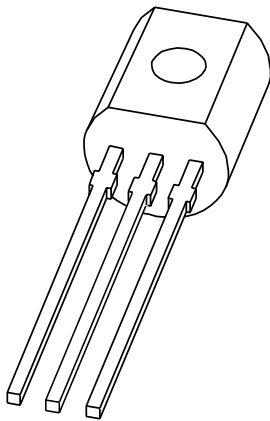


DATA SHEET



BSR62 PNP Darlington transistor

Product specification
Supersedes data of 1999 Apr 26

2004 Nov 11

PNP Darlington transistor

BSR62

FEATURES

- High current (max. 1 A)
- Low voltage (max. 80 V)
- Integrated diode and resistor.

APPLICATIONS

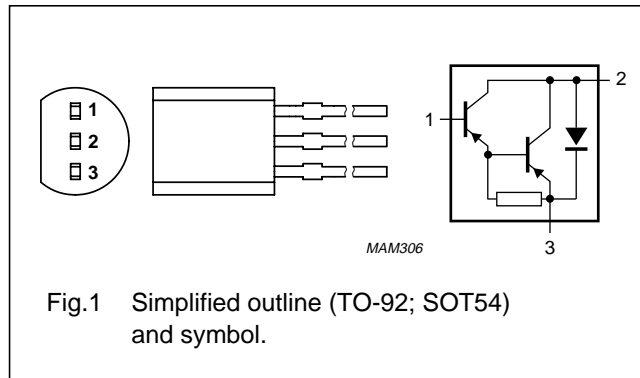
- Industrial applications such as:
 - Print hammer
 - Solenoid
 - Relay and lamp driving.

DESCRIPTION

PNP Darlington transistor in a TO-92; SOT54 plastic package. NPN complement: BSR52.

PINNING

PIN	DESCRIPTION
1	base
2	collector
3	emitter



ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BSR62	SC-43A	plastic single-ended leaded (through hole) package; 3 leads	SOT54

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	–	–90	V
V_{CES}	collector-emitter voltage	$V_{BE} = 0\text{ V}$	–	–80	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_B	base current (DC)		–	–0.2	A
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ °C}$; note 1	–	830	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	ambient temperature		–65	+150	°C

Note

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

PNP Darlington transistor

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th(j-a)}$	thermal resistance from junction to ambient	note 1	150	K/W

Note

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

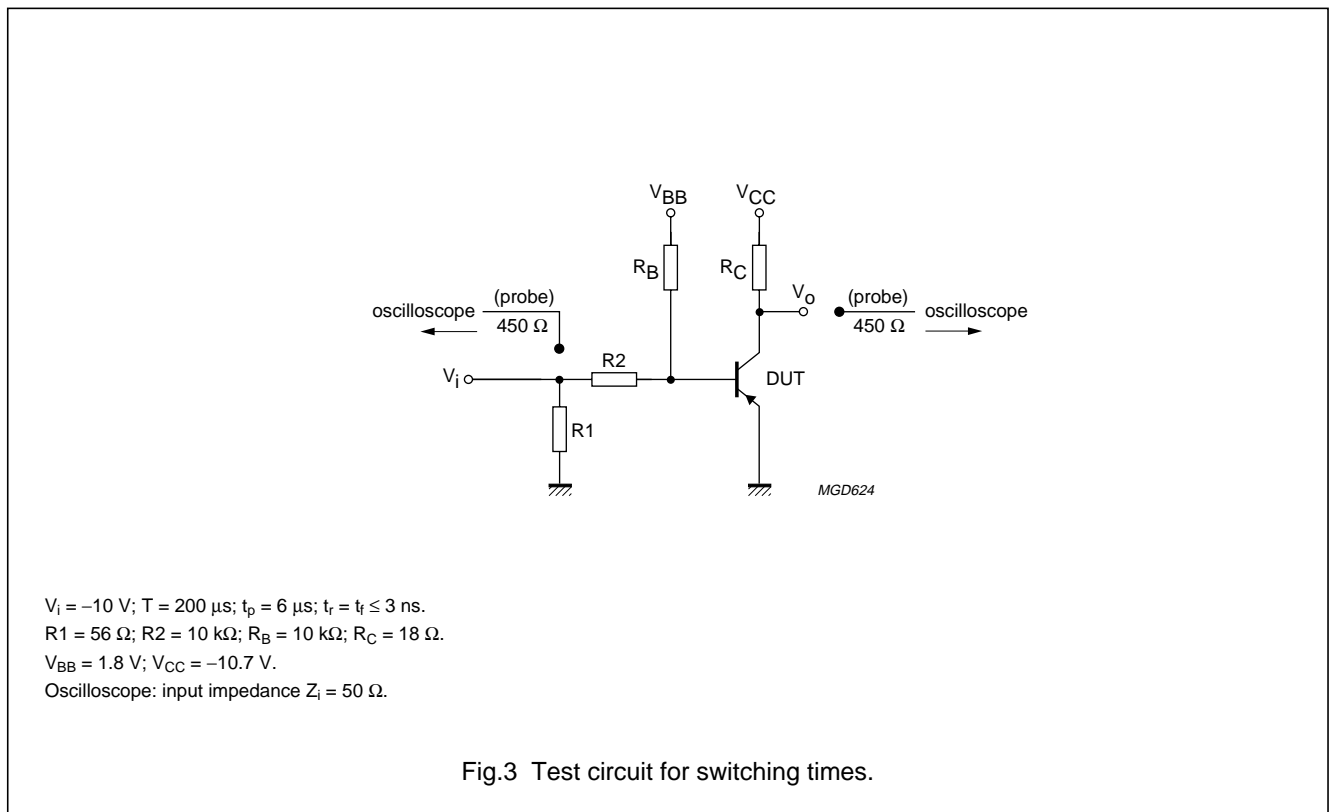
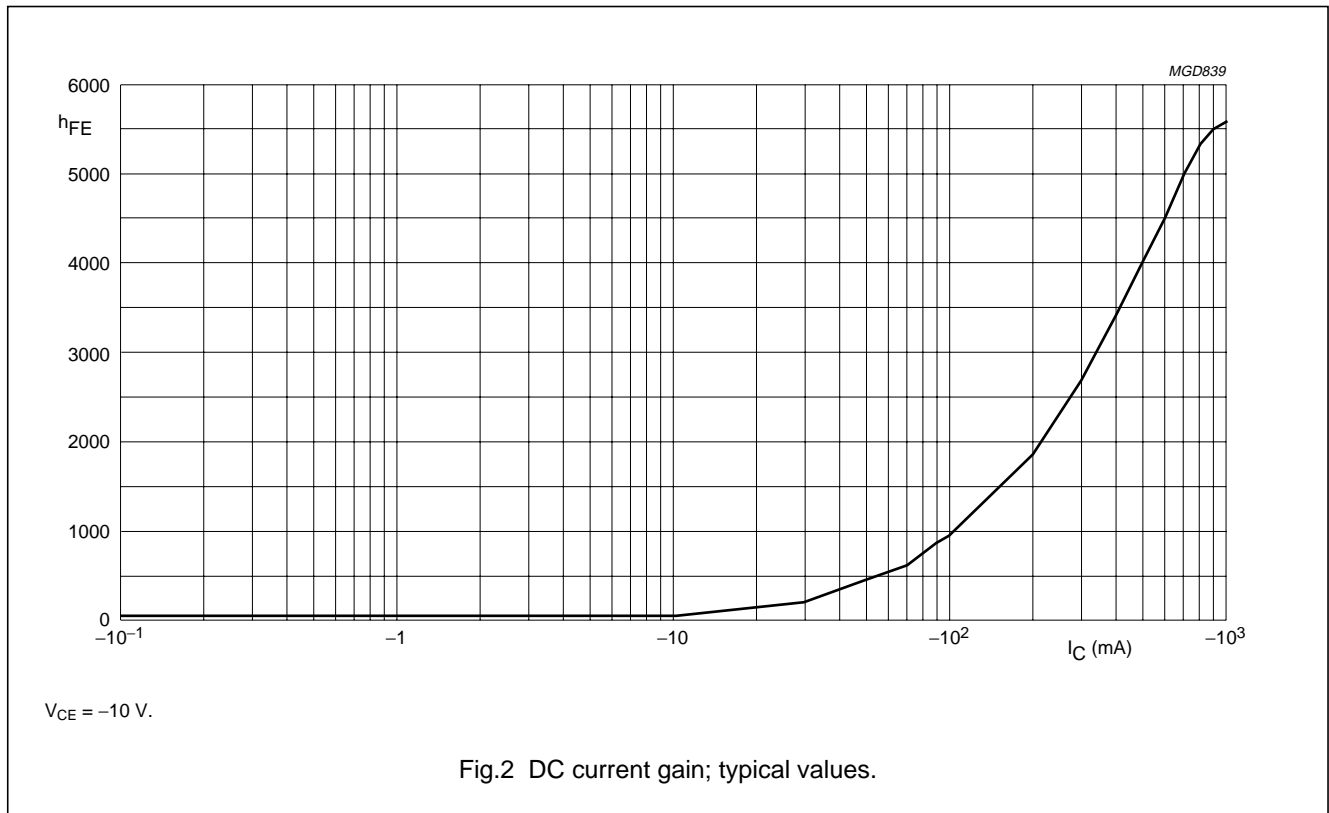
CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CES}	collector-emitter cut-off current	$V_{BE} = 0\text{ V}; V_{CE} = -80\text{ V}$	–	–	–50	nA
I_{EBO}	emitter-base cut-off current	$V_{EB} = -4\text{ V}; I_C = 0\text{ A}$	–	–	–50	nA
h_{FE}	DC current gain	$V_{CE} = -10\text{ V}$; see Fig.2 $I_C = -150\text{ mA}$ $I_C = -500\text{ mA}$	1000 2000	– –	– –	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -0.5\text{ A}; I_B = -0.5\text{ mA}$	–	–	–1.4	V
		$I_C = -1\text{ A}; I_B = -4\text{ mA}$	–	–	–1.8	V
V_{BEsat}	base-emitter saturation voltage	$I_C = -0.5\text{ A}; I_B = -0.5\text{ mA}$	–	–	–2	V
		$I_C = -1\text{ A}; I_B = -4\text{ mA}$	–	–	–2.4	V
f_T	transition frequency	$V_{CE} = -5\text{ V}; I_C = -500\text{ mA};$ $f = 100\text{ MHz}$	–	200	–	MHz
Switching times (between 10% and 90% levels); see Fig.3						
t_{on}	turn-on time	$I_{Con} = -500\text{ mA}; I_{Bon} = -0.5\text{ mA};$	–	–	0.5	μs
t_{off}	turn-off time	$I_{Boff} = 0.5\text{ mA}$	–	–	0.7	μs

PNP Darlington transistor

BSR62



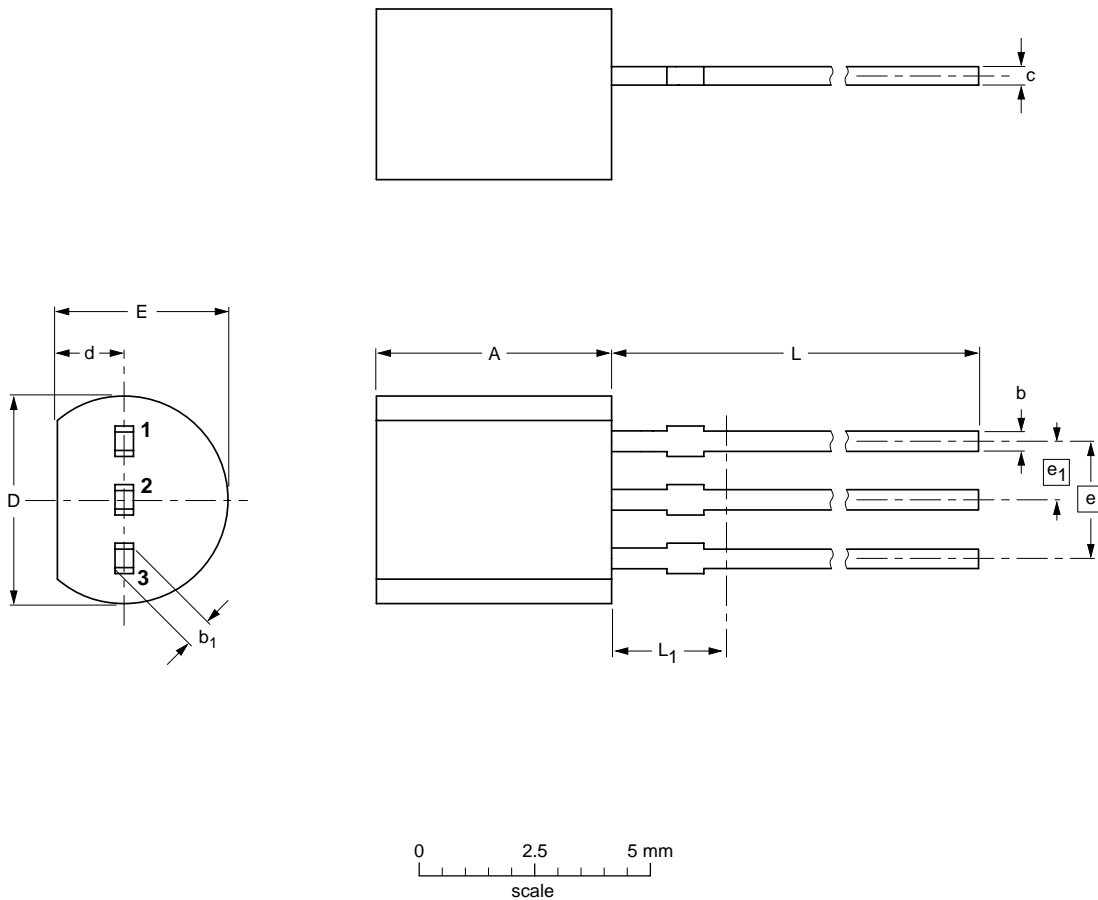
PNP Darlington transistor

BSR62

PACKAGE OUTLINE

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

SOT54



DIMENSIONS (mm are the original dimensions)

UNIT	A	b	b ₁	c	D	d	E	e	e ₁	L	L ₁ ⁽¹⁾ 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

PNP Darlington transistor

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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.
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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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