



**BC856A,B  
BC857A, B,C  
BC858A, B,C**

## TRANSISTOR (PNP)

### FEATURES

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

### MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage		
	BC856	-80	V
	BC857	-50	
$V_{CEO}$	Collector-Emitter Voltage		
	BC856	-65	V
	BC857	-45	
$V_{EBO}$	Emitter-Base Voltage	-5	V
	$I_c$	Collector Current –Continuous	-0.1 A
	$P_c$	Collector Power Dissipation	200 mW
$T_J$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature	-65-150	°C

### DEVICE MARKING

BC856A=3A; BC856B=3B;  
BC857A=3E;BC857B=3F;BC857C=3G;  
BC858A=3J; BC858B=3K; BC858C=3L





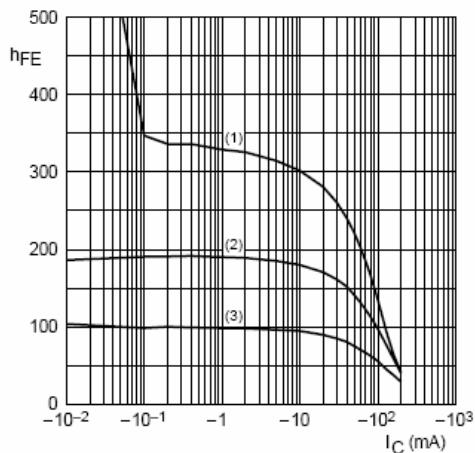
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**ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)**

Parameter		Symbol	Test conditions	MIN	MAX	UNIT
<b>Collector-base breakdown voltage</b>	<b>BC856</b>	V <sub>CBO</sub>	I <sub>C</sub> = -10µA, I <sub>E</sub> =0	-80		
	<b>BC857</b>			-50		V
	<b>BC858</b>			-30		
<b>Collector-emitter breakdown voltage</b>	<b>BC856</b>	V <sub>CEO</sub>	I <sub>C</sub> = -10mA, I <sub>B</sub> =0	-65		
	<b>BC857</b>			-45		V
	<b>BC858</b>			-30		
<b>Emitter-base breakdown voltage</b>		V <sub>EBO</sub>	I <sub>E</sub> = -1µA, I <sub>C</sub> =0	-5		V
<b>Collector cut-off current</b>	<b>BC856</b>	I <sub>CBO</sub>	V <sub>CB</sub> = -70 V , I <sub>E</sub> =0 V <sub>CB</sub> = -45 V , I <sub>E</sub> =0 V <sub>CB</sub> = -25 V , I <sub>E</sub> =0		-0.1	µA
	<b>BC857</b>					
	<b>BC858</b>					
<b>Collector cut-off current</b>	<b>BC856</b>	I <sub>CEO</sub>	V <sub>CE</sub> = -60 V , I <sub>B</sub> =0 V <sub>CE</sub> = -40 V , I <sub>B</sub> =0 V <sub>CE</sub> = -25 V , I <sub>B</sub> =0		-0.1	µA
	<b>BC857</b>					
	<b>BC858</b>					
<b>Emitter cut-off current</b>		I <sub>EBO</sub>	V <sub>EB</sub> = -5 V , I <sub>C</sub> =0		-0.1	µA
<b>DC current gain</b>	<b>BC856A, 857A,858A</b>	h <sub>FE</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -2mA	125	250	
	<b>BC856B, 857B,858B</b>			220	475	
	<b>BC857C,BC858C</b>			420	800	
<b>Collector-emitter saturation voltage</b>		V <sub>CE(sat)</sub>	I <sub>C</sub> =-100mA, I <sub>B</sub> = -5 mA		-0.5	V
<b>Base-emitter saturation voltage</b>		V <sub>BE(sat)</sub>	I <sub>C</sub> = -100mA, I <sub>B</sub> = -5mA		-1.1	V
<b>Transition frequency</b>		f <sub>T</sub>	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -10mA f=100MHz	100		MHz
<b>Collector capacitance</b>		C <sub>ob</sub>	V <sub>CB</sub> =-10V, f=1MHz		4.5	pF

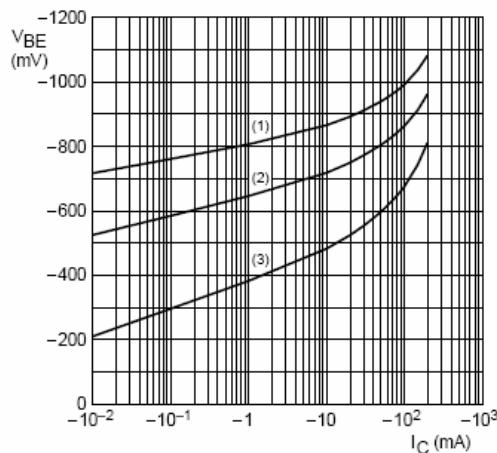


## Typical Characteristics



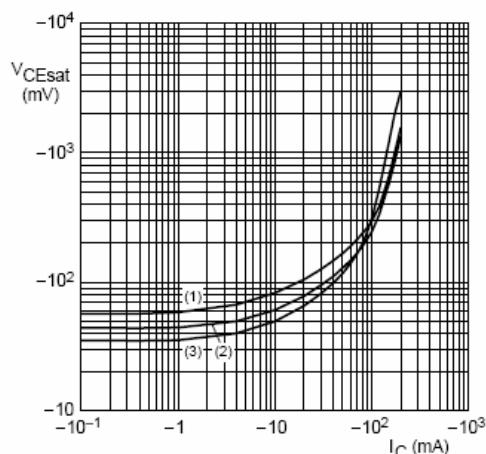
BC857A;  $V_{CE} = -5$  V.  
 (1)  $T_{amb} = 150$  °C.  
 (2)  $T_{amb} = 25$  °C.  
 (3)  $T_{amb} = -55$  °C.

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



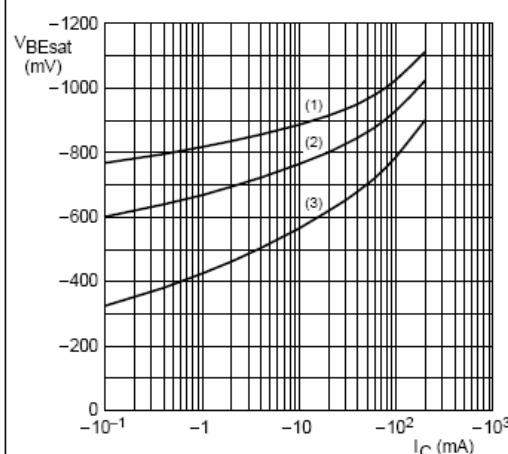
BC857A;  $V_{CE} = -5$  V.  
 (1)  $T_{amb} = -55$  °C.  
 (2)  $T_{amb} = 25$  °C.  
 (3)  $T_{amb} = 150$  °C.

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.

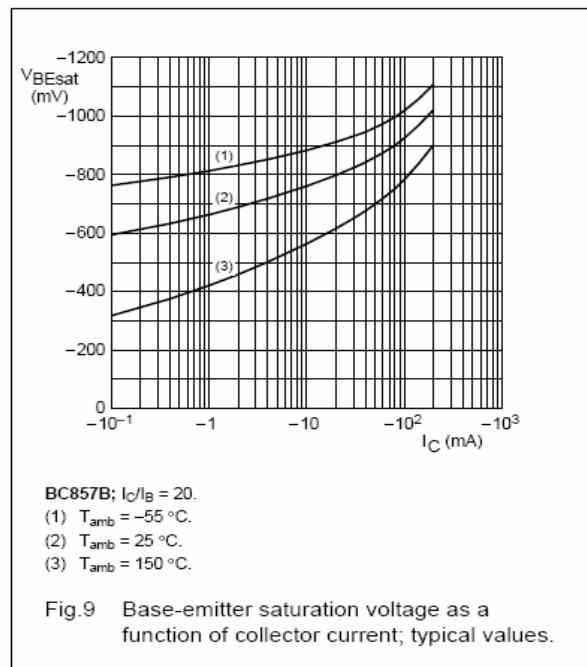
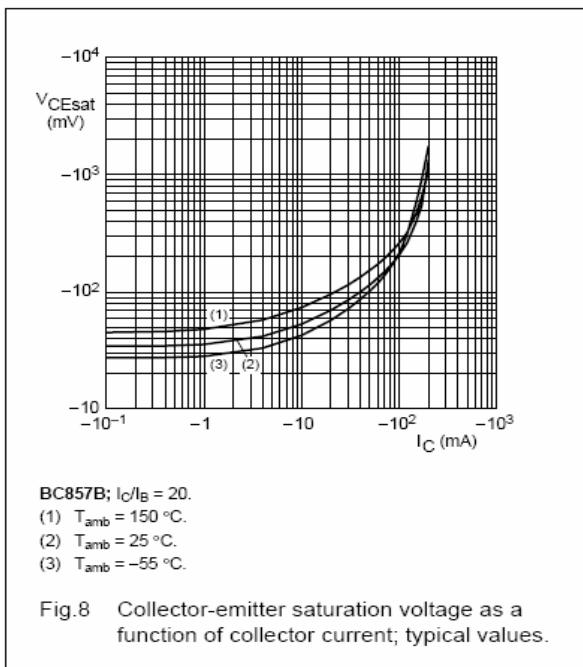
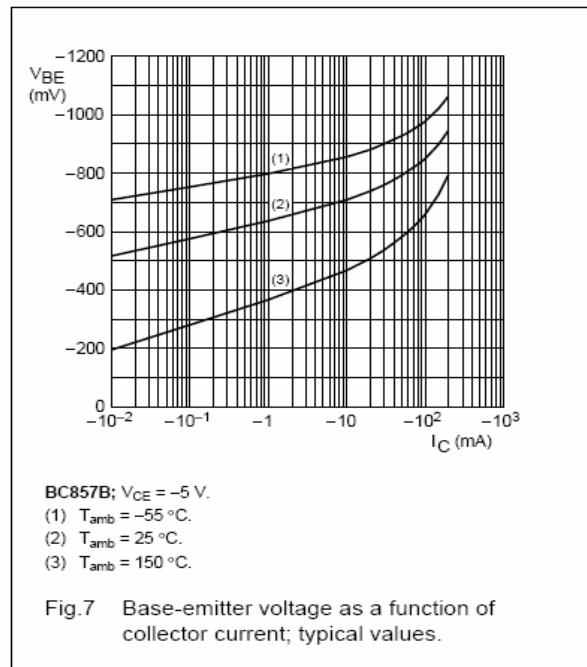
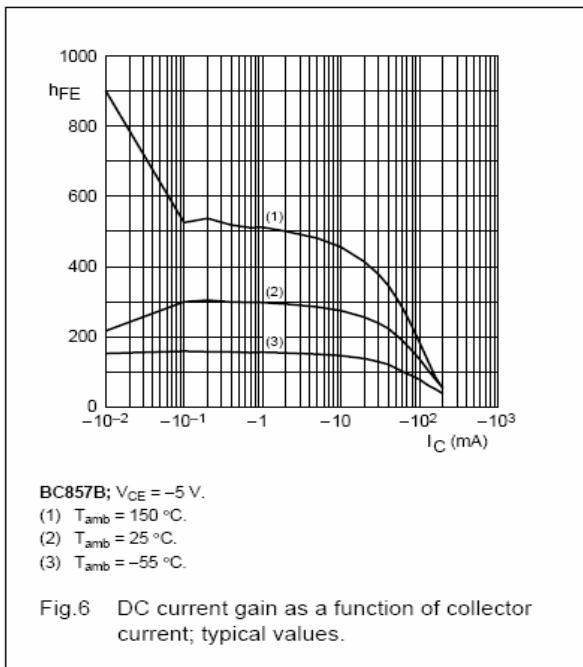


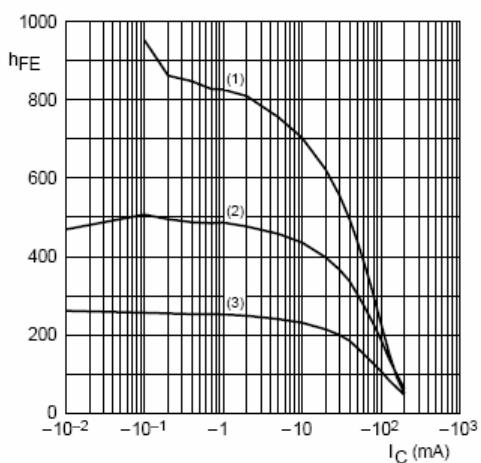
BC857A;  $I_C/I_B = 20$ .  
 (1)  $T_{amb} = -55$  °C.  
 (2)  $T_{amb} = 25$  °C.  
 (3)  $T_{amb} = 150$  °C.

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



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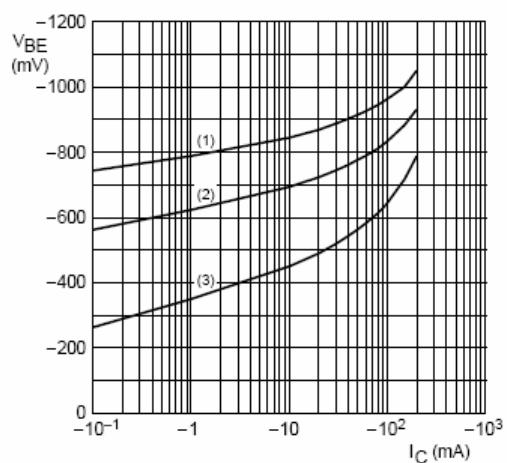




BC857C;  $V_{CE} = -5$  V.

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

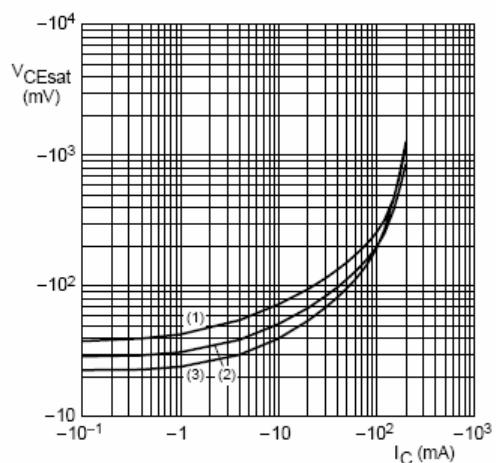
Fig.10 DC current gain as a function of collector current; typical values.



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

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

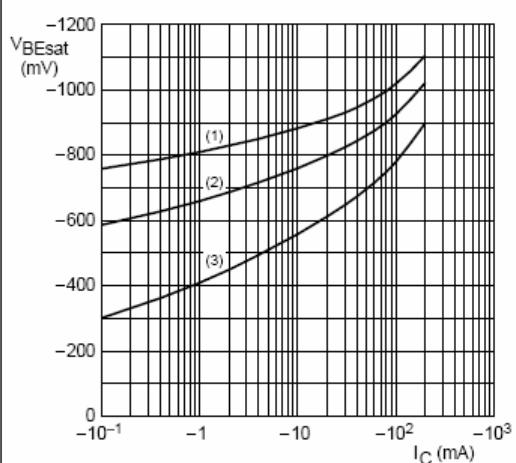
Fig.11 Base-emitter voltage as a function of collector current; typical values.



BC857C;  $I_C/I_B = 20$ .

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

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



BC857C;  $I_C/I_B = 20$ .

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

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