

# DATA SHEET



**BC369**

**PNP medium power transistor;  
20 V, 1 A**

Product specification  
Supersedes data of 2003 Nov 20

2004 Nov 05

# PNP medium power transistor; 20 V, 1 A

## BC369

### FEATURES

- High current
- Two current gain selections.

### APPLICATIONS

- Linear voltage regulators
- High side switches
- Supply line switches
- MOSFET drivers
- Audio pre-amplifiers.

### QUICK REFERENCE DATA

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
$V_{CEO}$	collector-emitter voltage	–	–20	V
$I_C$	collector current (DC)	–	–1	A
$I_{CM}$	peak collector current	–	–2	A
$h_{FE}$	DC current gain			
	BC369	85	375	
	BC369-16	100	250	
	BC369-25	160	375	

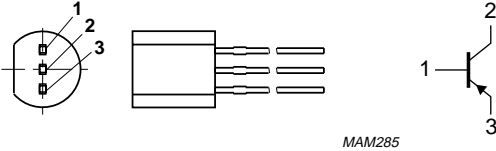
### DESCRIPTION

PNP medium power transistor (see “Simplified outline, symbol and pinning”) for package details.

### PRODUCT OVERVIEW

TYPE NUMBER	PACKAGE		MARKING CODE
	PHILIPS	EIAJ	
BC369	SOT54	SC-43A	C369
BC369-16	SOT54	SC-43A	C36916
BC369-25	SOT54	SC-43A	C36925

### SIMPLIFIED OUTLINE, SYMBOL AND PINNING

TYPE NUMBER	SIMPLIFIED OUTLINE AND SYMBOL	PINNING	
		PIN	DESCRIPTION
BC369		1	base
		2	collector
		3	emitter

### ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BC369	SC-43A	plastic single-ended leaded (through hole) package; 3 leads	SOT54
BC369-16			
BC369-25			

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BC369

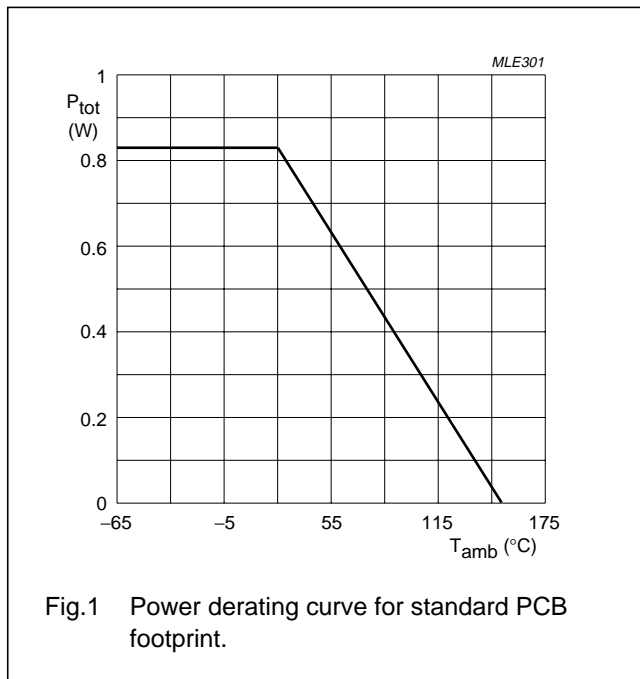
## LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{CBO}$	collector-base voltage	open emitter	–	–32	V
$V_{CEO}$	collector-emitter voltage	open base	–	–20	V
$V_{EBO}$	emitter-base voltage	open collector	–	–5	V
$I_C$	collector current (DC)		–	–1	A
$I_{CM}$	peak collector current		–	–2	A
$I_{BM}$	peak base current		–	–200	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ °C}$ ; notes 1 and 2	–	830	mW
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	150	°C
$T_{amb}$	ambient temperature		–65	+150	°C

## Notes

1. Refer to SOT54 (SC-43A) standard mounting conditions.
2. Device mounted on a FR4 printed-circuit board; single-sided copper; tin-plated; standard footprint for SOT54.



PNP medium power transistor;  
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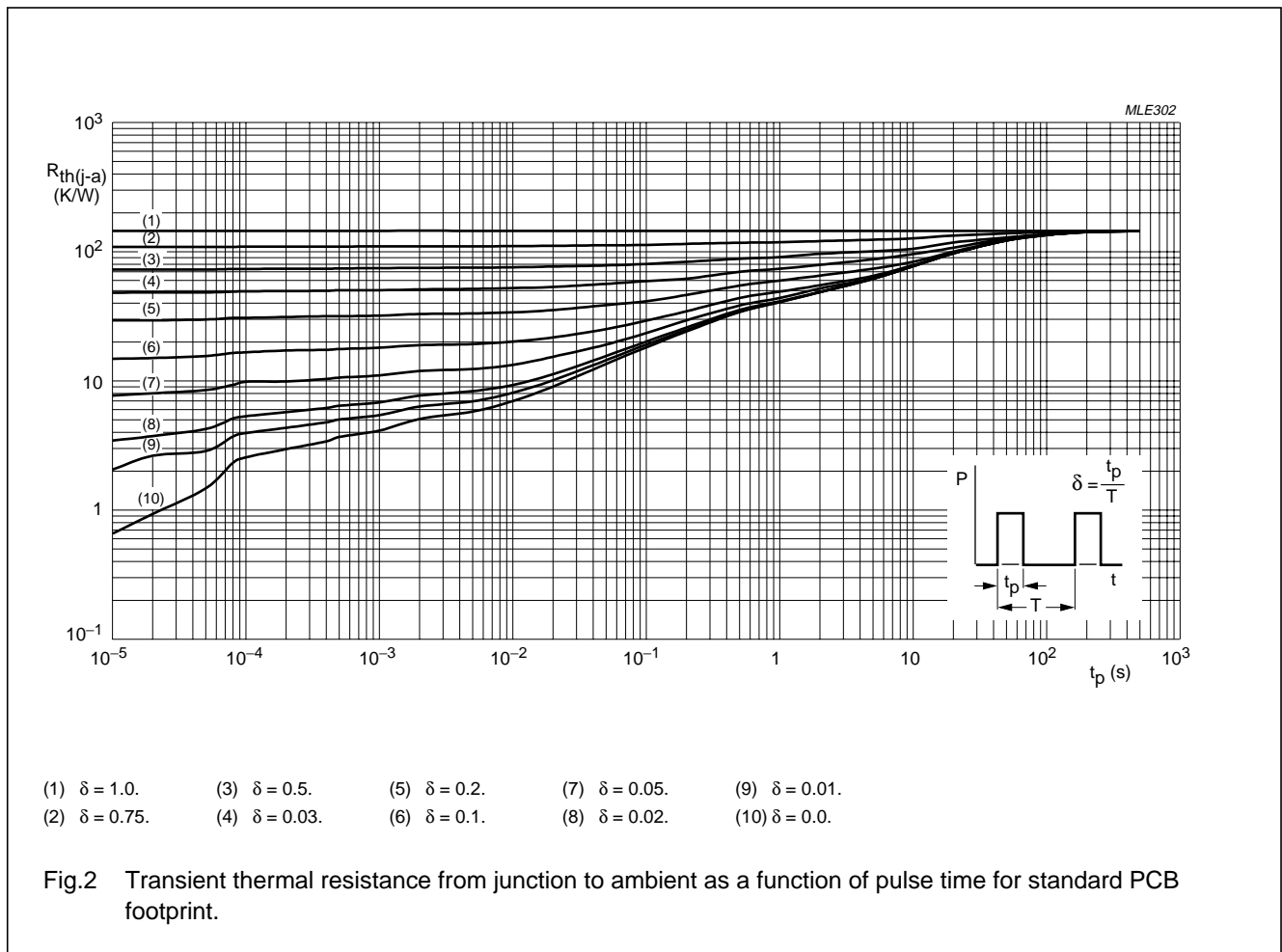
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**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th(j-a)}$	thermal resistance from junction to ambient	$T_{amb} \leq 25\text{ }^{\circ}\text{C}$ ; notes 1 and 2	150	K/W

**Notes**

1. Refer to SOT54 (SC-43A) standard mounting conditions.
2. Device mounted on a FR4 printed-circuit board; single-sided copper; tin-plated; standard footprint for SOT54.



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BC369

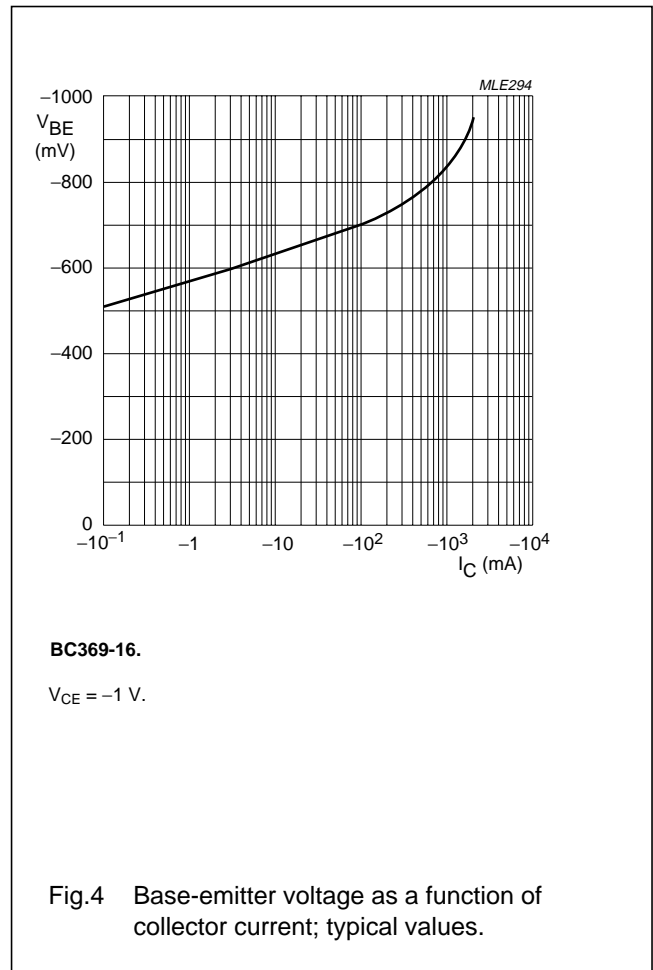
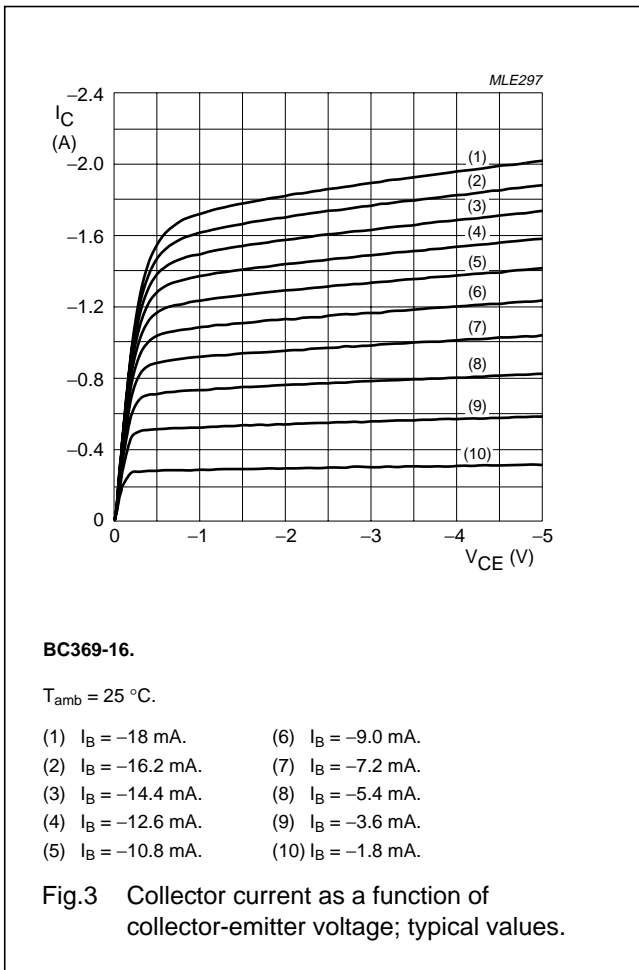
**CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$I_{CBO}$	collector-base cut-off current	$V_{CB} = -25\text{ V}; I_E = 0\text{ A}$	–	–	–100	nA
		$V_{CB} = -25\text{ V}; I_E = 0\text{ A}; T_j = 150\text{ °C}$	–	–	–10	$\mu\text{A}$
$I_{EBO}$	emitter-base cut-off current	$V_{EB} = -5\text{ V}; I_C = 0\text{ A}$	–	–	–100	nA
$h_{FE}$	DC current gain BC369	$V_{CE} = -10\text{ V}; I_C = -5\text{ mA}$	50	–	–	
		$V_{CE} = -1\text{ V}; I_C = -500\text{ mA}$	85	–	375	
	BC369-16 BC369-25	$V_{CE} = -1\text{ V}; I_C = -1\text{ A}$	60	–	–	
		$V_{CE} = -1\text{ V}; I_C = -500\text{ mA}$	100	–	250	
		$V_{CE} = -1\text{ V}; I_C = -500\text{ mA}$	160	–	375	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -1\text{ A}; I_B = -100\text{ mA}$	–	–	–500	mV
$V_{BE}$	base-emitter voltage	$V_{CE} = -10\text{ V}; I_C = -5\text{ mA}$	–	–	–700	mV
		$V_{CE} = -1\text{ V}; I_C = -1\text{ A}$	–	–	–1	V
$C_c$	collector capacitance	$V_{CB} = -10\text{ V}; I_E = i_e = 0\text{ A}; f = 1\text{ MHz}$	–	28	–	pF
$f_T$	transition frequency	$V_{CE} = -5\text{ V}; I_C = -50\text{ mA}; f = 100\text{ MHz}$	40	140	–	MHz

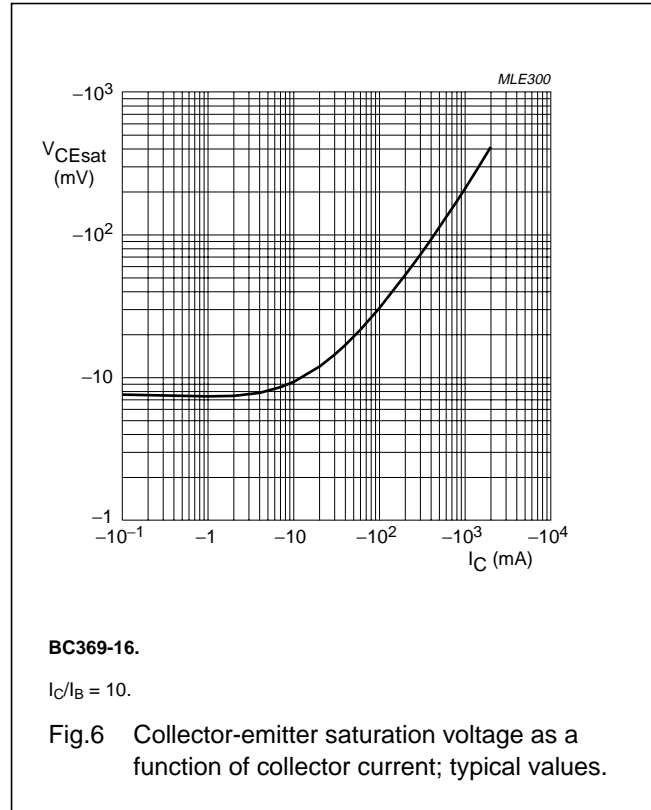
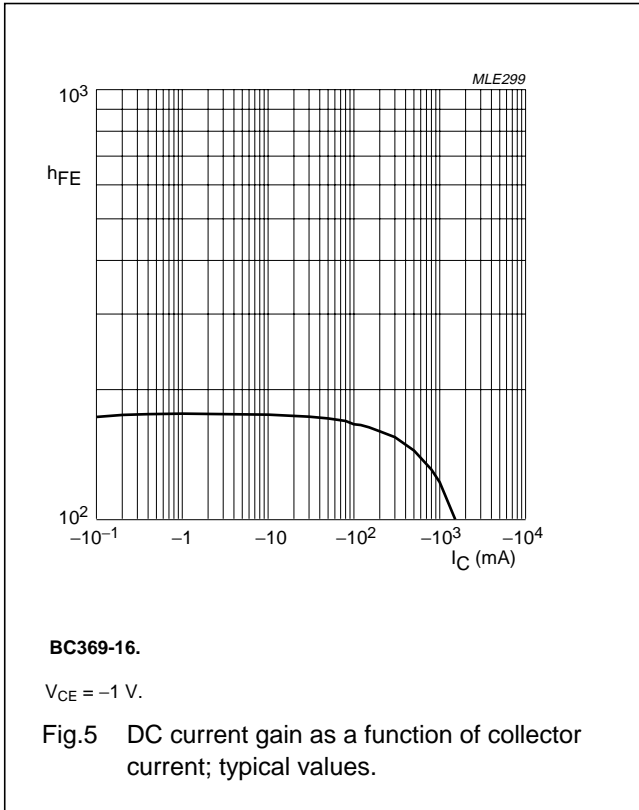
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BC369



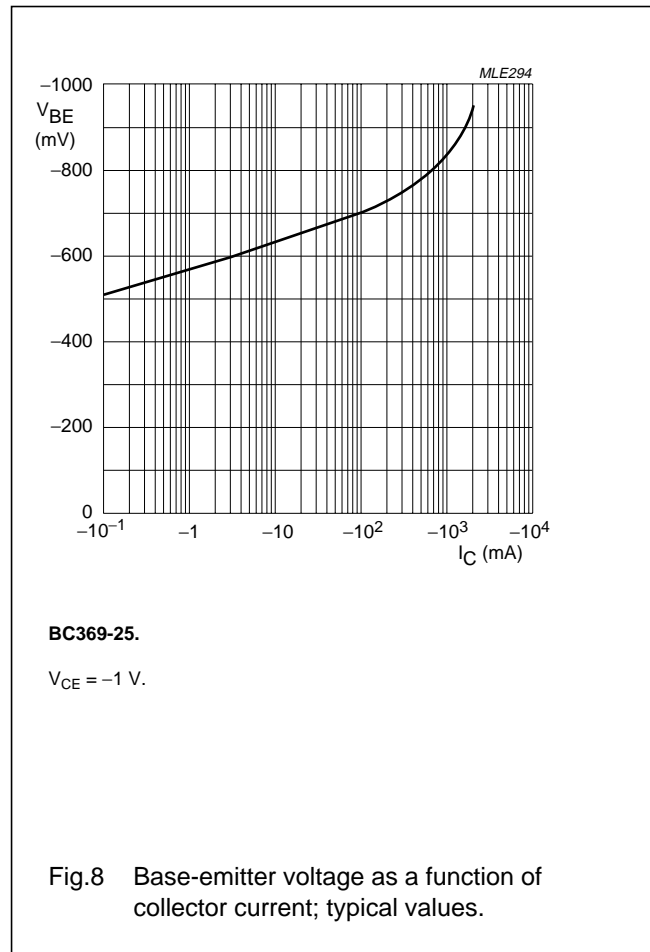
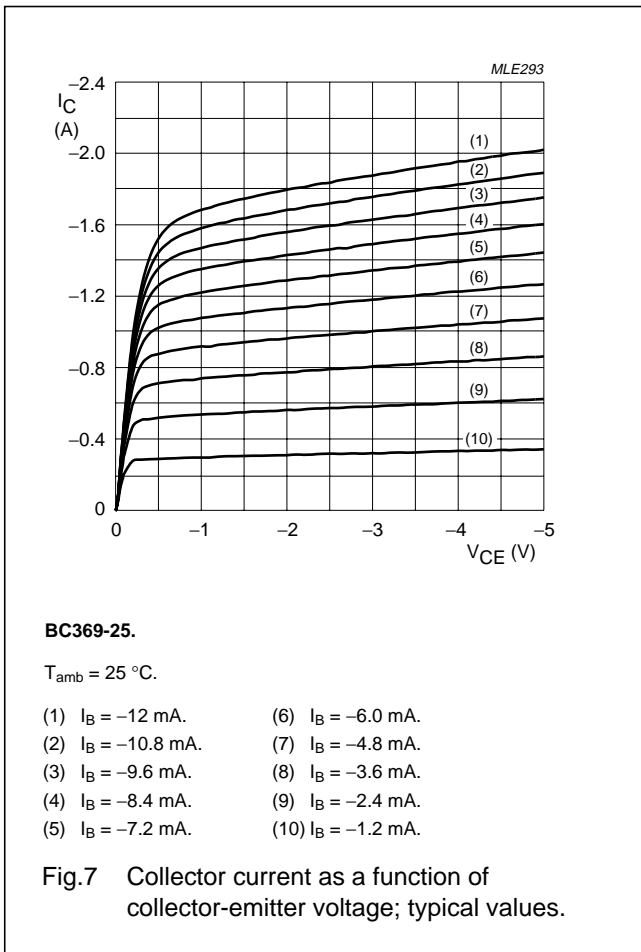
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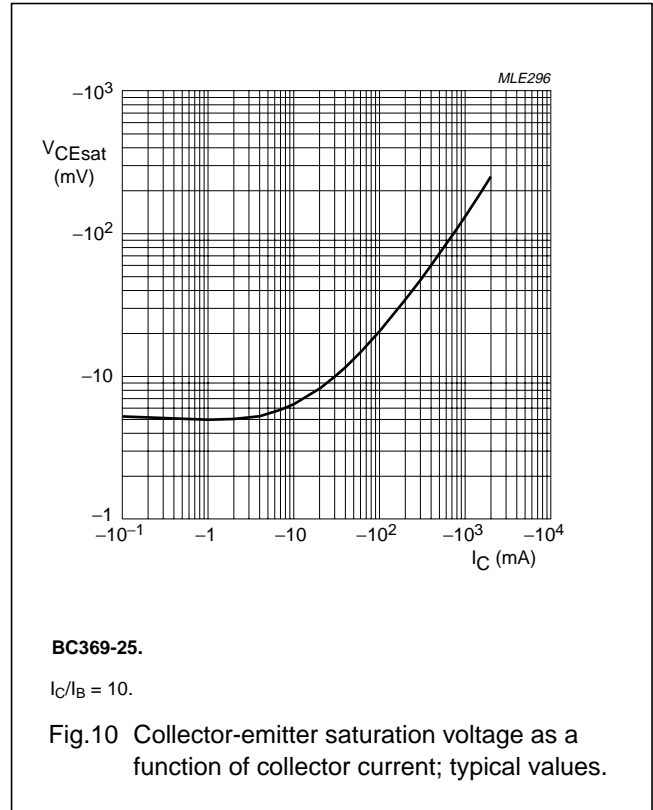
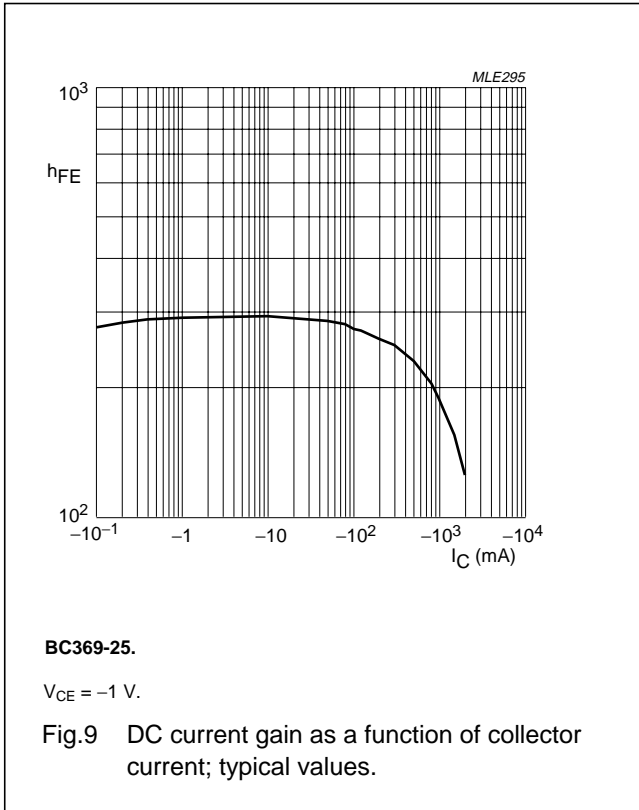
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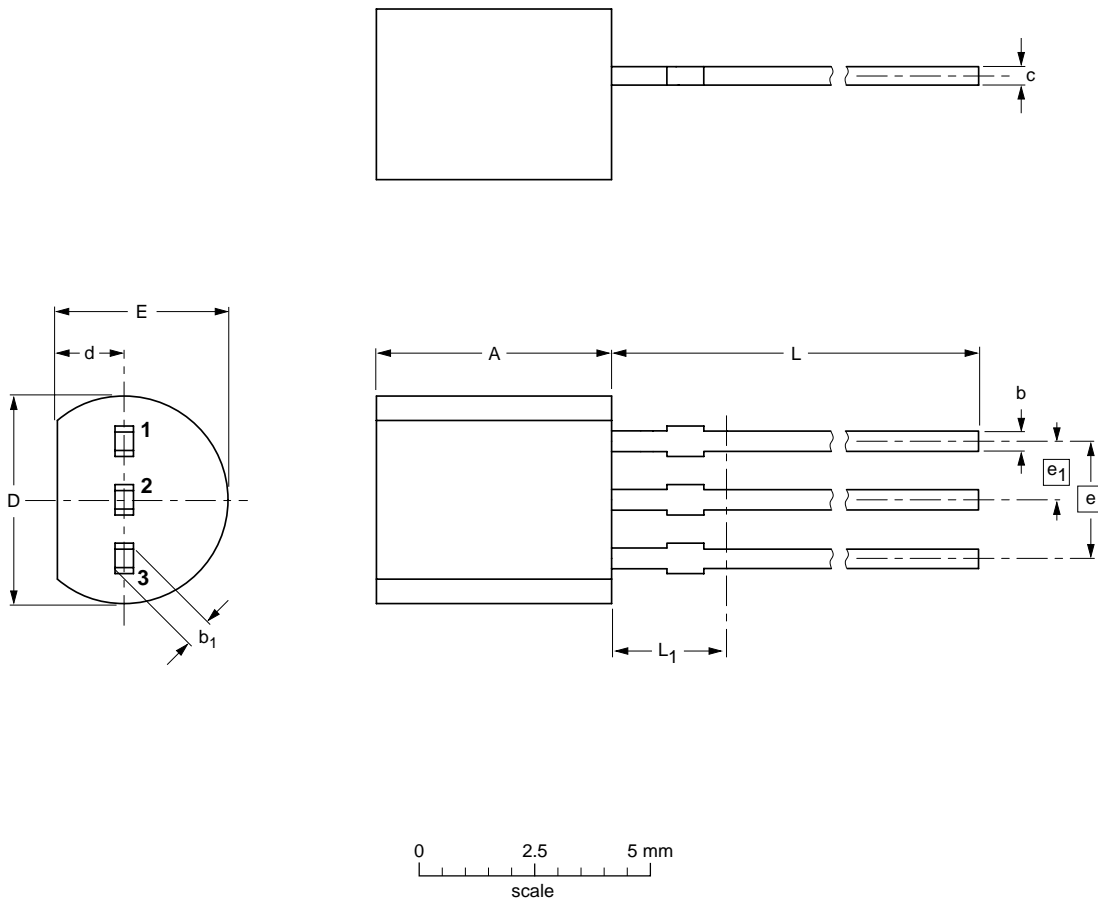
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PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; 3 leads

SOT54



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	b	b <sub>1</sub>	c	D	d	E	e	e <sub>1</sub>	L	L <sub>1</sub> <sup>(1)</sup> max.
mm	5.2 5.0	0.48 0.40	0.66 0.55	0.45 0.38	4.8 4.4	1.7 1.4	4.2 3.6	2.54	1.27	14.5 12.7	2.5

**Note**

1. Terminal dimensions within this zone are uncontrolled to allow for flow of plastic and terminal irregularities.

OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA		
SOT54		TO-92	SC-43A		-97-02-28 04-06-28

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BC369

## DATA SHEET STATUS

LEVEL	DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)(3)</sup>	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.
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Printed in The Netherlands

R75/05/pp12

Date of release: 2004 Nov 05

Document order number: 9397 750 13565

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