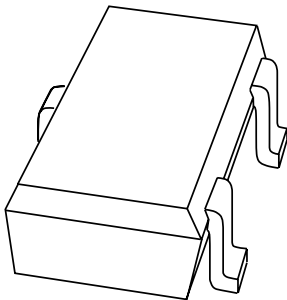


DATA SHEET



BC856W; BC857W; BC858W PNP general purpose transistors

Product specification
Supersedes data of 1999 Apr 12

2002 Feb 04

PNP general purpose transistors

BC856W; BC857W; BC858W

FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 65 V).

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

PNP transistor in a SOT323 plastic package.
 NPN complements: BC846W, BC847W and BC848W.

MARKING

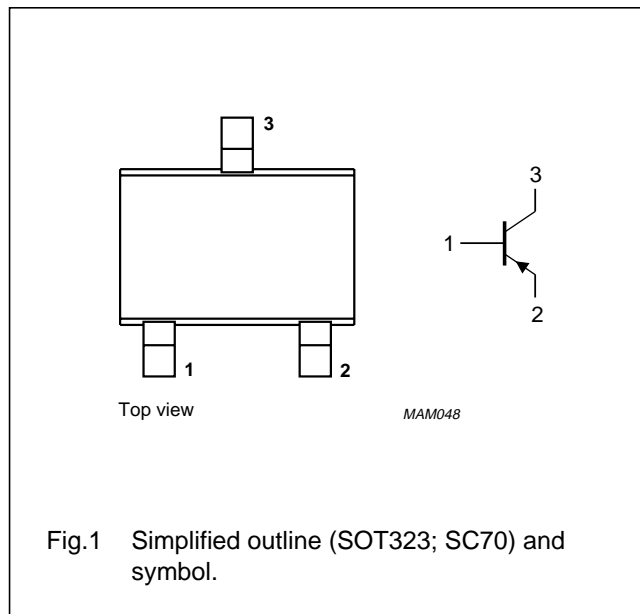
TYPE NUMBER	MARKING CODE ⁽¹⁾
BC856W	3D*
BC856AW	3A*
BC856BW	3B*
BC857W	3H*
BC857AW	3E*
BC857BW	3F*
BC857CW	3G*
BC858W	3M*

Note

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

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



PNP general purpose transistors

BC856W; BC857W; BC858W

LIMITING VALUES

In accordance with the Absolute Maximum System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CBO}	collector-base voltage	open emitter			
	BC856W		–	–80	V
	BC857W		–	–50	V
	BC858W		–	–30	V
V _{CEO}	collector-emitter voltage	open base			
	BC856W		–	–65	V
	BC857W		–	–45	V
	BC858W		–	–30	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. Refer to SOT323 standard mounting conditions.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{th j-a}	thermal resistance from junction to ambient	in free air; note 1	625	K/W

Note

1. Refer to SOT323 standard mounting conditions.

PNP general purpose transistors

BC856W; BC857W; BC858W

CHARACTERISTICS

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

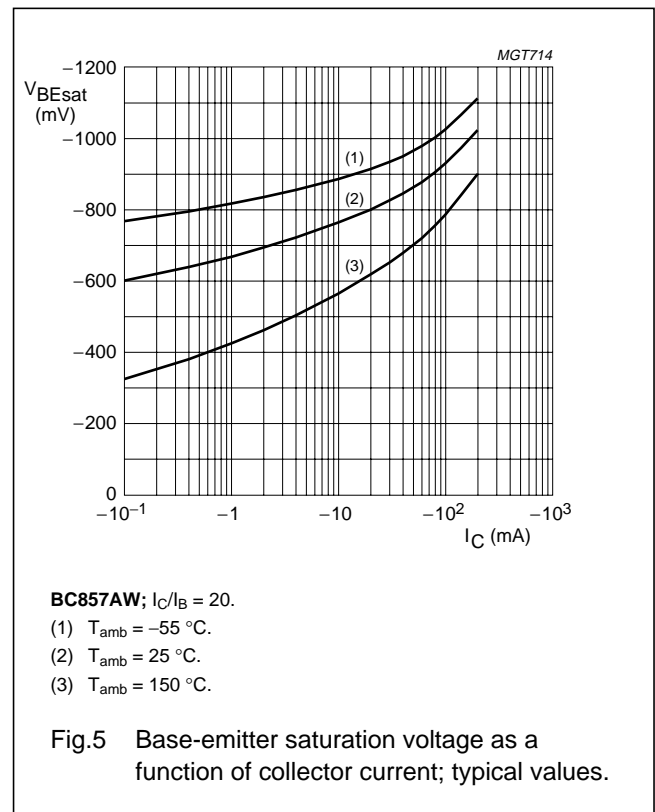
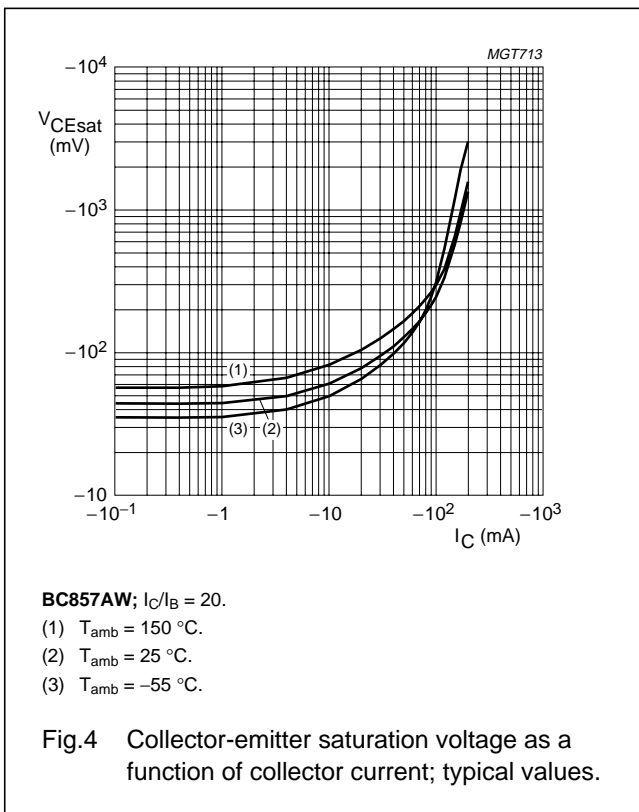
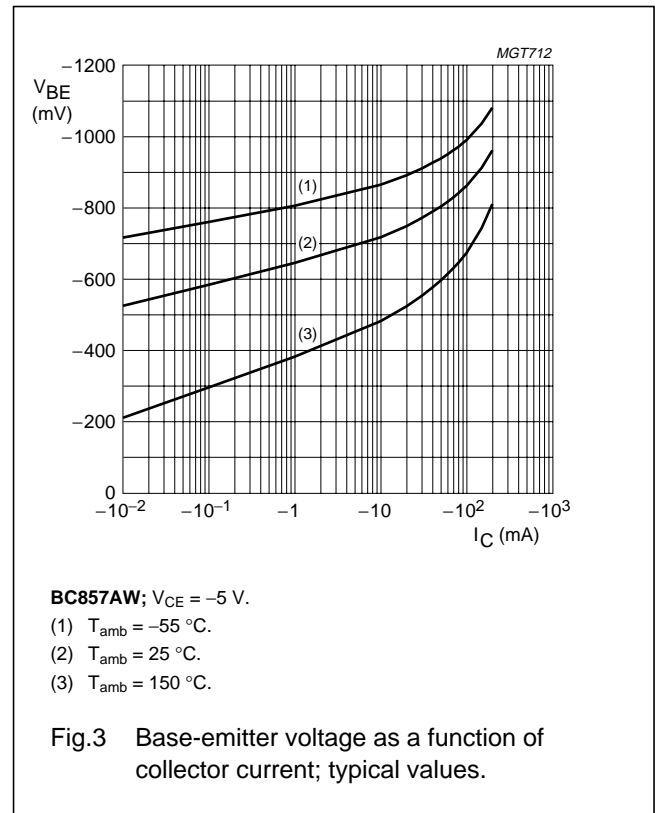
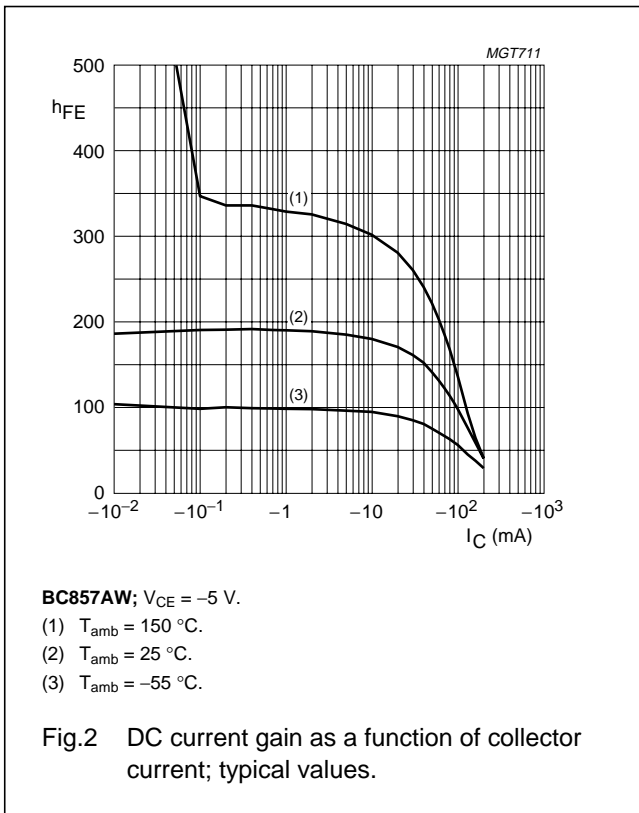
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT				
I_{CBO}	collector-base cut-off current	$V_{CB} = -30\text{ V}; I_E = 0$	–	–1	–15	nA				
		$V_{CB} = -30\text{ V}; I_E = 0;$ $T_j = 150\text{ °C}$	–	–	–4	μA				
I_{EBO}	emitter-base cut-off current	$V_{EB} = -5\text{ V}; I_C = 0$	–	–	–100	nA				
h_{FE}	DC current gain	$I_C = -2\text{ mA}; V_{CE} = -5\text{ V}$								
							BC856W	125	–	475
							BC857W; BC858W	125	–	800
							BC856AW; BC857AW	125	–	250
							BC856BW; BC857BW	220	–	475
BC857CW	420	–	800							
V_{CEsat}	collector-emitter saturation voltage	$I_C = -10\text{ mA}; I_B = -0.5\text{ mA}$	–	–75	–300	mV				
		$I_C = -100\text{ mA}; I_B = -5\text{ mA};$ note 1	–	–250	–600	mV				
V_{BEsat}	base-emitter saturation voltage	$I_C = -10\text{ mA}; I_B = -0.5\text{ mA}$	–	–700	–	mV				
		$I_C = -100\text{ mA}; I_B = -5\text{ mA};$ note 1	–	–850	–	mV				
V_{BE}	base-emitter voltage	$I_C = -2\text{ mA}; V_{CE} = -5\text{ V}$	–600	–650	–750	mV				
		$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}$	–	–	–820	mV				
C_c	collector capacitance	$V_{CB} = -10\text{ V}; I_E = I_e = 0;$ $f = 1\text{ MHz}$	–	–	3	pF				
C_e	emitter capacitance	$V_{EB} = -0.5\text{ V}; I_C = I_c = 0;$ $f = 1\text{ MHz}$	–	–	12	pF				
f_T	transition frequency	$V_{CE} = -5\text{ V}; I_C = -10\text{ mA};$ $f = 100\text{ MHz}$	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: $t_p \leq 300\text{ }\mu\text{s}; \delta \leq 0.02$.

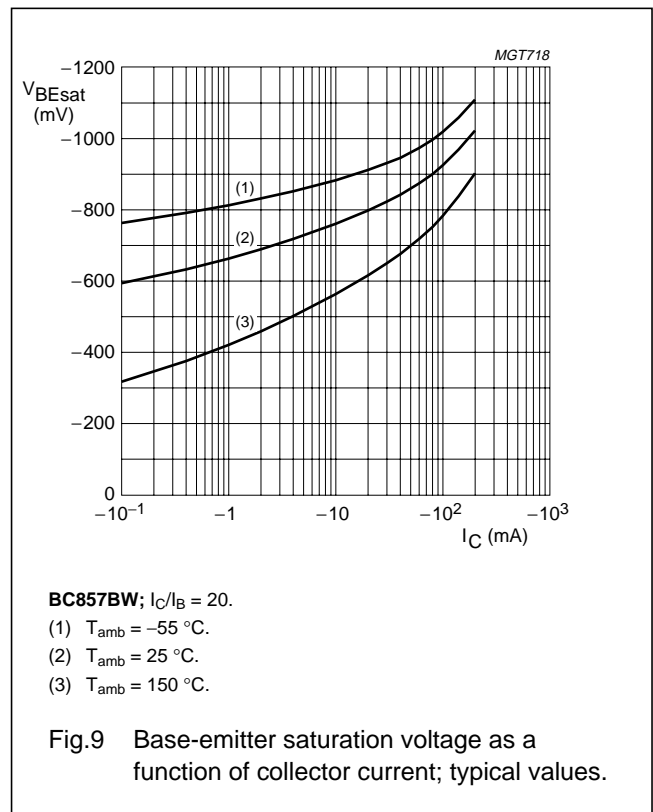
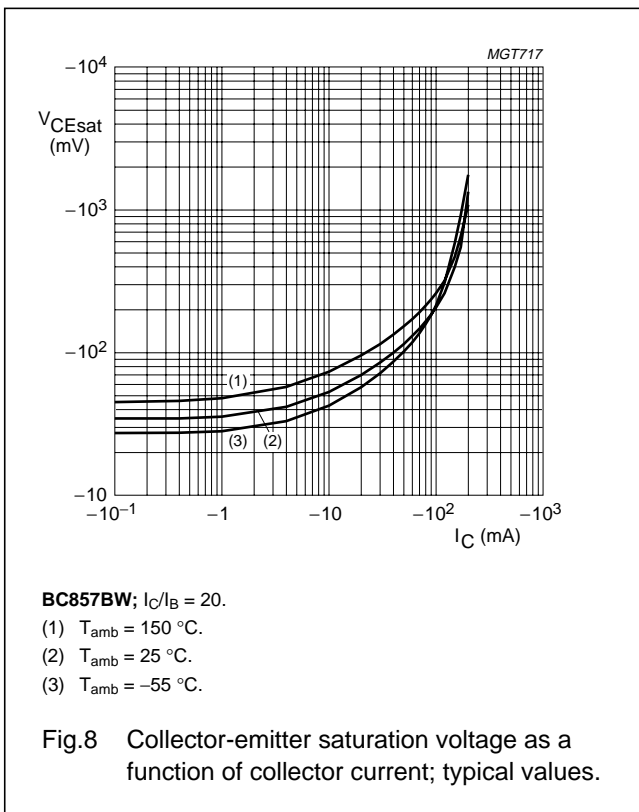
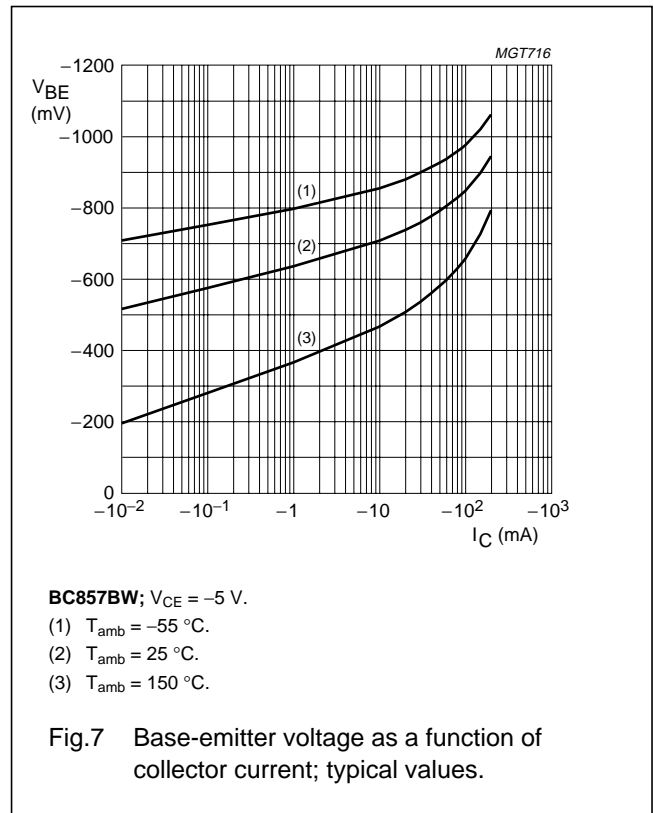
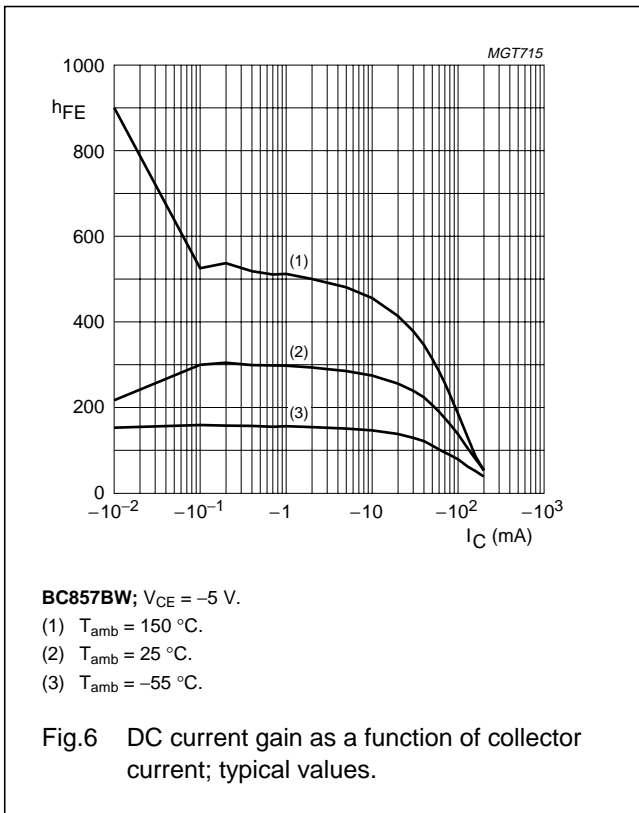
PNP general purpose transistors

BC856W; BC857W; BC858W



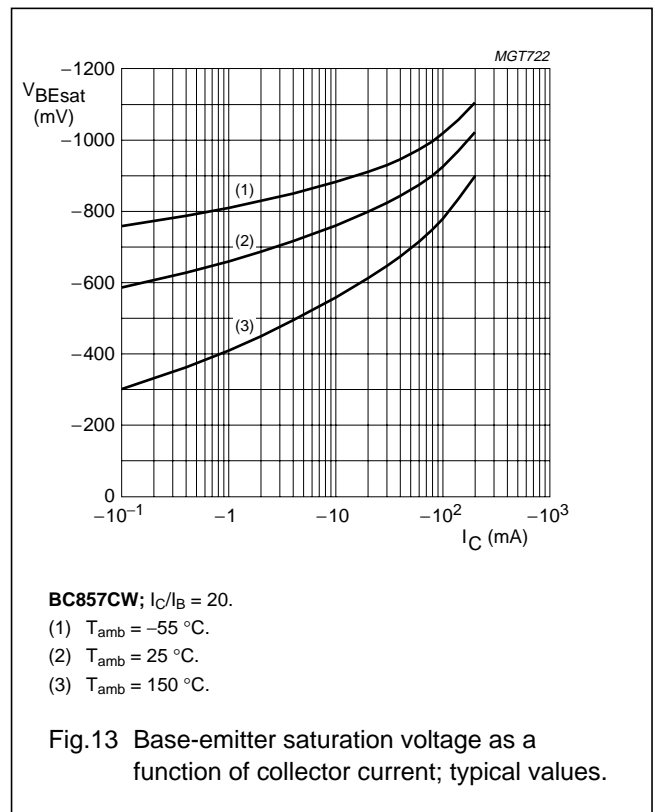
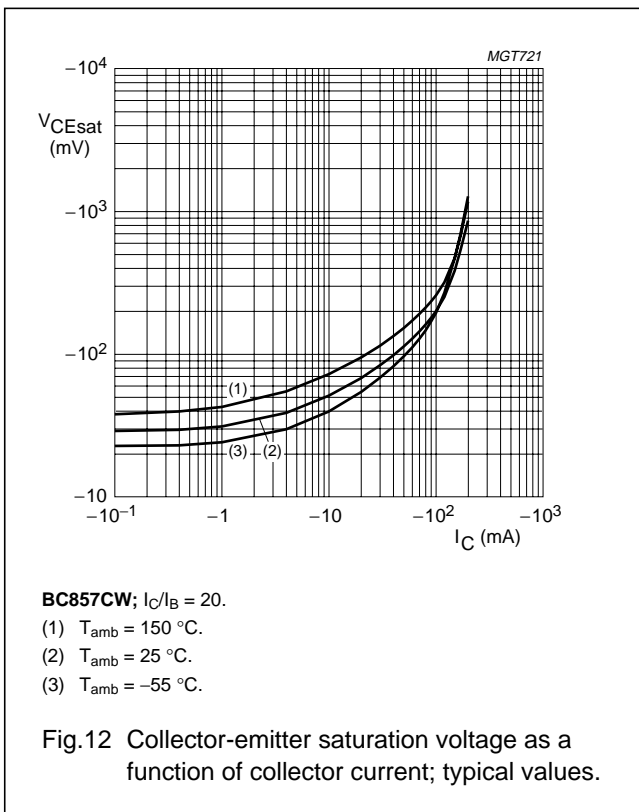
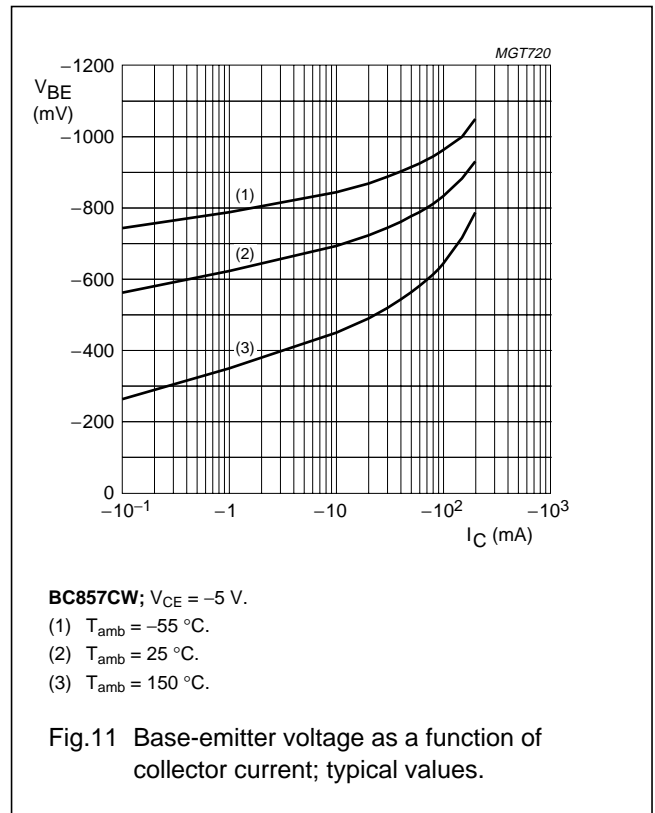
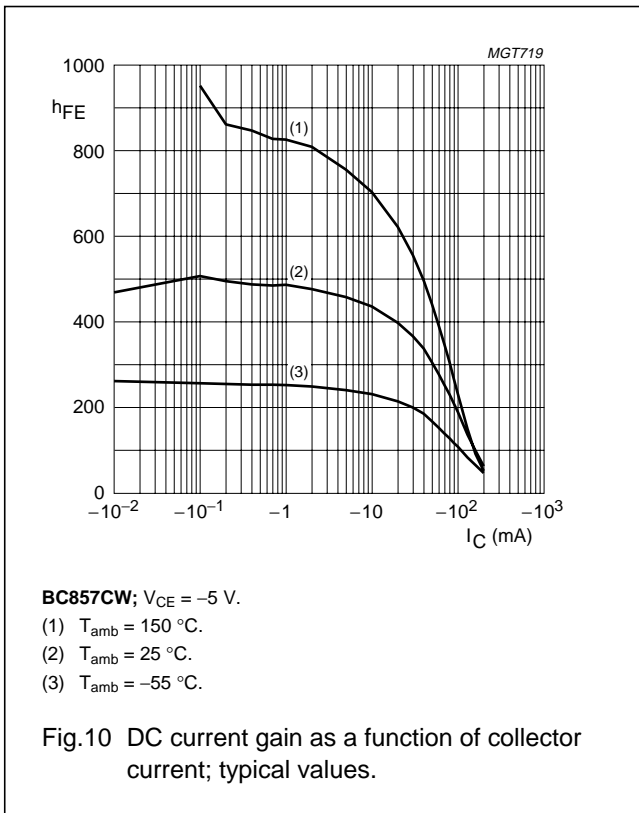
PNP general purpose transistors

BC856W; BC857W; BC858W



PNP general purpose transistors

BC856W; BC857W; BC858W



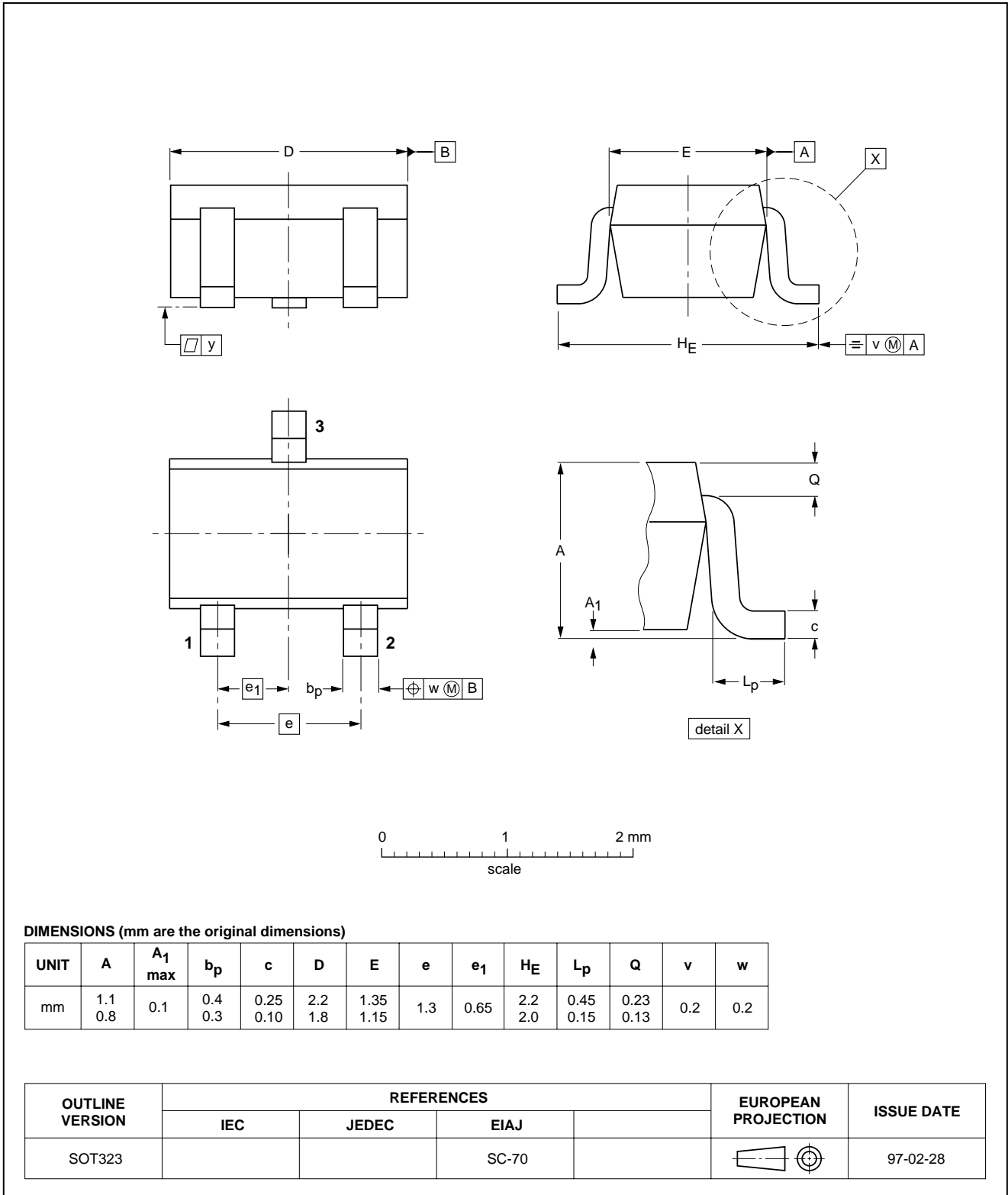
PNP general purpose transistors

BC856W; BC857W; BC858W

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



PNP general purpose transistors

BC856W; BC857W; BC858W

DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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PNP general purpose transistors

BC856W; BC857W; BC858W

NOTES

PNP general purpose transistors

BC856W; BC857W; BC858W

NOTES

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