jan 16

2004 Mar 12

# NPN high voltage transistor

# BSS64

### FEATURES

- Low current (max. 100 mA)
- High voltage (max. 80 V).

### APPLICATIONS

- High-voltage general purpose and switching applications
- Intended for thick and thin-film circuit applications.

### DESCRIPTION

NPN transistor in a SOT23 plastic package.  
PNP complement: BSS63.

### MARKING

TYPE NUMBER	MARKING CODE <sup>(1)</sup>
BSS64	60* or AM

### Note

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

### PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

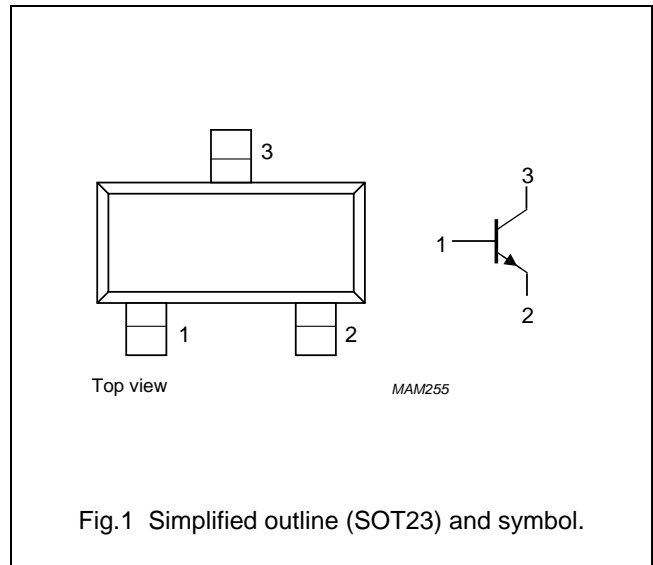


Fig.1 Simplified outline (SOT23) and symbol.

### ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BSS64	–	plastic surface mounted package; 3 leads	SOT23

### LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CB0</sub>	collector-base voltage	open emitter	–	120	V
V <sub>CE0</sub>	collector-emitter voltage	open base	–	80	V
V <sub>EB0</sub>	emitter-base voltage	open collector	–	5	V
I <sub>C</sub>	collector current (DC)		–	100	mA
I <sub>CM</sub>	peak collector current		–	250	mA
I <sub>BM</sub>	peak base current		–	100	mA
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C	–	250	mW
T <sub>stg</sub>	storage temperature		–65	+150	°C
T <sub>j</sub>	junction temperature		–	150	°C
T <sub>amb</sub>	operating ambient temperature		–65	+150	°C

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## THERMAL CHARACTERISTICS

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

## Note

1. Transistor mounted on an FR4 printed-circuit board.

## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$I_{CBO}$	collector-base cut-off current	$I_E = 0; V_{CB} = 90\text{ V}$	–	–	100	nA
		$I_E = 0; V_{CB} = 90\text{ V}; T_j = 150\text{ °C}$	–	–	50	$\mu\text{A}$
$I_{EBO}$	emitter-base cut-off current	$I_C = 0; V_{EB} = 5\text{ V}$	–	0.5	200	nA
$h_{FE}$	DC current gain	$I_C = 1\text{ mA}; V_{CE} = 1\text{ V}$	–	60	–	
		$I_C = 10\text{ mA}; V_{CE} = 1\text{ V}$	20	80	–	
		$I_C = 20\text{ mA}; V_{CE} = 1\text{ V}$	–	55	–	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = 4\text{ mA}; I_B = 400\text{ }\mu\text{A}$	–	–	150	mV
		$I_C = 50\text{ mA}; I_B = 15\text{ mA}$	–	–	200	mV
$C_c$	collector capacitance	$I_E = I_e = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$	–	3	–	pF
$f_T$	transition frequency	$I_C = 4\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	60	100	–	MHz

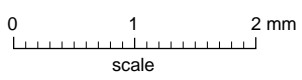
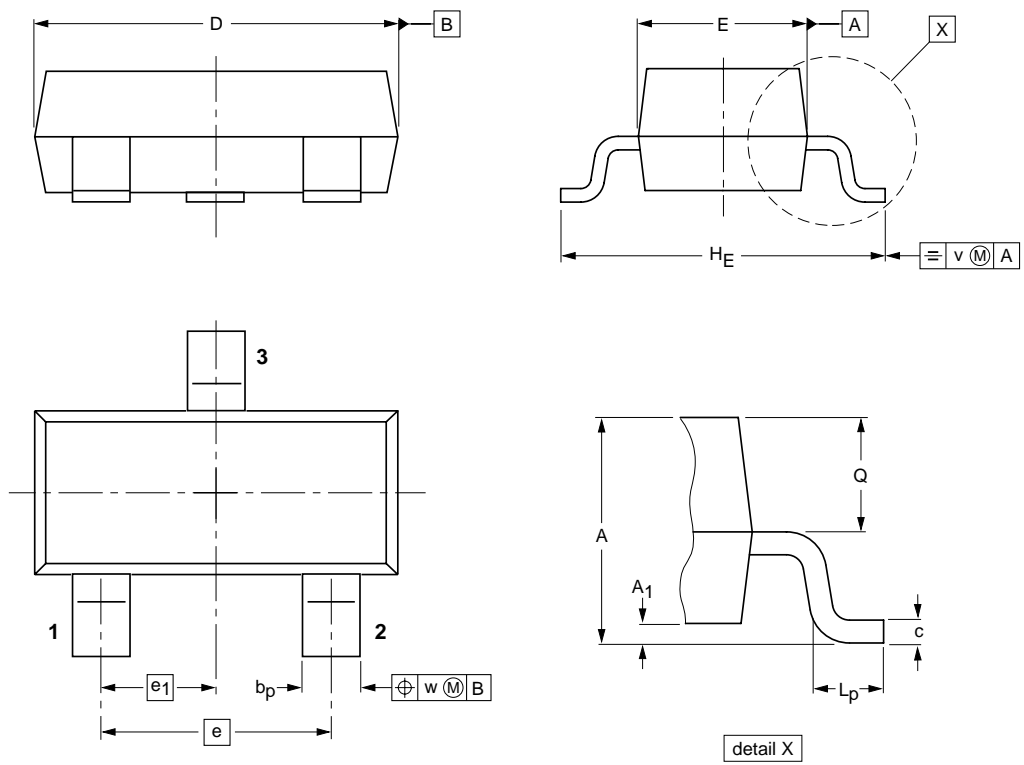
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PACKAGE OUTLINE

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	JEITA			
SOT23		TO-236AB				04-11-04 06-03-16

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DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	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

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# ***NXP Semiconductors***

## **Customer notification**

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

## **Contact information**

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