

# PNP general purpose transistors

## BC327; BC327A; BC328

### FEATURES

- High current (max. 500 mA)
- Low voltage (max. 60 V).

### APPLICATIONS

- General purpose switching and amplification, e.g. driver and output stages of audio amplifiers.

### DESCRIPTION

PNP transistor in a TO-92; SOT54 plastic package.  
NPN complements: BC337, BC337A and BC338.

### PINNING

PIN	DESCRIPTION
1	emitter
2	base
3	collector

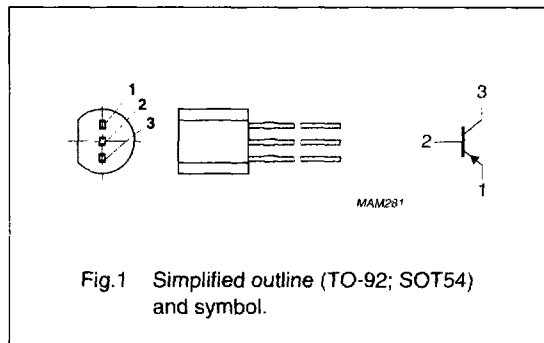


Fig. 1 Simplified outline (TO-92; SOT54) and symbol.

### QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CBO</sub>	collector-base voltage	open emitter			
	BC327		-	-50	V
	BC327A		-	-60	V
V <sub>CEO</sub>	collector-emitter voltage	open base			
	BC327		-	-45	V
	BC327A		-	-60	V
	BC328		-	-25	V
I <sub>CM</sub>	peak collector current		-	-1	A
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C	-	625	mW
h <sub>FE</sub>	DC current gain	I <sub>C</sub> = -100 mA; V <sub>CE</sub> = -1 V			
	BC327; BC328		100	600	
	BC327A		100	400	
f <sub>T</sub>	transition frequency	I <sub>C</sub> = -10 mA; V <sub>CE</sub> = -5 V; f = 100 MHz	80	-	MHz

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**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CB0</sub>	collector-base voltage	open emitter			
	BC327		–	–50	V
	BC327A		–	–60	V
	BC328		–	–30	V
V <sub>CEO</sub>	collector-emitter voltage	open base			
	BC327		–	–45	V
	BC327A		–	–60	V
	BC328		–	–25	V
V <sub>EBO</sub>	emitter-base voltage	open collector	–	–5	V
I <sub>C</sub>	collector current (DC)		–	–500	mA
I <sub>CM</sub>	peak collector current		–	–1	A
I <sub>BM</sub>	peak base current		–	–200	mA
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1	–	625	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

**Note**

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

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R <sub>th j-a</sub>	thermal resistance from junction to ambient	note 1	0.2	K/mW

**Note**

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

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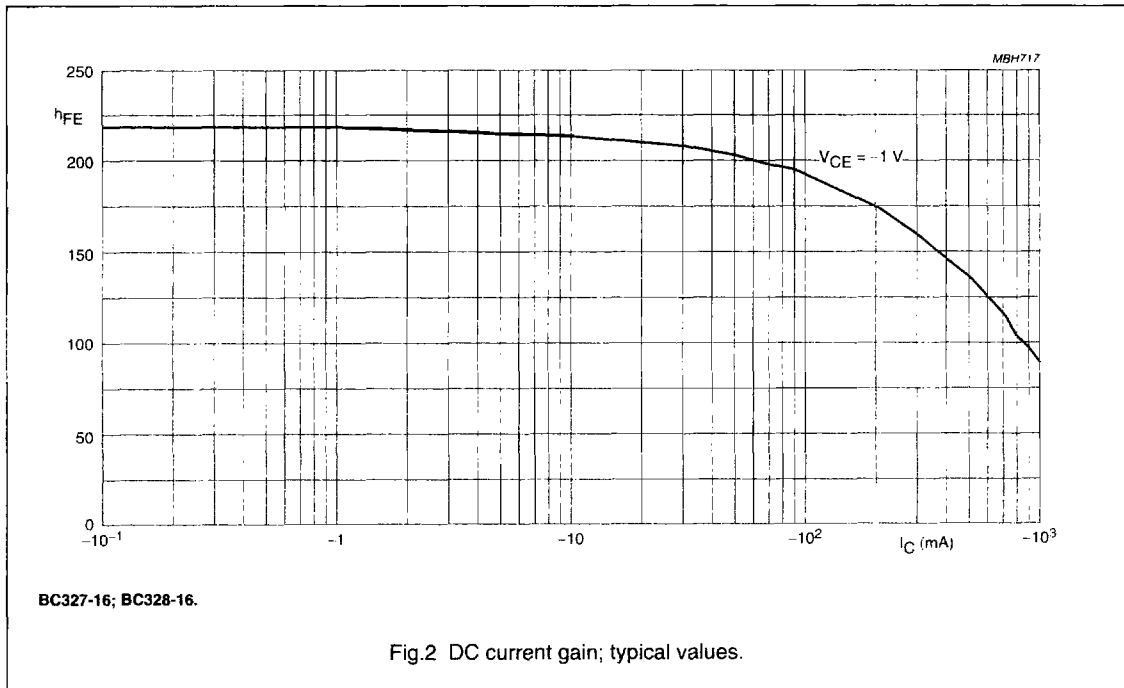
**CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT	
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = -20\text{ V}$	-	-	-100	nA	
		$I_E = 0; V_{CB} = -20\text{ V}; T_j = 150\text{ }^\circ\text{C}$	-	-	-5	$\mu\text{A}$	
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	-	-	-100	nA	
$h_{FE}$	DC current gain	$I_C = -100\text{ mA}; V_{CE} = -1\text{ V};$ see Figs 2, 3 and 4	100	-	600		
							BC327; BC328
							BC327A
							BC327-16; BC328-16
							BC327-25; BC328-25
$h_{FE}$	DC current gain	$I_C = -500\text{ mA}; V_{CE} = -1\text{ V};$ see Figs 2, 3 and 4	40	-	-		
							BC327-40; BC328-40
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -500\text{ mA}; I_B = -50\text{ mA}$	-	-	-700	mV	
$V_{BE}$	base-emitter voltage	$I_C = -500\text{ mA}; V_{CE} = -1\text{ V};$ note 1	-	-	-1.2	V	
$C_c$	collector capacitance	$I_E = I_B = 0; V_{CB} = -10\text{ V}; f = 1\text{ MHz}$	-	10	-	pF	
$f_T$	transition frequency	$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}; f = 100\text{ MHz}$	80	-	-	MHz	

**Note**

- $V_{BE}$  decreases by about  $-2\text{ mV/K}$  with increasing temperature.



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