

PNP medium power transistor

BC869

FEATURES

- High current (max. 1 A)
- Low voltage (max. 20 V).

APPLICATIONS

- Low voltage, high current LF applications.

DESCRIPTION

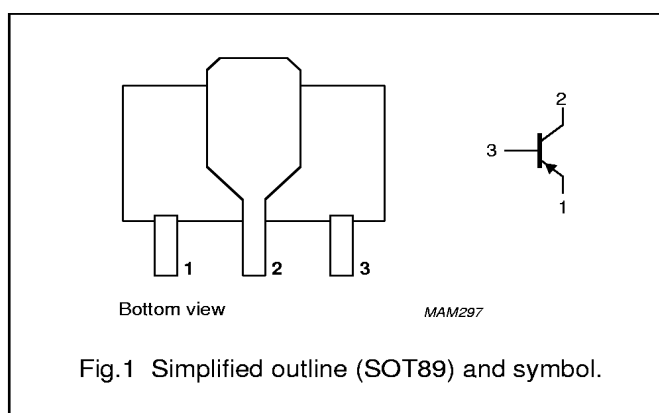
PNP medium power transistor in a SOT89 plastic package. NPN complement: BC868.

MARKING

TYPE NUMBER	MARKING CODE
BC869	CEC
BC869-16	CGC
BC869-25	CHC

PINNING

PIN	DESCRIPTION
1	emitter
2	collector
3	base



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	–	–32	V
V_{CEO}	collector-emitter voltage	open base	–	–20	V
V_{EBO}	emitter-base voltage	open collector	–	–5	V
I_C	collector current (DC)		–	–1	A
I_{CM}	peak collector current		–	–2	A
I_{BM}	peak base current		–	–200	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ °C}$; note 1	–	1.35	W
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		–65	+150	°C

Note

1. Device mounted on a printed-circuit board, single sided copper, tinplated, mounting pad for collector 6 cm². For other mounting conditions, see “Thermal considerations for SOT89 in the General Part of associated Handbook”.

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	93	K/W
$R_{th\ j-s}$	thermal resistance from junction to soldering point		13	K/W

Note

- Device mounted on a printed-circuit board, single sided copper, tinplated, mounting pad for collector 6 cm².
For other mounting conditions, see "Thermal considerations for SOT89 in the General Part of associated Handbook".

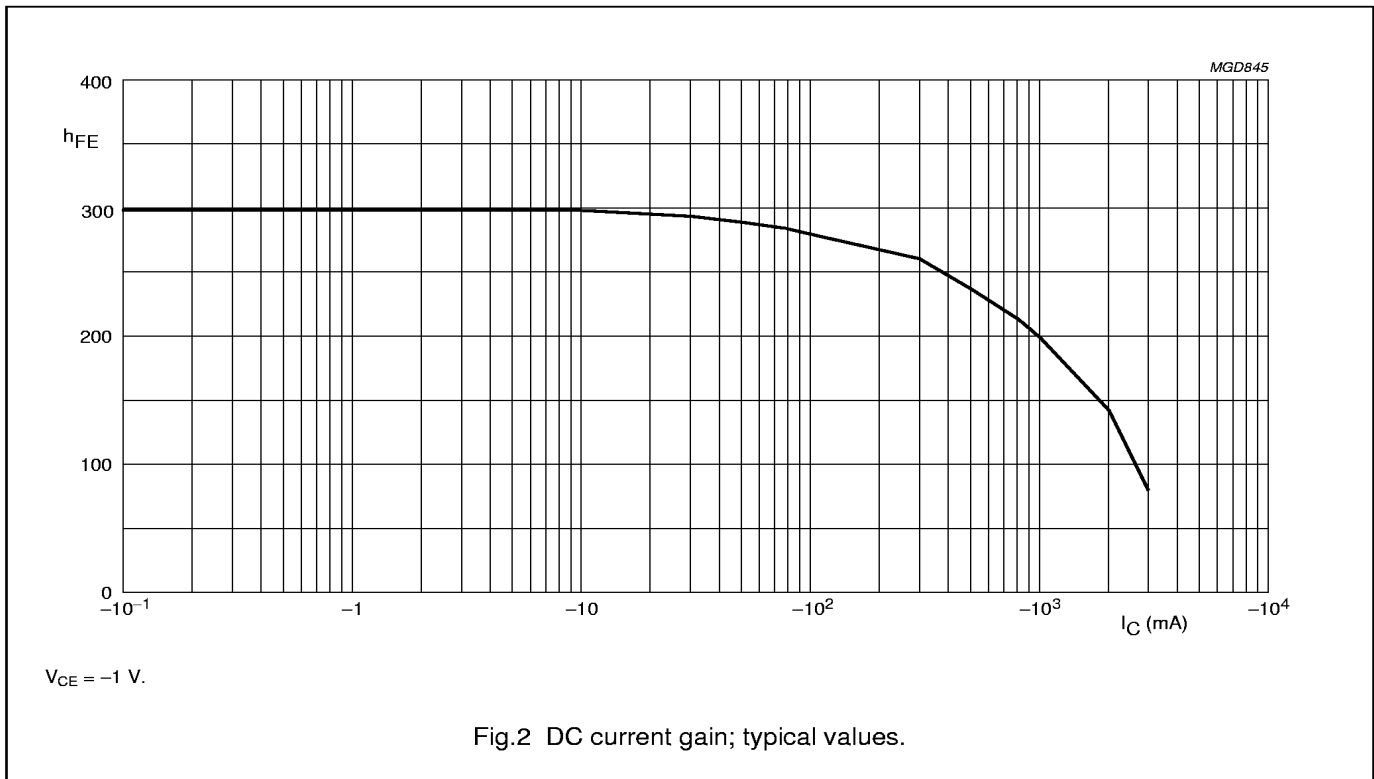
CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0; V_{CB} = -25\text{ V}$	–	–	–100	nA
		$I_E = 0; V_{CB} = -25\text{ V}; T_j = 150\text{ °C}$	–	–	–10	μA
I_{EBO}	emitter cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	–	–	–100	nA
h_{FE}	DC current gain	$I_C = -5\text{ mA}; V_{CE} = -10\text{ V};$ see Fig.2	50	–	–	
		$I_C = -500\text{ mA}; V_{CE} = -1\text{ V};$ see Fig.2	100	–	375	
		$I_C = -1\text{ A}; V_{CE} = -1\text{ V};$ see Fig.2	60	–	–	
	DC current gain BC869-16 BC869-25	$I_C = -500\text{ mA}; V_{CE} = -1\text{ V};$ see Fig.2	100	–	250	
			160	–	375	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -1\text{ A}; I_B = -100\text{ mA}$	–	–	–500	mV
V_{BE}	base-emitter voltage	$I_C = -5\text{ mA}; V_{CE} = -10\text{ V}$	–	–620	–	mV
		$I_C = -1\text{ A}; V_{CE} = -1\text{ V}$	–	–	–1	V
f_T	transition frequency	$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}; f = 100\text{ MHz}$	40	–	–	MHz

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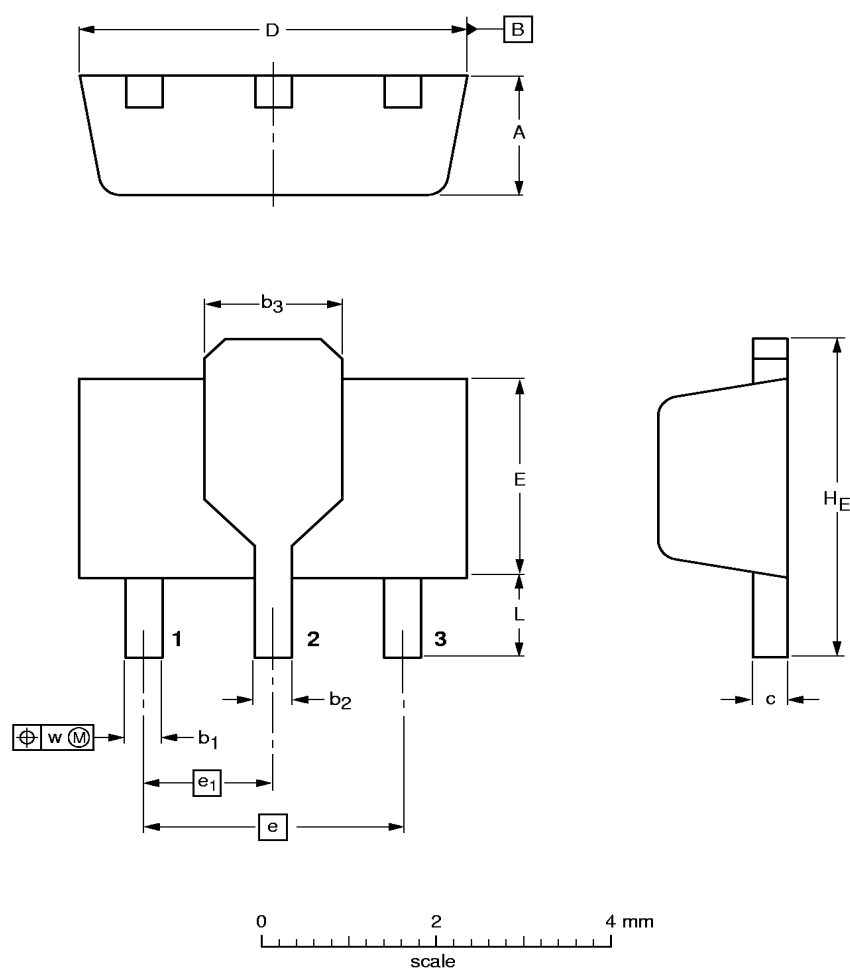
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PACKAGE OUTLINE

Plastic surface mounted package; collector pad for good heat transfer; 3 leads

SOT89



DIMENSIONS (mm are the original dimensions)

UNIT	A	b ₁	b ₂	b ₃	c	D	E	e	e ₁	H _E	L min.	w
mm	1.6 1.4	0.48 0.35	0.53 0.40	1.8 1.4	0.44 0.37	4.6 4.4	2.6 2.4	3.0	1.5	4.25 3.75	0.8	0.13

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT89						97-02-28