Transistors

Order code	Manufacturer code	Description
47-3350	n/a	BC807-25 SOT-23 PNP TRANSISTOR (5B) (RC)

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SILICON PLANAR EPITAXIAL TRANSISTORS

P-N-P transistors, in a SOT-23 plastic package for use in driver and output stages of aufio amplifiers in thick and thin-film hybrid circuits.

N-P-N complements are BC817; R and BC818; R respectively.

QUICK REFERENCE DATA

			BC807	BC808	
Collector-emitter voltage (V_{BE} = 0)	$-V_{CES}$	max.	50	30	V
Collector-emitter voltage (open base)	$-V_{CEO}$	max.	45	25	V
Collector current (peak value)	$-I_{CM}$	max.	1000		mA
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	max.	250		mW
Junction temperature	T_j	max.	150		°C
Transition frequency at f = 100 MHz $-I_C$ = 10 mA; $-V_{CE}$ = 5 V	f_T	>	80		MHz

MECHANICAL DATA

Fig. 1 SOT-23.

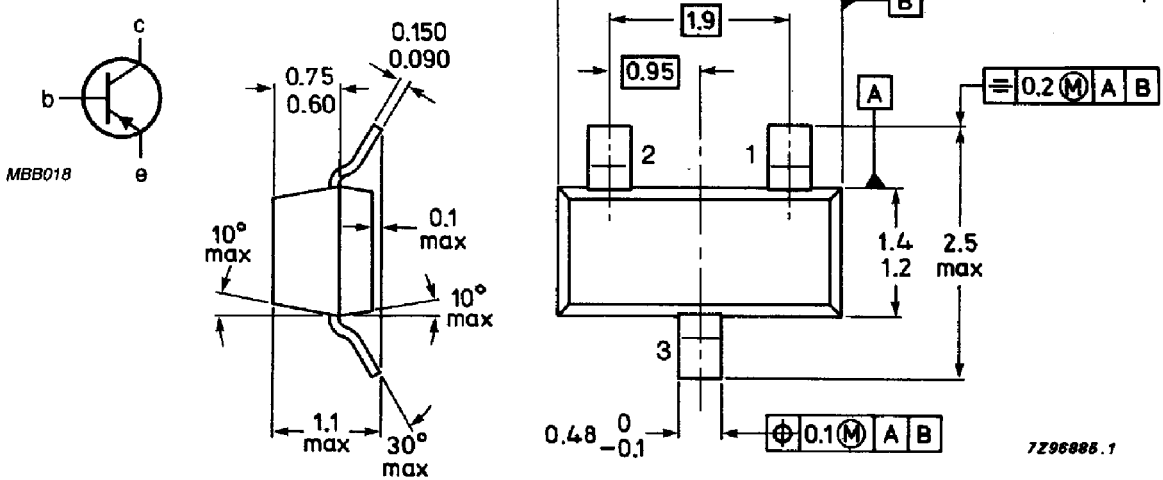
Dimensions in mm

Pinning:

1 = base
2 = emitter
3 = collector

Marking code:

BC807 = 5Dp
BC807-16 = 5Ap
BC807-25 = 5Bp
BC807-40 = 5Cp
BC808 = 5Hp
BC808-16 = 5Ep
BC808-25 = 5Fp
BC808-40 = 5Gp



TOP VIEW

Reverse pinning types are available on request.

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

			BC807	BC808	
Collector-emitter voltage (V_{BE} = 0)	$-V_{CES}$	max.	50	30	V
Collector-emitter voltage (open base) $-I_C$ = 10 mA	$-V_{CEO}$	max.	45	25	V
Emitter-base voltage (open collector)	$-V_{EBO}$	max.	5	5	V
Collector current (DC)	$-I_C$	max.	500		mA
Collector current (peak value)	$-I_{CM}$	max.	1000		mA
Emitter current (peak value)	I_{EM}	max.	1000		mA
Base current (DC)	$-I_B$	max.	100		mA
Base current (peak value)	$-I_{BM}$	max.	200		mA
Total power dissipation at T_{amb} = 25 °C *	P_{tot}	max.	250		mW
Storage temperature	T_{stg}		−65 to +150		°C
Junction temperature	T_j	max.	150		°C

THERMAL RESISTANCE*

From junction to ambient	$R_{tj\ j\text{-}a}$	=	500	K/W

* Mounted on a ceramic substrate of 8 mm x 10 mm x 0,7 mm.

CHARACTERISTICS

T_j = 25 °C unless otherwise specified

Collector cut-off current			
I_E = 0; $-V_{CB}$ = 20 V; T_j = 25 °C	$-I_{CBO}$	max.	100 nA
I_E = 0; $-V_{CB}$ = 20 V; T_j = 150 °C	$-I_{CBO}$	max.	5 μA
Emitter cut-off current			
I_C = 0; V_{EB} = 5 V	$-I_{EBO}$	max.	10 μA
Base emitter voltage *			
$-I_C$ = 500 mA; $-V_{CE}$ = 1 V	$-V_{BE}$	max.	1,2 V
Saturation voltage			
$-I_C$ = 500 mA; $-I_B$ = 50 mA	$-V_{CEsat}$	max.	700 mV
D.C. current gain			
$-I_C$ = 500 mA; $-V_{CE}$ = 1 V	h_{FE}	min.	40
$-I_C$ = 100 mA; $-V_{CE}$ = 1 V; BC807; BC808	h_{FE}	100 to	600
BC807-16 / BC808-16	h_{FE}	100 to	250
BC807-25 / BC808-25	h_{FE}	160 to	400
BC807-40 / BC808-40	h_{FE}	250 to	600
Transition frequency at f = 100 MHz			
$-I_C$ = 10 mA; $-V_{CE}$ = 5 V	f_T	>	80 MHz
Collector capacitance at f = 1 MHz			
$I_E = I_e$ = 0; $-V_{CB}$ = 10 V	C_c	typ.	8 pF

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

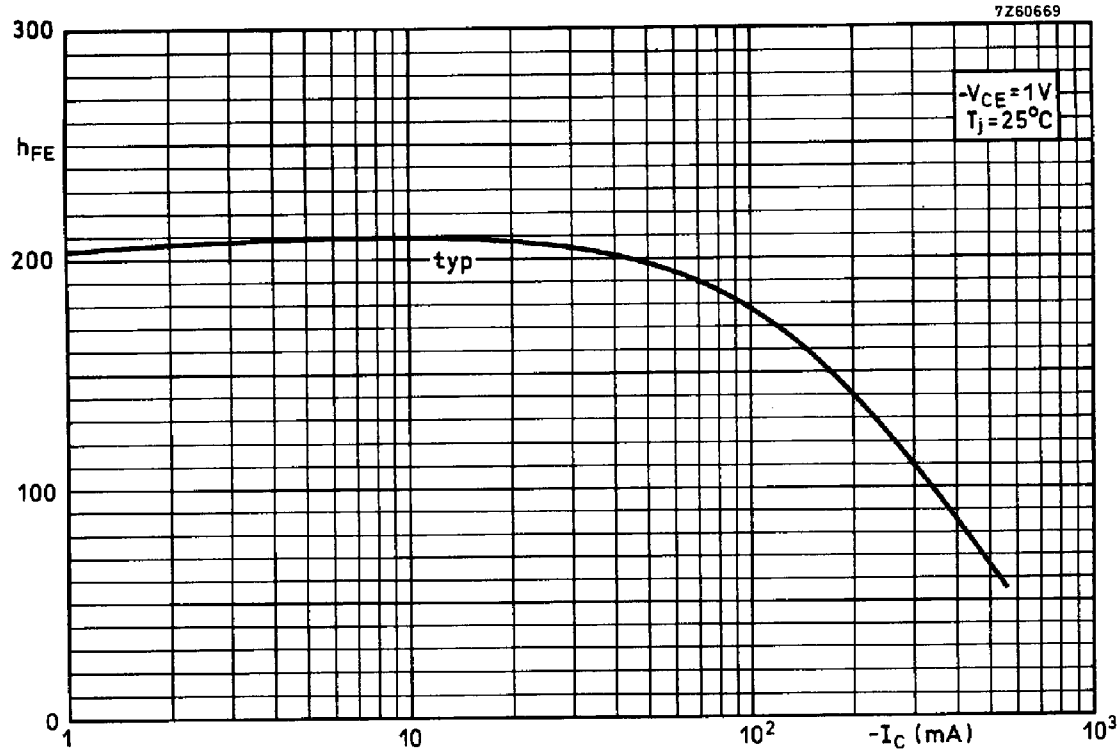


Fig. 2 DC current gain.

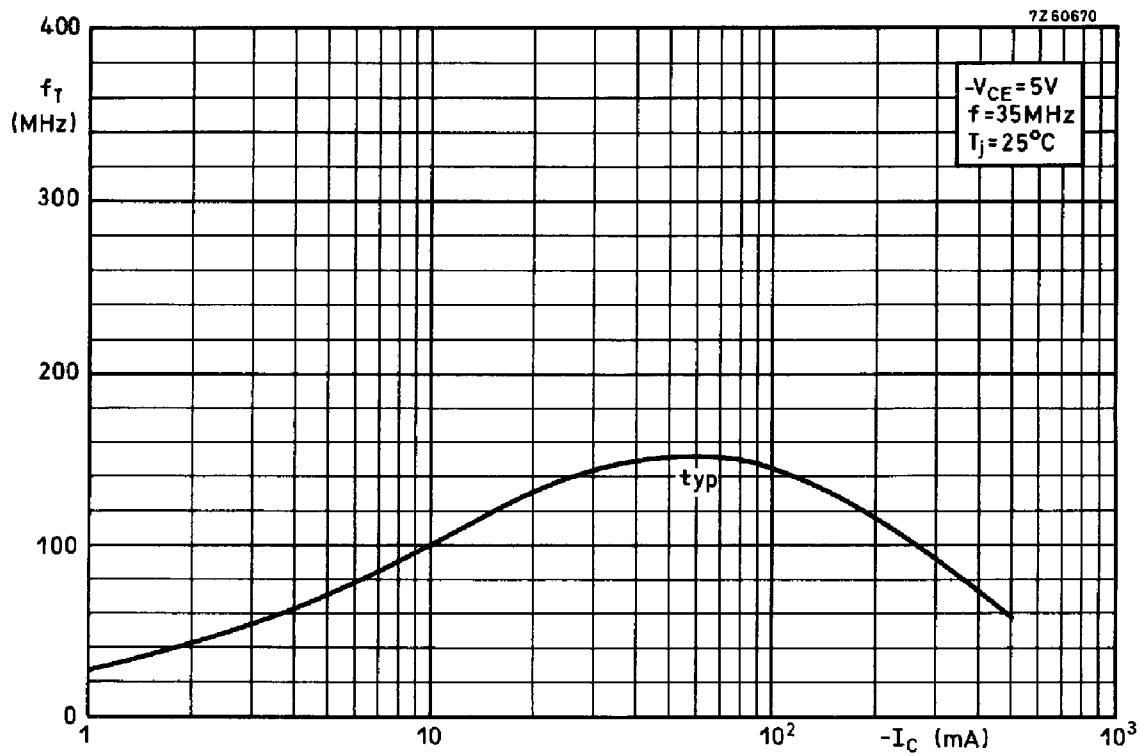


Fig. 3 Typical values transition frequency.