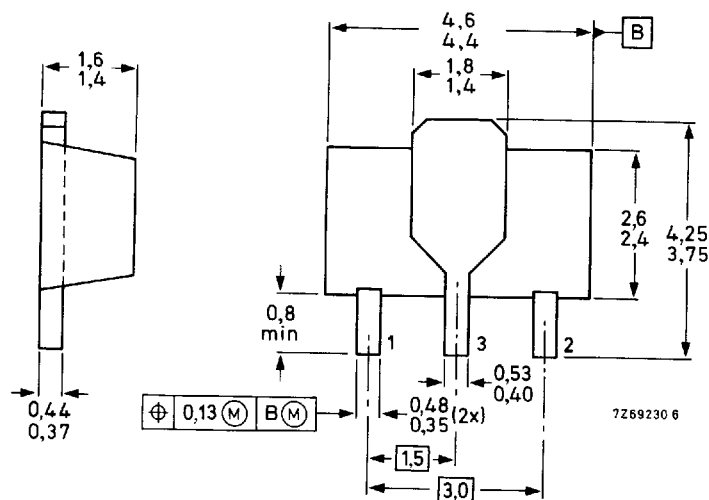


N-P-N transistor in a microminiature plastic envelope intended for low-voltage, high-current I.f. applications. BC868/BC869 is the matched complementary pair suitable for class-B audio output stages up to 3 W.

Collector-emitter voltage ($V_{BE} = 0$)	V_{CES}	max.	25 V
Collector-emitter voltage (open base)	V_{CEO}	max.	20 V
Collector current (peak value)	I_{CM}	max.	2 A
Total power dissipation up to $T_{amb} = 25\text{ }^{\circ}\text{C}$	P_{tot}	max.	1 W
Junction temperature	T_j	max.	150 $^{\circ}\text{C}$
D.C. current gain $I_C = 500\text{ mA}; V_{CE} = 1\text{ V}$	h_{FE}		85 to 375
Transition frequency at $f = 35\text{ MHz}$ $I_C = 10\text{ mA}; V_{CE} = 5\text{ V}$	f_T	typ.	60 MHz

BC868 = CAC
BC868-10 = CBC
BC868-16 = CCC
BC868-25 = CDC



BOTTOM VIEW

See also *Soldering recommendations*.

RATINGS

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

Collector-emitter voltage ($V_{BE} = 0$)	V_{CES}	max.	25 V
Collector-emitter voltage (open base)	V_{CEO}	max.	20 V
Emitter-base voltage (open collector)	V_{EBO}	max.	5 V
Collector current (d.c.)	I_C	max.	1 A
Collector current (peak value)	I_{CM}	max.	2 A
Base current (d.c.)	I_B	max.	100 mA
Base current (peak value)	I_{BM}	max.	200 mA
Total power dissipation up to $T_{amb} = 25^\circ\text{C}$ *	P_{tot}	max.	1 W
Storage temperature	T_{stg}		-65 to $+150^\circ\text{C}$
Junction temperature	T_j	max.	150°C

THERMAL RESISTANCE

From junction to ambient in free air*	$R_{th\ j-a}$	=	125 K/W
From junction to tab	$R_{th\ j-t}$	=	10 K/W

CHARACTERISTICS

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

Collector cut-off current $I_E = 0; V_{CB} = 25\text{ V}$	I_{CBO}	<	10 μA
$I_E = 0; V_{CB} = 25\text{ V}; T_j = 150^\circ\text{C}$	I_{CBO}	<	1 mA
Emitter cut-off current $I_C = 0; V_{EB} = 5\text{ V}$	I_{EBO}	<	10 μA
Base-emitter voltage $I_C = 5\text{ mA}; V_{CE} = 10\text{ V}$	V_{BE}	typ.	0,62 V
$I_C = 1\text{ A}; V_{CE} = 1\text{ V}$	V_{BE}	<	1 V
Collector-emitter saturation voltage $I_C = 1\text{ A}; I_B = 100\text{ mA}$	V_{CEsat}	<	0,5 V
DC current gain $I_C = 5\text{ mA}; V_{CE} = 10\text{ V}$	BC868 h_{FE}	>	50
$I_C = 500\text{ mA}; V_{CE} = 1\text{ V}$	BC868 h_{FE}		85 to 375
	BC868-10 h_{FE}	$\leq$	160
	BC868-16 h_{FE}		100 to 250
	BC868-25 h_{FE}	$\geq$	160
$I_C = 1\text{ A}; V_{CE} = 1\text{ V}$	BC868 h_{FE}	>	60
Collector capacitance at $f = 450\text{ kHz}$ $I_E = I_e = 0; V_{CB} = 5\text{ V}$	C_c	typ.	27 pF
Transition frequency at $f = 35\text{ MHz}$ $I_C = 10\text{ mA}; V_{CE} = 5\text{ V}$	f_T	typ.	60 MHz

* Mounted on a ceramic substrate, area = $2,5\text{ cm}^2$; thickness = 0,7 mm.

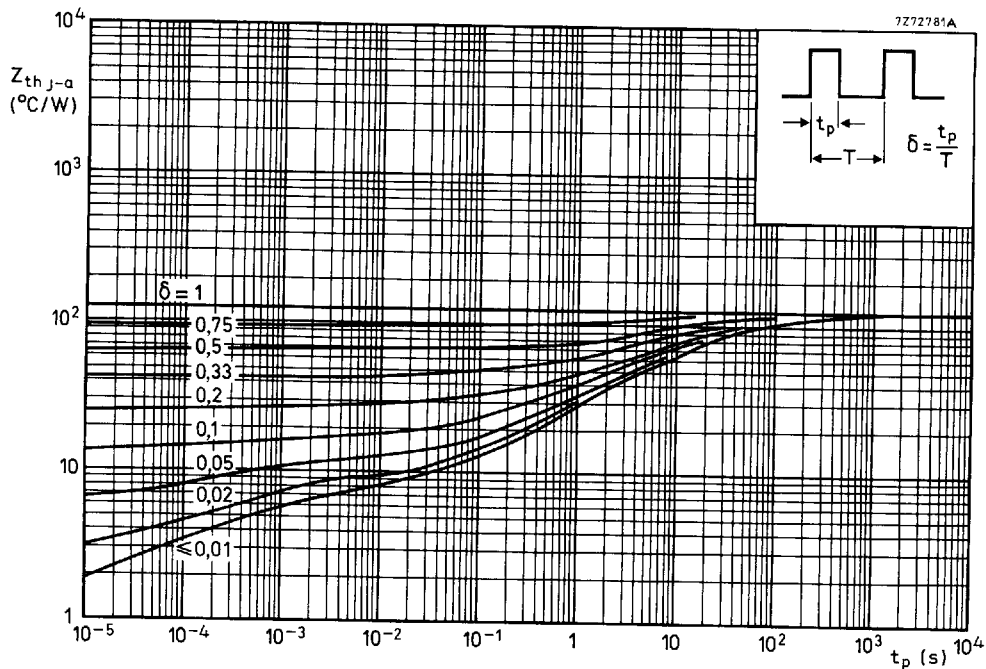


Fig. 2 Pulse power rating chart.

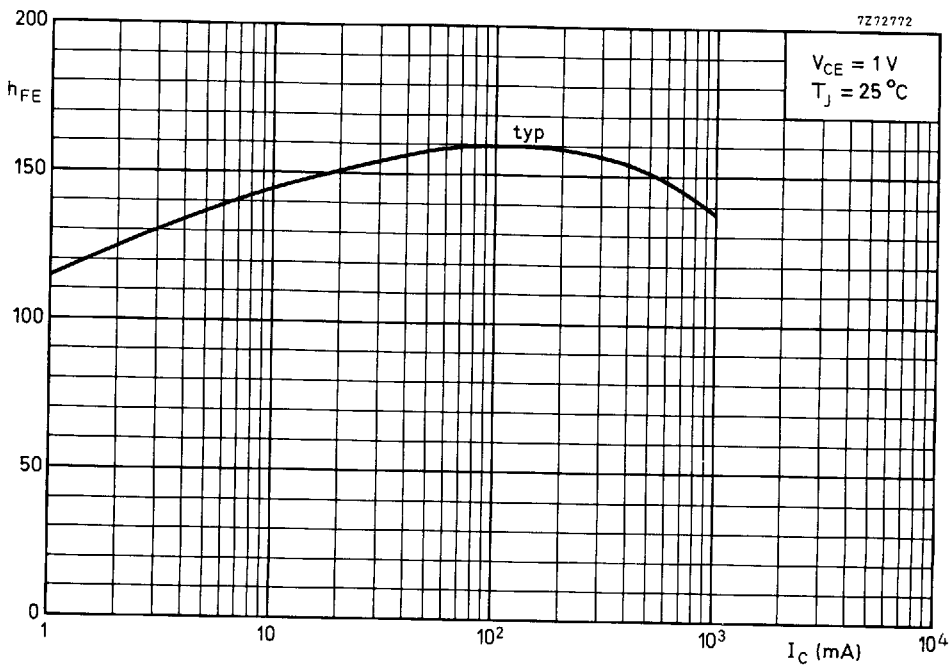


Fig. 3 D.C. current gain.

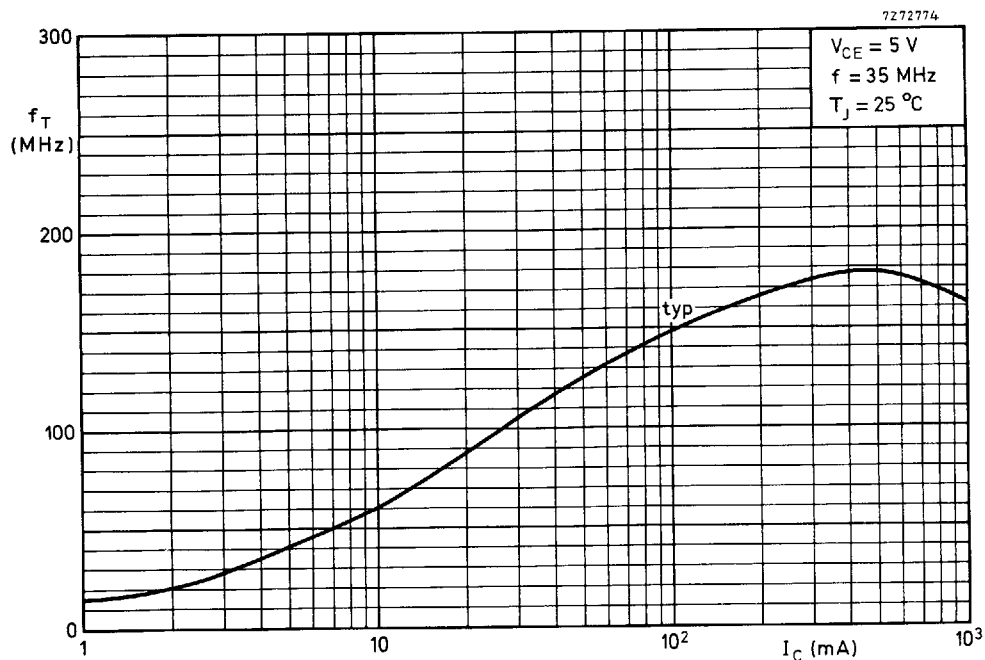


Fig. 4 Typical values transition frequency as a function of collector current.

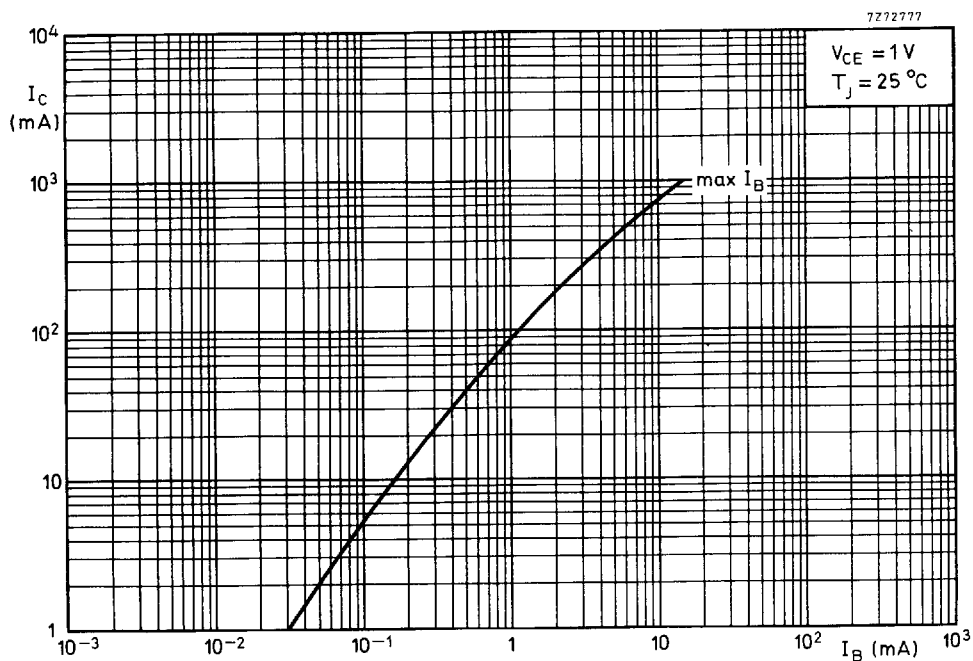


Fig. 5 Typical values collector current as a function of maximum base current.

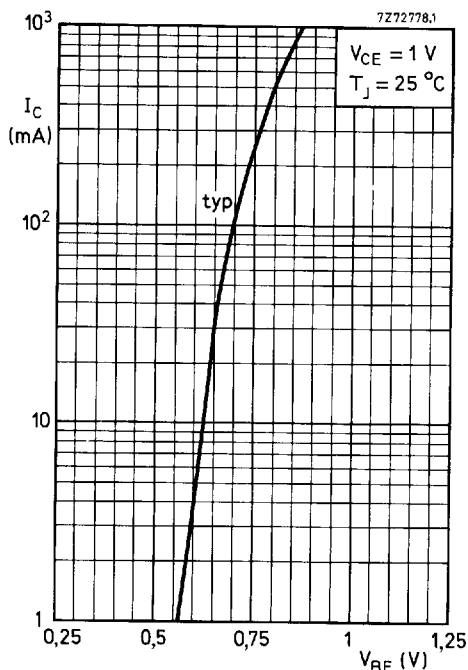


Fig. 6 Typical values collector current as a function of base-emitter voltage.

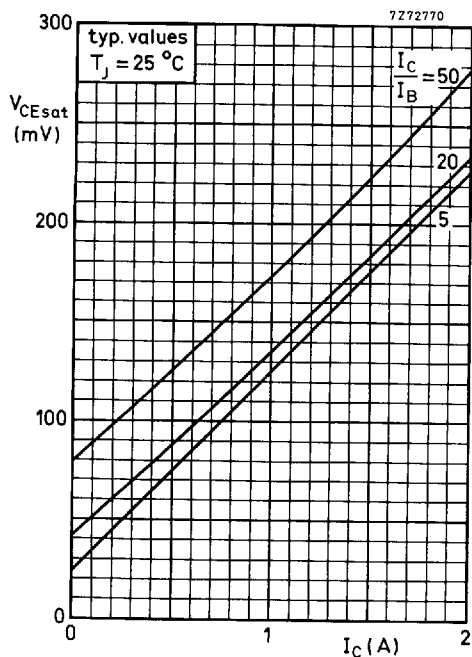


Fig. 7 Collector-emitter saturation voltage as a function of collector current.

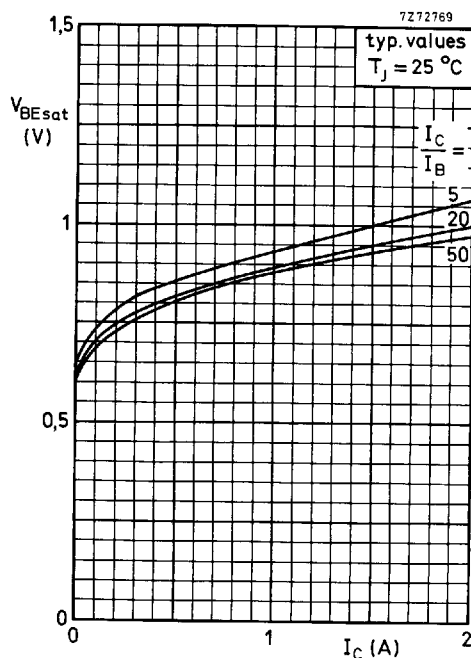


Fig. 8 Base-emitter saturation voltage as a function of collector current.