

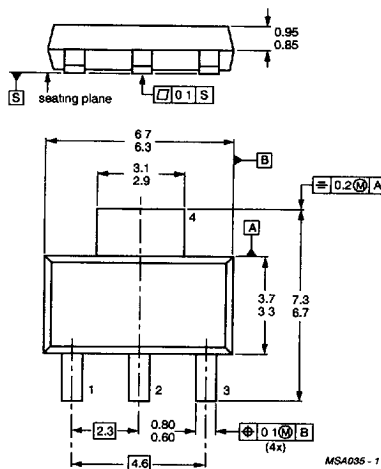
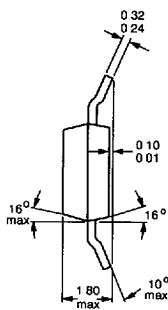
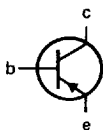
PNP transistor in a plastic microminiature envelope, intended for low-voltage, high-current LF applications.

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.	1,5 W
Junction temperature	T_j	max.	150 $^{\circ}\text{C}$
DC 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

Dimensions in mm

Pinning

- 1 = Base
2 = Collector
3 = Emitter
4 = Collector



BCP69

AMER PHILIPS/DISCRETE

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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 (DC)	$-I_C$	max.	1 A
Collector current (peak value)	$-I_{CM}$	max.	2 A
Base current (DC)	$-I_B$	max.	100 mA
Base current (peak value)	$-I_{BM}$	max.	200 mA
Total power dissipation up to $T_{amb} = 25\text{ }^{\circ}\text{C}$ *	P_{tot}	max.	1,5 W
Storage temperature range	T_{stg}		$-65\text{ to }+150\text{ }^{\circ}\text{C}$
Junction temperature	T_j	max.	150 $^{\circ}\text{C}$

THERMAL RESISTANCE

From junction to ambient*	$R_{th\ j-a}$	=	83,3 K/W
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CHARACTERISTICS

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

Collector cut-off current			
$I_E = 0; -V_{CB} = 25\text{ V}$	$-I_{CBO}$	<	10 μA
$I_E = 0; -V_{CB} = 25\text{ V}; T_j = 150\text{ }^{\circ}\text{C}$	$-I_{CBO}$	<	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			
$-I_C = 5\text{ mA}; -V_{CE} = 10\text{ V}$	BCP69	h_{FE}	> 50
$-I_C = 500\text{ mA}; -V_{CE} = 1\text{ V}$	BCP69	h_{FE}	85 to 375
	BCP69-10	h_{FE}	≤ 160
	BCP69-16	h_{FE}	100 to 250
	BCP69-25	h_{FE}	≥ 250
	BCP69	h_{FE}	> 60
$-I_C = 1\text{ A}; -V_{CE} = 1\text{ V}$			
Collector capacitance at $f = 450\text{ kHz}$			
$I_E = I_e = 0; -V_{CB} = 5\text{ V}$		C_c	typ. 45 pF
Transition frequency at $f = 35\text{ MHz}$			
$-I_C = 10\text{ mA}; -V_{CE} = 5\text{ V}$		f_T	typ. 60 MHz

* Device mounted on an epoxy printed-circuit board 40 mm x 40 mm x 1,5 mm;
mounting pad for the collector lead min. 6 cm².

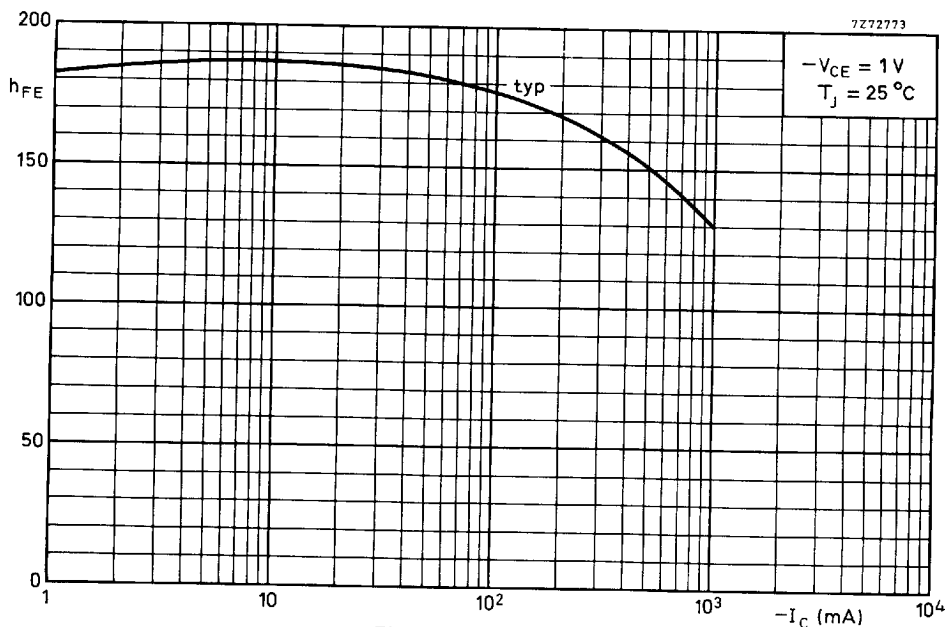


Fig. 2 DC current gain.

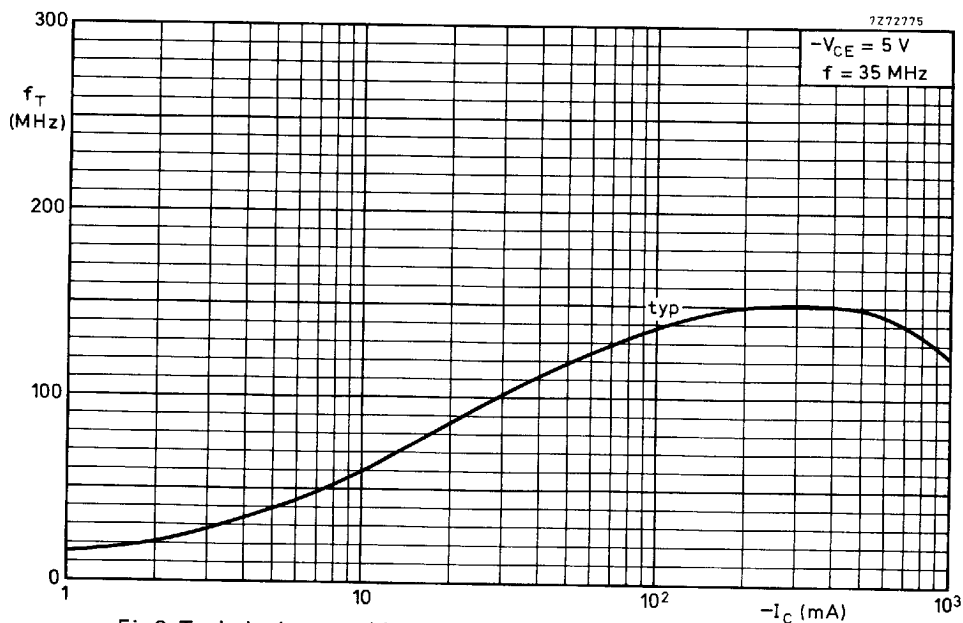


Fig.3 Typical values transition frequency as a function of collector current.

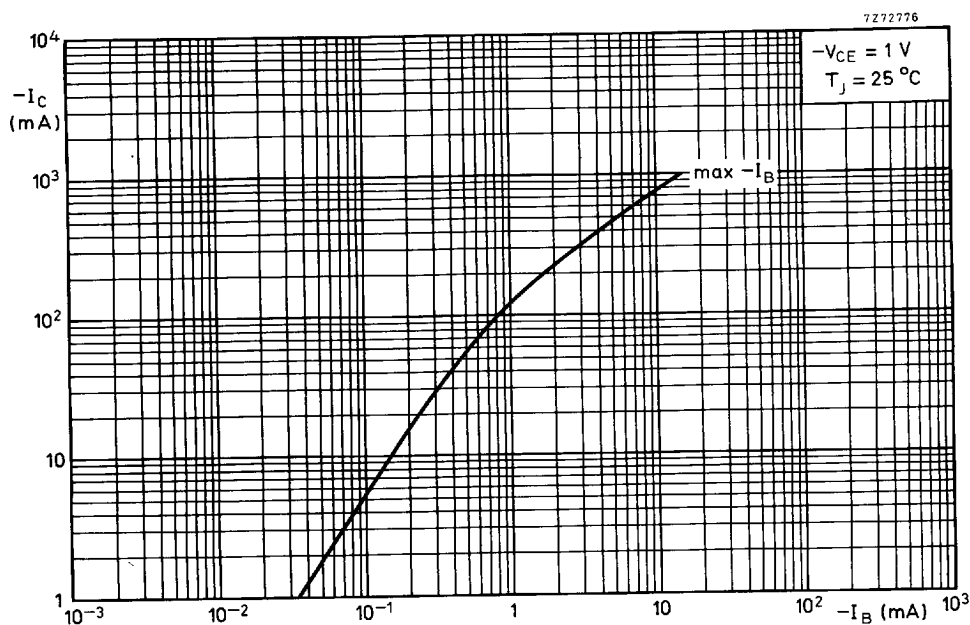


Fig.4 Typical values collector current as a function of maximum base current.

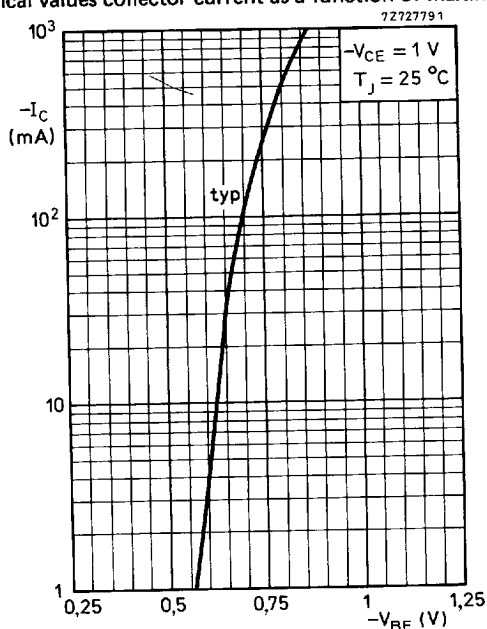


Fig.5 Typical values collector current as a function of base-emitter voltage.

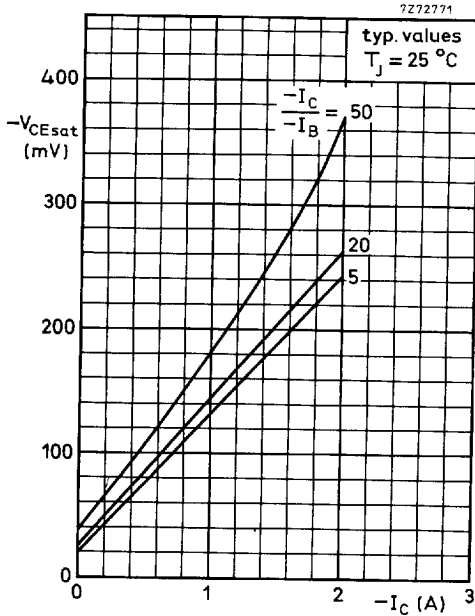


Fig.6 Collector-emitter saturation voltage as a function of collector current.

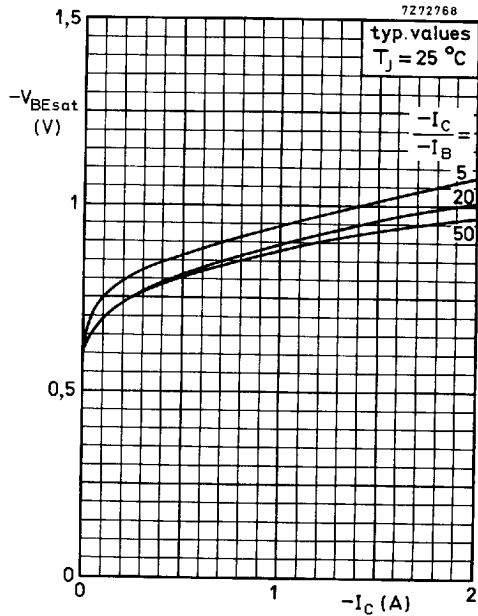


Fig.7 Base-emitter saturation voltage as a function of collector current.