



## TRANSISTOR (PNP)

## SOT-23

## FEATURES

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications

## DEVICE MARKING:

BC856A=3A;BC856B=3B

BC857A=3E;BC857B=3F;BC857C=3G

BC858A=3J;BC858B=3K;BC858C=3L



- 1、BASE
- 2、EMITTER
- 3、COLLECTOR

Maximum Ratings ( @T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage BC856	V <sub>CBO</sub>	-80	V
BC857		-50	
BC858		-30	
Collector-Emitter Voltage BC856	V <sub>CEO</sub>	-65	V
BC857		-45	
BC858		-30	
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current –Continuous	I <sub>C</sub>	-0.1	A
Collector Power Dissipation	P <sub>C</sub>	200	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-65~150	°C

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-54151736  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

BC856A, B /BC857A, B, C/BC858A, B, C

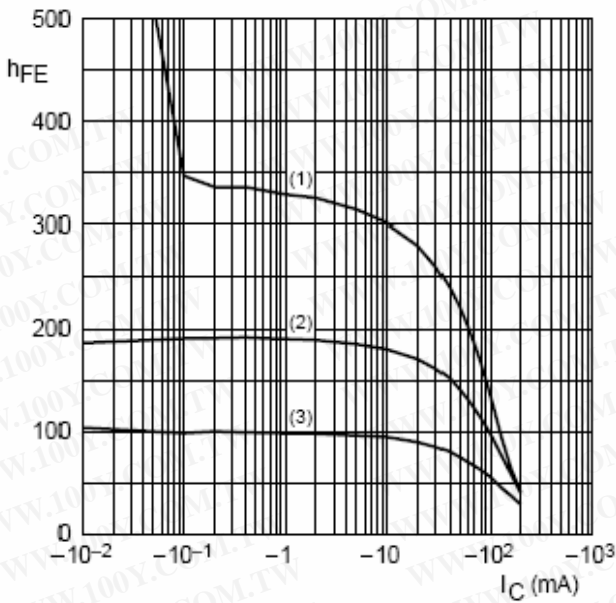


**Electrical Characteristics( @TA=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage BC856 BC857 BC858	V <sub>CBO</sub>	I <sub>C</sub> =-10μA, I <sub>E</sub> =0	-80 -50 -30		V
Collector-emitter breakdown voltage BC856 BC857 BC858	V <sub>CEO</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =0	-65 -45 -30		V
Emitter-base breakdown voltage	V <sub>EBO</sub>	I <sub>E</sub> =-1μA, I <sub>C</sub> =0	-5		V
Collector cut-off current BC856 BC857 BC858	I <sub>CBO</sub>	V <sub>CB</sub> =-70V, I <sub>E</sub> =0 V <sub>CB</sub> =-45V, I <sub>E</sub> =0 V <sub>CB</sub> =-25V, I <sub>E</sub> =0		-0.1	μA
Collector cut-off current BC856 BC857 BC858	I <sub>CEO</sub>	V <sub>CE</sub> =-60V, I <sub>B</sub> =0 V <sub>CE</sub> =-40V, I <sub>B</sub> =0 V <sub>CE</sub> =-25V, I <sub>B</sub> =0		-0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0		-0.1	μA
DC current gain BC856A,857A,858A BC856B,857B,858B BC857C,858C	h <sub>FE</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-2mA	125 220 420	250 475 800	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-100mA, I <sub>B</sub> =-5mA		-0.5	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-100mA, I <sub>B</sub> =-5mA		-1.1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-10mA, f=100MHz	100		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, f=1MHz		4.5	pF

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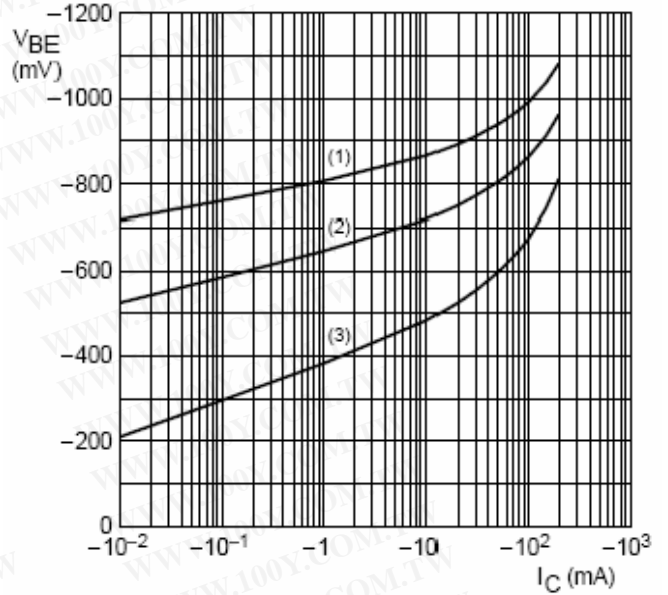
**RATING AND CHARACTERISTIC CURVES**  
**BC856A, B/BC857A, B, C/BC858A, B, C**



BC857A;  $V_{CE} = -5$  V.

- (1)  $T_{amb} = 150$  °C.
- (2)  $T_{amb} = 25$  °C.
- (3)  $T_{amb} = -55$  °C.

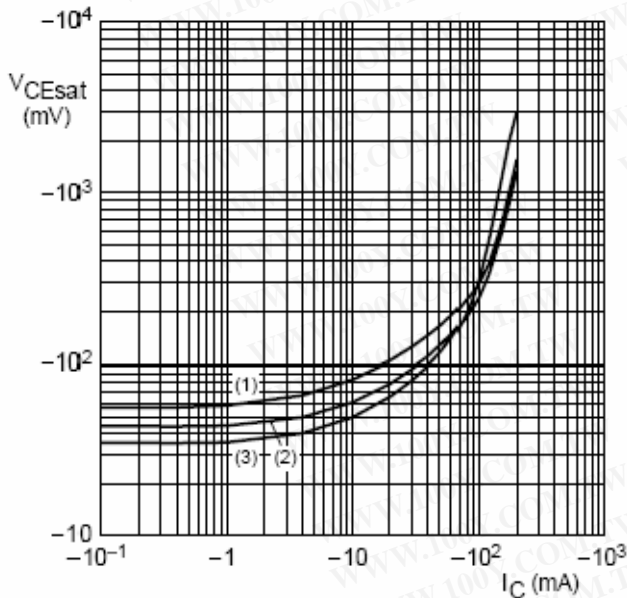
Fig.2 DC current gain as a function of collector current; typical values.



BC857A;  $V_{CE} = -5$  V.

- (1)  $T_{amb} = -55$  °C.
- (2)  $T_{amb} = 25$  °C.
- (3)  $T_{amb} = 150$  °C.

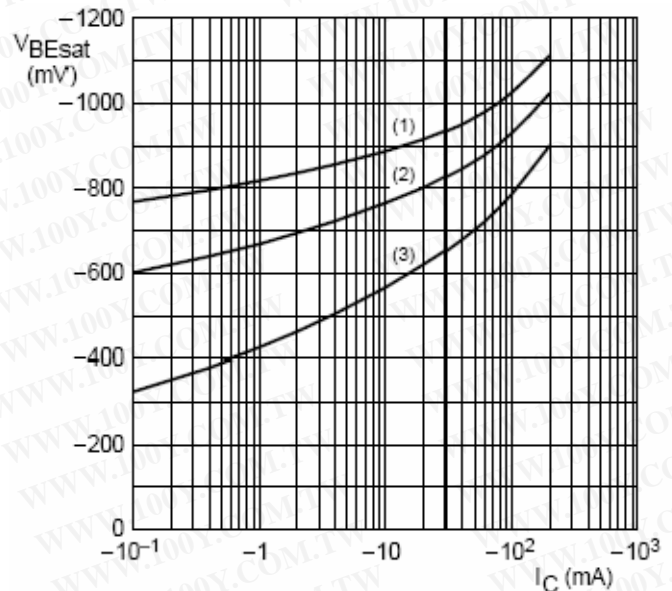
Fig.3 Base-emitter voltage as a function of collector current; typical values.



BC857A;  $I_C/I_B = 20$ .

- (1)  $T_{amb} = 150$  °C.
- (2)  $T_{amb} = 25$  °C.
- (3)  $T_{amb} = -55$  °C.

Fig.4 Collector-emitter saturation voltage as a function of collector current; typical values.



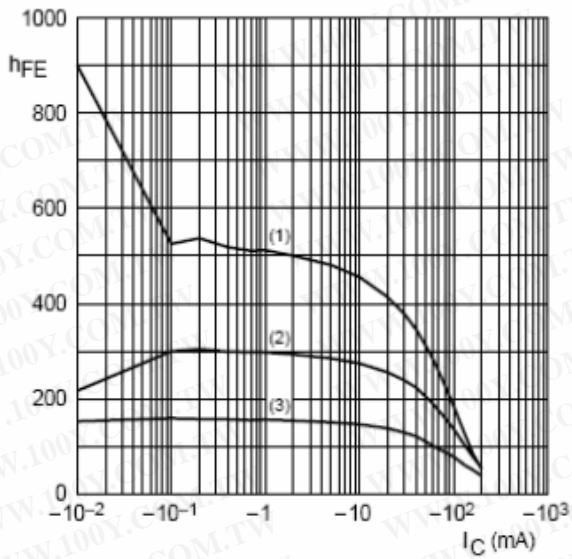
BC857A;  $I_C/I_B = 20$ .

- (1)  $T_{amb} = -55$  °C.
- (2)  $T_{amb} = 25$  °C.
- (3)  $T_{amb} = 150$  °C.

Fig.5 Base-emitter saturation voltage as a function of collector current; typical values.

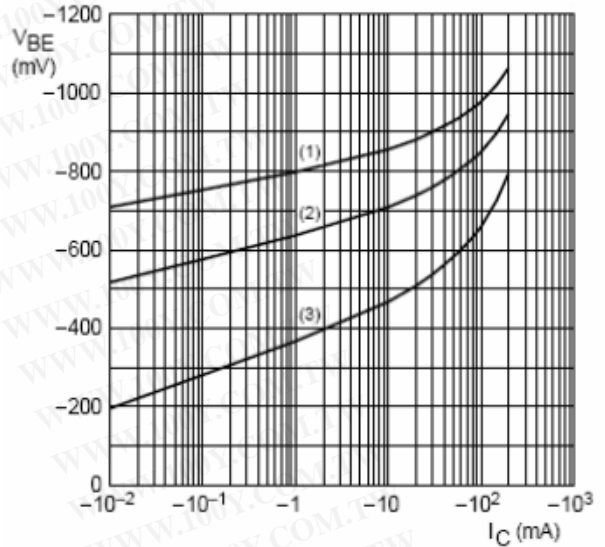


**RATING AND CHARACTERISTIC CURVES**  
**BC856A, B/BC857A, B, C/BC858A, B, C**



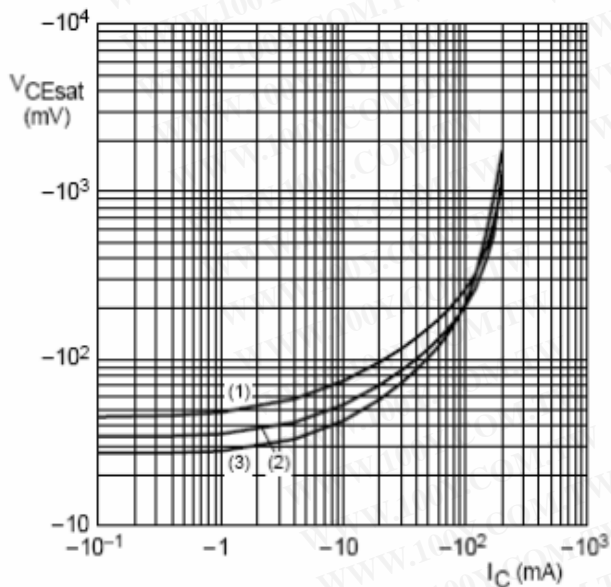
BC857B;  $V_{CE} = -5\text{ V}$ .  
 (1)  $T_{amb} = 150\text{ }^{\circ}\text{C}$ .  
 (2)  $T_{amb} = 25\text{ }^{\circ}\text{C}$ .  
 (3)  $T_{amb} = -55\text{ }^{\circ}\text{C}$ .

Fig.6 DC current gain as a function of collector current; typical values.



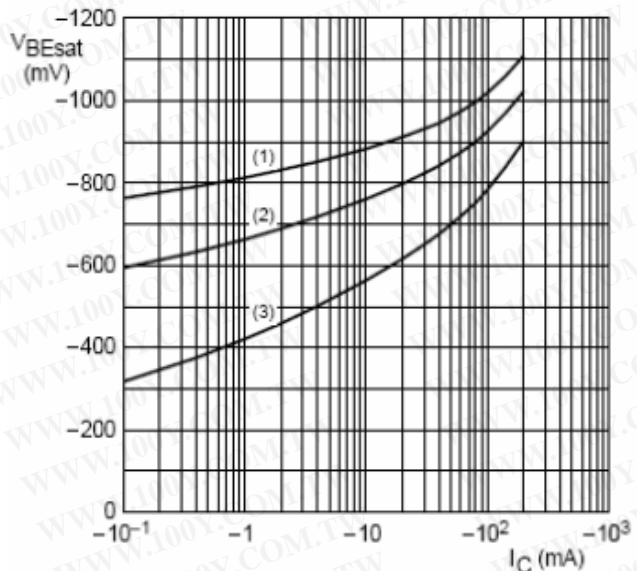
BC857B;  $V_{CE} = -5\text{ V}$ .  
 (1)  $T_{amb} = -55\text{ }^{\circ}\text{C}$ .  
 (2)  $T_{amb} = 25\text{ }^{\circ}\text{C}$ .  
 (3)  $T_{amb} = 150\text{ }^{\circ}\text{C}$ .

Fig.7 Base-emitter voltage as a function of collector current; typical values.



BC857B;  $I_C/I_B = 20$ .  
 (1)  $T_{amb} = 150\text{ }^{\circ}\text{C}$ .  
 (2)  $T_{amb} = 25\text{ }^{\circ}\text{C}$ .  
 (3)  $T_{amb} = -55\text{ }^{\circ}\text{C}$ .

Fig.8 Collector-emitter saturation voltage as a function of collector current; typical values.



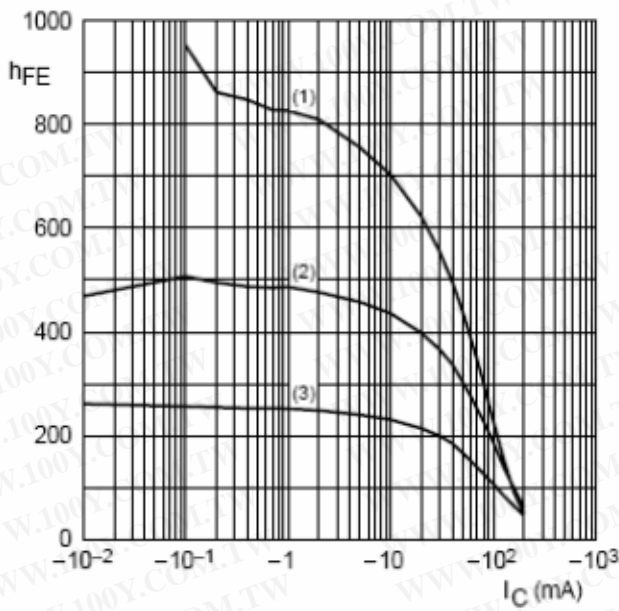
BC857B;  $I_C/I_B = 20$ .  
 (1)  $T_{amb} = -55\text{ }^{\circ}\text{C}$ .  
 (2)  $T_{amb} = 25\text{ }^{\circ}\text{C}$ .  
 (3)  $T_{amb} = 150\text{ }^{\circ}\text{C}$ .

Fig.9 Base-emitter saturation voltage as a function of collector current; typical values.





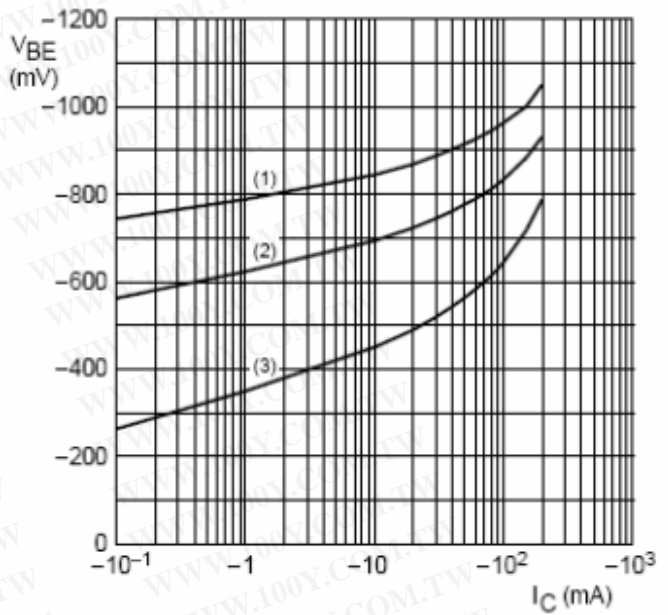
**RATING AND CHARACTERISTIC CURVES**  
**BC856A, B/BC857A, B, C/BC858A, B, C**



BC857C;  $V_{CE} = -5\text{ V}$ .

- (1)  $T_{amb} = 150\text{ }^\circ\text{C}$ .
- (2)  $T_{amb} = 25\text{ }^\circ\text{C}$ .
- (3)  $T_{amb} = -55\text{ }^\circ\text{C}$ .

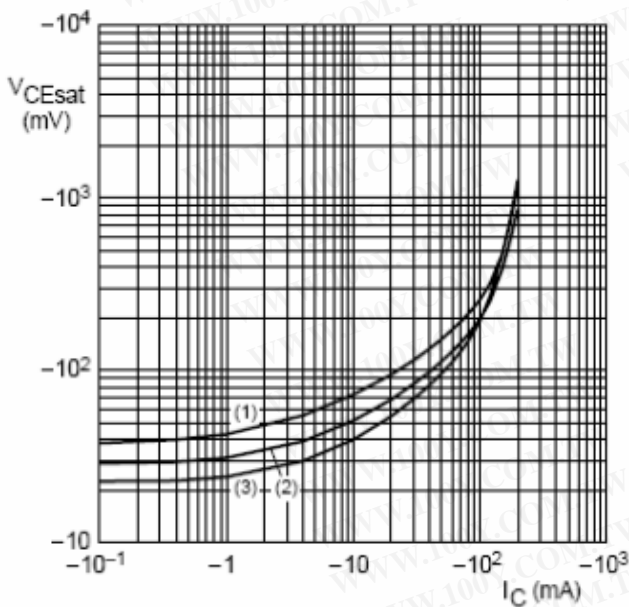
Fig. 10 DC current gain as a function of collector current; typical values.



BC857C;  $V_{CE} = -5\text{ V}$ .

- (1)  $T_{amb} = -55\text{ }^\circ\text{C}$ .
- (2)  $T_{amb} = 25\text{ }^\circ\text{C}$ .
- (3)  $T_{amb} = 150\text{ }^\circ\text{C}$ .

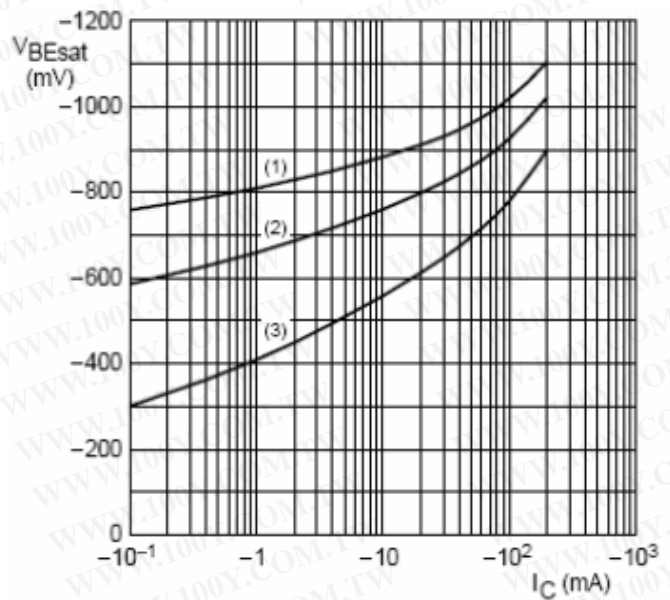
Fig. 11 Base-emitter voltage as a function of collector current; typical values.



BC857C;  $I_C/I_B = 20$ .

- (1)  $T_{amb} = 150\text{ }^\circ\text{C}$ .
- (2)  $T_{amb} = 25\text{ }^\circ\text{C}$ .
- (3)  $T_{amb} = -55\text{ }^\circ\text{C}$ .

Fig. 12 Collector-emitter saturation voltage as a function of collector current; typical values.



BC857C;  $I_C/I_B = 20$ .

- (1)  $T_{amb} = -55\text{ }^\circ\text{C}$ .
- (2)  $T_{amb} = 25\text{ }^\circ\text{C}$ .
- (3)  $T_{amb} = 150\text{ }^\circ\text{C}$ .

Fig. 13 Base-emitter saturation voltage as a function of collector current; typical values.