

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

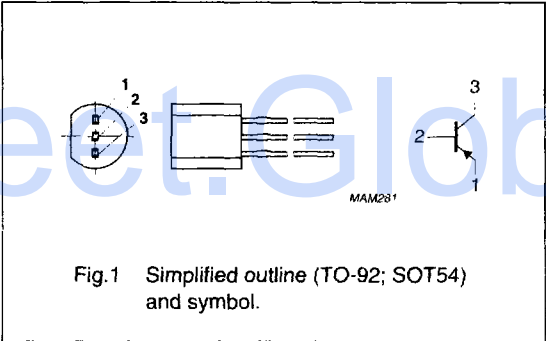


Fig.1 Simplified outline (TO-92; SOT54) and symbol.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	—	—	—
	BC327		—	-50	V
	BC327A		—	-60	V
	BC328		—	-30	V
V_{CEO}	collector-emitter voltage	open base	—	—	—
	BC327		—	-45	V
	BC327A		—	-60	V
	BC328		—	-25	V
I_{CM}	peak collector current		—	-1	A
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ }^{\circ}\text{C}$	—	625	mW
h_{FE}	DC current gain	$I_C = -100\text{ mA}; V_{CE} = -1\text{ V}$	—	—	—
	BC327; BC328		100	600	
	BC327A		100	400	
f_T	transition frequency	$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}; f = 100\text{ MHz}$	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 _{CB0}	collector-base voltage	open emitter			
	BC327		–	–50	V
	BC327A		–	–60	V
	BC328		–	–30	V
V _{CE0}	collector-emitter voltage	open base			
	BC327		–	–45	V
	BC327A		–	–60	V
	BC328		–	–25	V
V _{EB0}	emitter-base voltage	open collector	–	–5	V
I _C	collector current (DC)		–	–500	mA
I _{CM}	peak collector current		–	–1	A
I _{BM}	peak base current		–	–200	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	–	625	mW
T _{stg}	storage temperature		–65	+150	°C
T _j	junction temperature		–	150	°C
T _{amb}	operating ambient temperature		–65	+150	°C

Note

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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{th j-a}	thermal resistance from junction to ambient	note 1	0.2	K/mW

Note

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

PNP general purpose transistors

BC327; BC327A; BC328

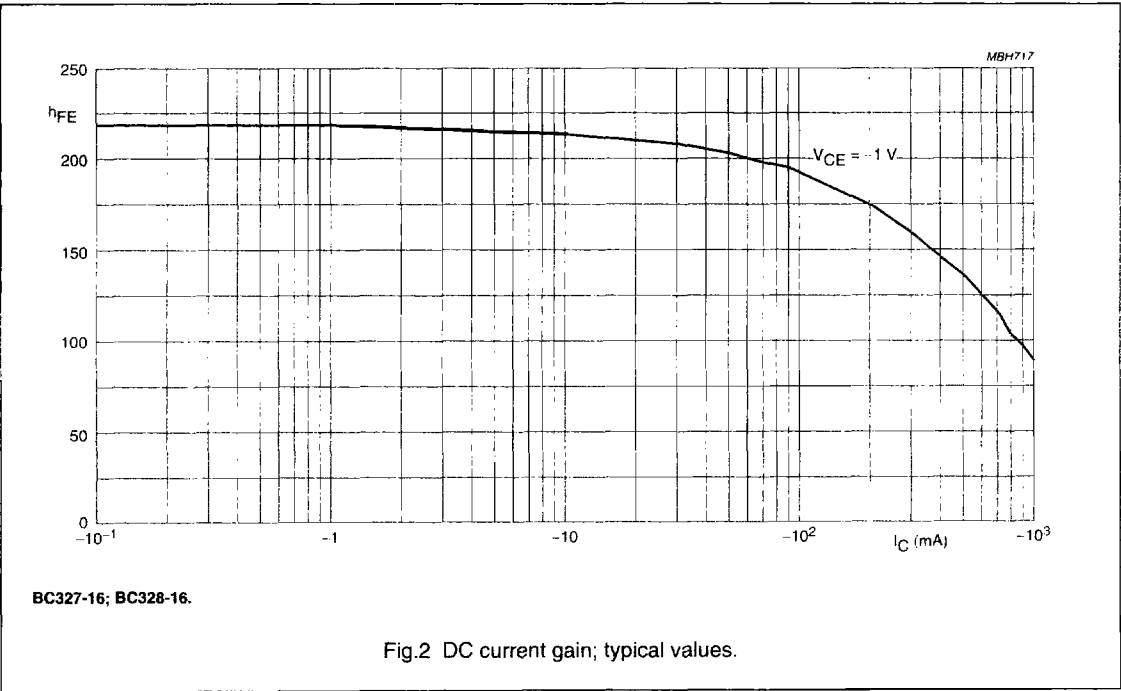
CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I _{CBO}	collector cut-off current	I _E = 0; V _{CB} = -20 V	-	-	-100	nA
		I _E = 0; V _{CB} = -20 V; T _j = 150 °C	-	-	-5	μA
I _{EBO}	emitter cut-off current	I _C = 0; V _{EB} = -5 V	-	-	-100	nA
h _{FE}	DC current gain BC327; BC328 BC327A BC327-16; BC328-16 BC327-25; BC328-25 BC327-40; BC328-40	I _C = -100 mA; V _{CE} = -1 V; see Figs 2, 3 and 4	100	-	600	
			100	-	400	
			100	-	250	
			160	-	400	
			250	-	600	
h _{FE}	DC current gain	I _C = -500 mA; V _{CE} = -1 V; see Figs 2, 3 and 4	40	-	-	
V _{CEsat}	collector-emitter saturation voltage	I _C = -500 mA; I _B = -50 mA	-	-	-700	mV
V _{BE}	base-emitter voltage	I _C = -500 mA; V _{CE} = -1 V; note 1	-	-	-1.2	V
C _c	collector capacitance	I _E = I _B = 0; V _{CB} = -10 V; f = 1 MHz	-	10	-	pF
f _T	transition frequency	I _C = -10 mA; V _{CE} = -5 V; f = 100 MHz	80	-	-	MHz

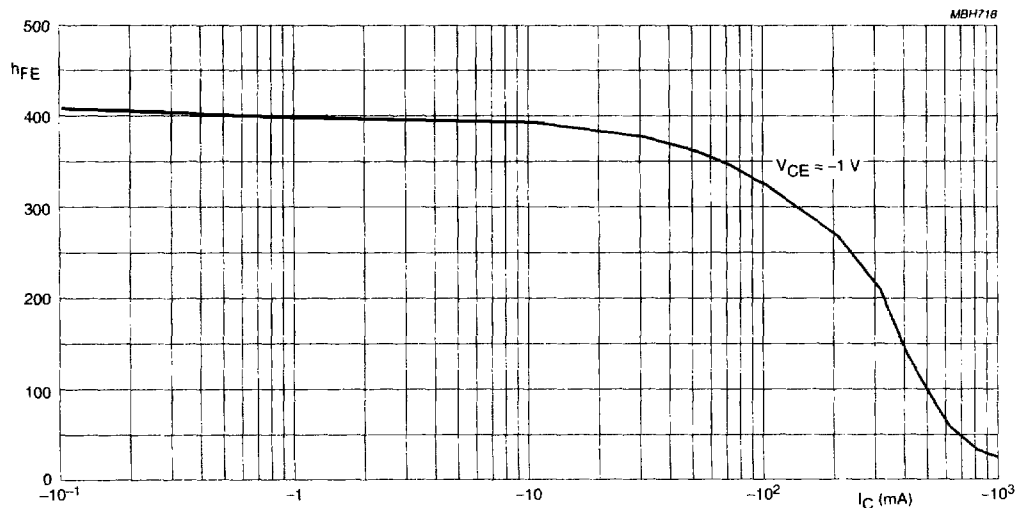
Note

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



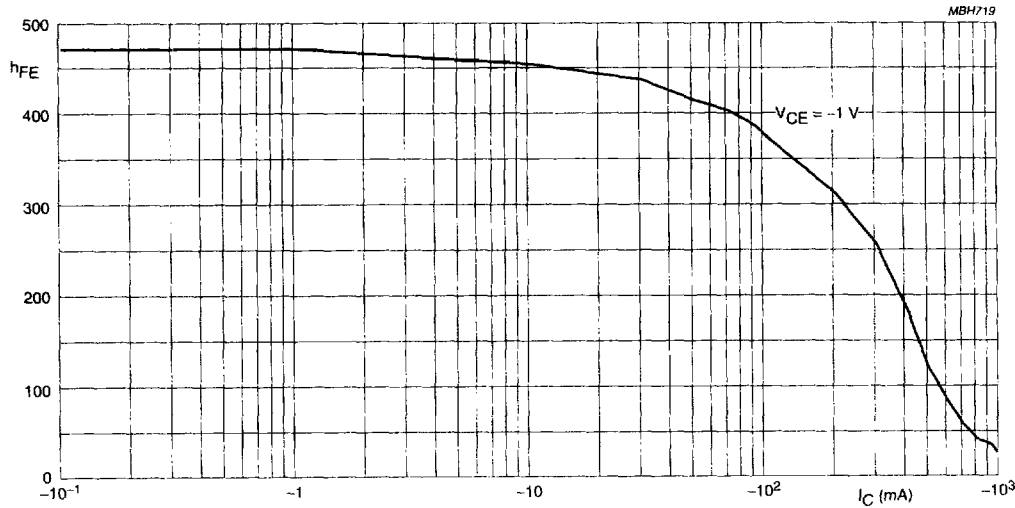
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BC327; BC327A; BC328



BC337-25; BC3378-25.

Fig.3 DC current gain; typical values.



BC327-40; BC328-40.

Fig.4 DC current gain; typical values.