

PNP general purpose transistors

BC856W; BC857W

FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 80)
- S-mini package.

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

PNP transistor in a plastic SOT323 package.
NPN complements: BC846W and BC847W.

MARKING

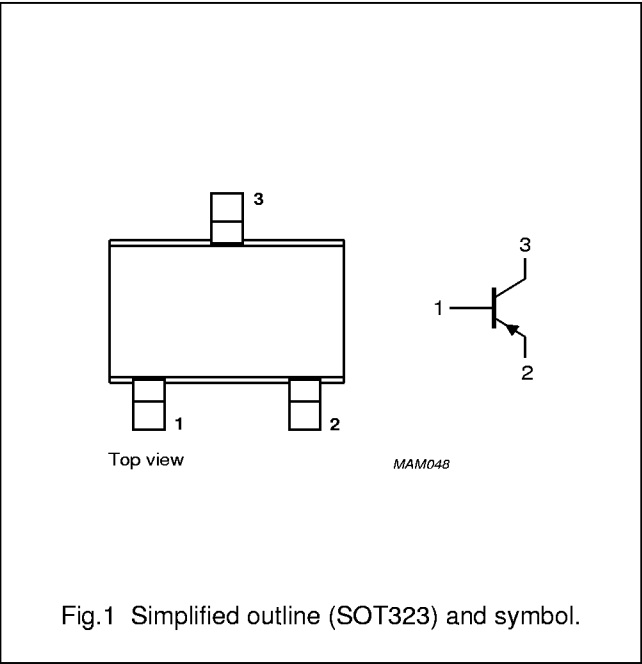
TYPE NUMBER	MARKING CODE ⁽¹⁾	TYPE NUMBER	MARKING CODE ⁽¹⁾
BC856W	3D*	BC857AW	3E*
BC856AW	3A*	BC857BW	3F*
BC856BW	3B*	BC857CW	3G*
BC857W	3H*		

Note

1. * = - : Made in Hong Kong.
* = t : Made in Malaysia.

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



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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	—	−80	V
	BC856W BC857W		—	−50	V
V _{CEO}	collector-emitter voltage	open base	—	−65	V
	BC856W BC857W		—	−45	V
V _{EBO}	emitter-base voltage	open collector	—	−5	V
I _C	collector current (DC)		—	−100	mA
I _{CM}	peak collector current		—	−200	mA
I _{BM}	peak base current		—	−200	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	—	200	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.

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	625	K/W

Note

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

CHARACTERISTICS

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

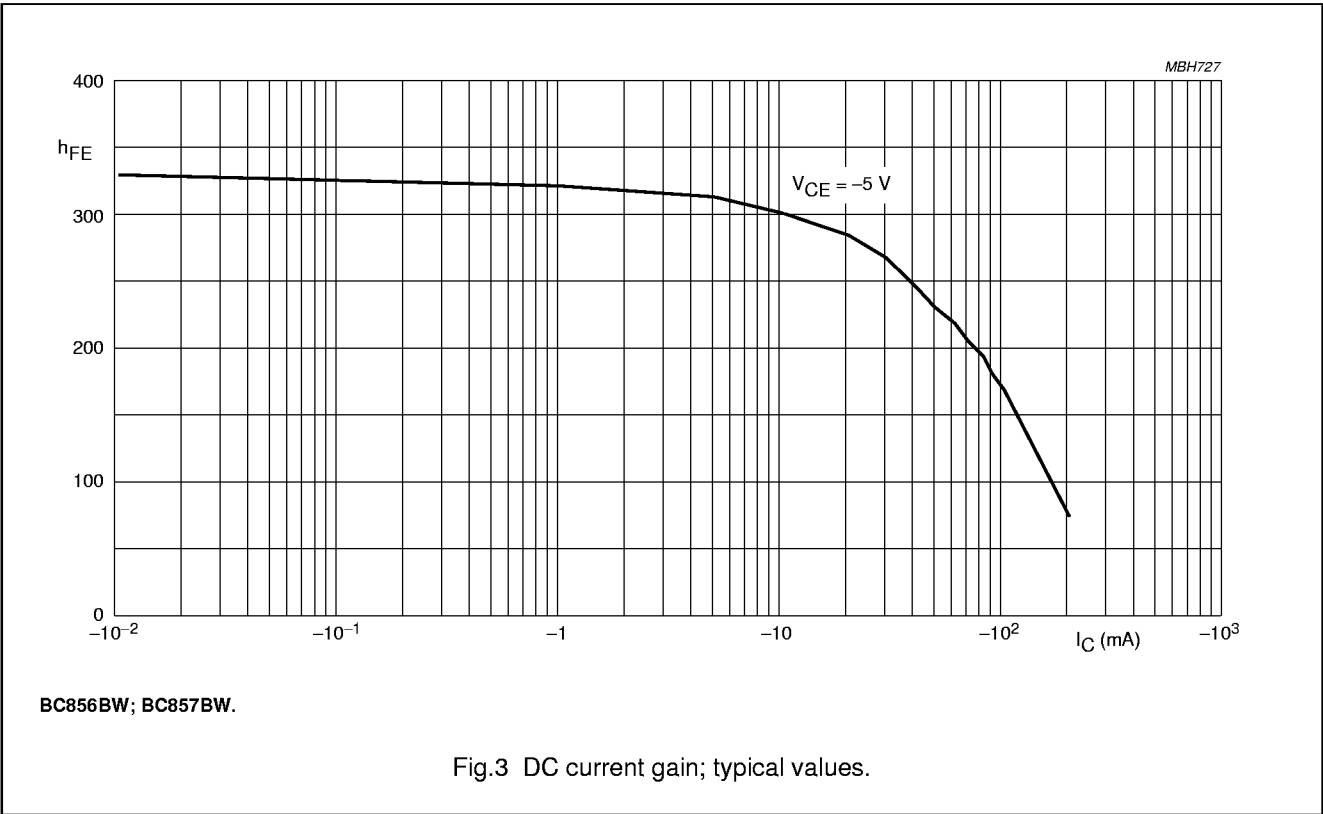
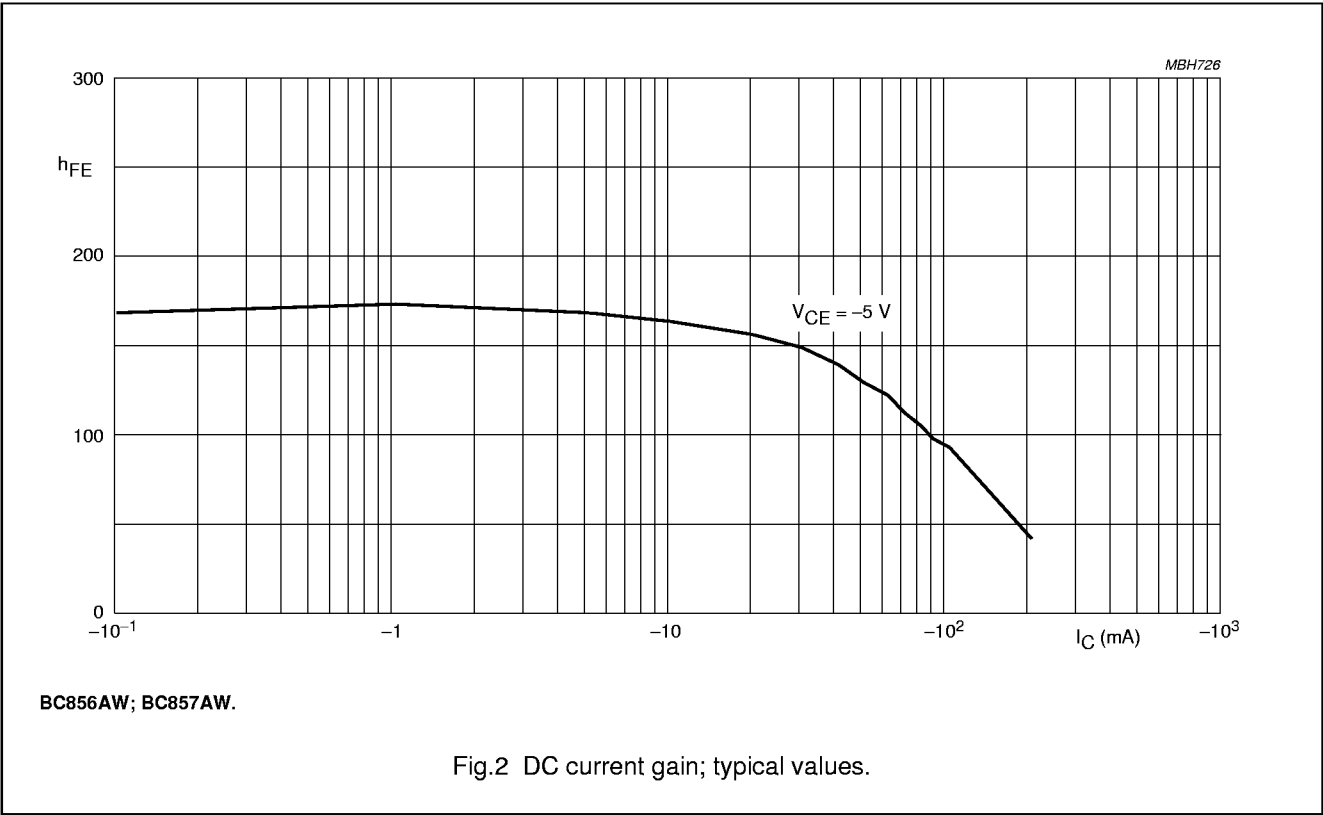
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0; V_{CB} = -30\text{ V}$	–	–15	nA
		$I_E = 0; V_{CB} = -30\text{ V}; T_J = 150\text{ °C}$	–	–4	μA
I_{EBO}	emitter cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	–	–100	nA
h_{FE}	DC current gain	$I_C = -2\text{ mA}; V_{CE} = -5\text{ V};$ see Figs 2, 3 and 4			
	BC856W		125	475	
	BC857W		125	800	
	BC856AW; BC857AW		125	250	
	BC856BW; BC857BW		220	475	
	BC857CW		420	800	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -10\text{ mA}; I_B = -0.5\text{ mA}$	–	–300	mV
		$I_C = -100\text{ mA}; I_B = -5\text{ mA};$ note 1	–	–650	mV
V_{BEsat}	base-emitter saturation voltage	$I_C = -100\text{ mA}; I_B = -5\text{ mA};$ note 1	–	–950	mV
V_{BE}	base-emitter voltage	$I_C = -2\text{ mA}; V_{CE} = -5\text{ V}$	–600	–750	mV
		$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}$	–	–820	mV
C_c	collector capacitance	$I_E = I_C = 0; V_{CB} = -10\text{ V}; f = 1\text{ MHz}$	–	5	pF
C_e	emitter capacitance	$I_C = I_E = 0; V_{EB} = -0.5\text{ V}; f = 1\text{ MHz}$	–	12	pF
f_T	transition frequency	$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}; f = 100\text{ MHz}$	100	–	MHz
F	noise figure	$I_C = -200\text{ }\mu\text{A}; V_{CE} = -5\text{ V}; R_S = 2\text{ k}\Omega;$ $f = 1\text{ kHz}; B = 200\text{ Hz}$	–	10	dB

Note

1. Pulse test: $t_p \leq 300\text{ }\mu\text{s}; \delta \leq 0.02$.

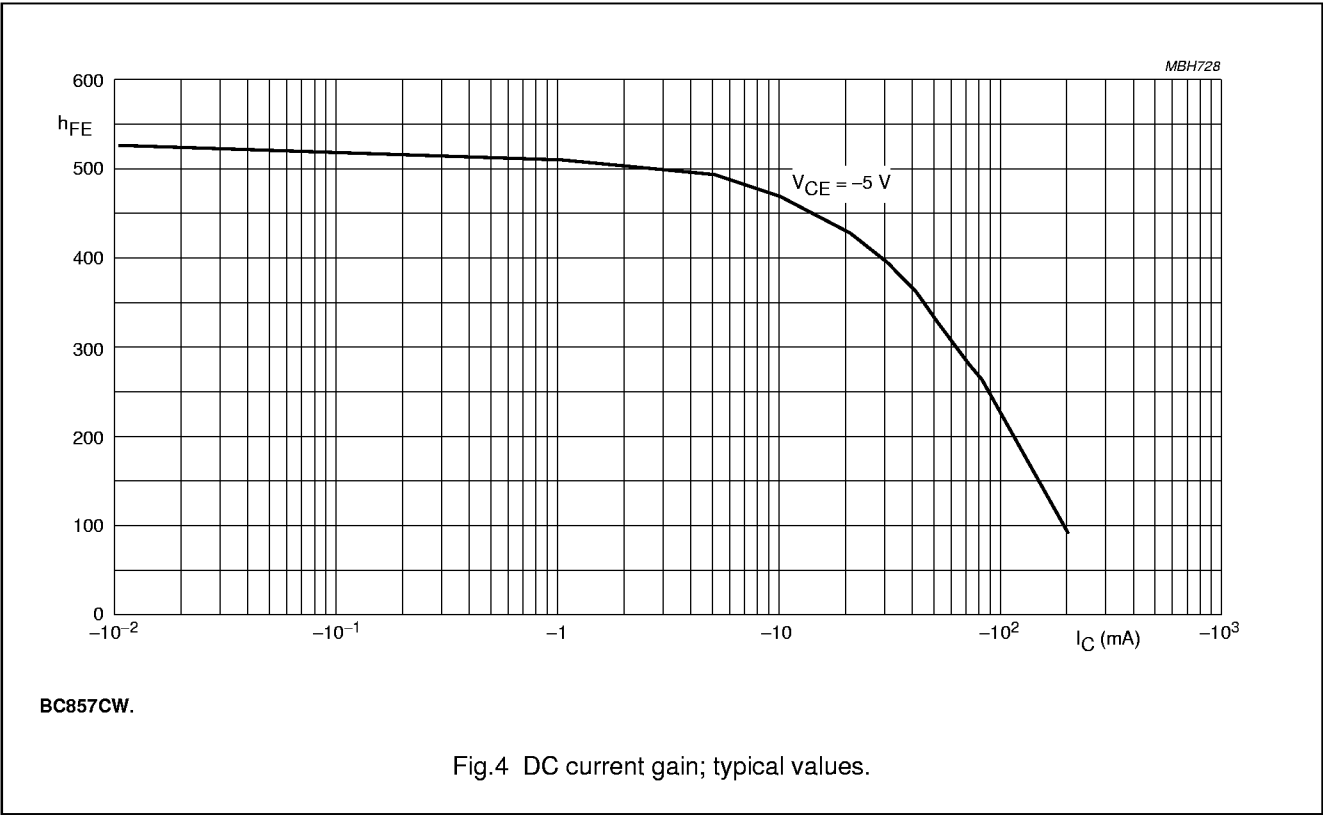
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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323

