

FEATURES

Ideally suited for automatic insertion

For Switching and AF Amplifier Applications

BC856A/B (PNP)
BC857A/B/C (PNP)
BC858A/B/C (PNP)

Marking

BC856A	BC856B	BC857A	BC857B
3A	3B	3E	3F

BC857C	BC858A	BC858B	BC858C
3G	3J	3K	3L



MAXIMUM RATINGS (TA=25°C unless otherwise noted)

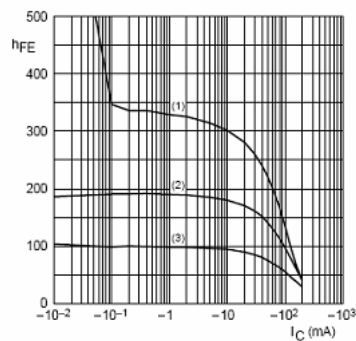
Parameter		Symbol	Value	Unit
Collector-Base Voltage	BC856	V_{CBO}	-80	V
	BC857	V_{CBO}	-50	
	BC858	V_{CBO}	-30	
Collector-Emitter Voltage	BC856	V_{CEO}	-65	V
	BC857	V_{CEO}	-45	
	BC858	V_{CEO}	-30	
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current -Continuous		I_C	-0.1	A
Collector Power Dissipation		P_C	0.2	W
Junction Temperature		T_J	150	°C
Storage Temperature		T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	BC856 BC857 BC858	V_{CBO} $I_C = -10\mu\text{A}, I_E = 0$	-80 -50 -30		V
Collector-emitter breakdown voltage	BC856 BC857 BC858	V_{CEO} $I_C = -10\text{mA}, I_B = 0$	-65 -45 -30		V
Emitter-base breakdown voltage		V_{EBO} $I_E = -1\mu\text{A}, I_C = 0$	-5		V
Collector cut-off current	BC856 BC857 BC858	I_{CBO} $V_{CB} = -70\text{V}, I_E = 0$ $V_{CB} = -45\text{V}, I_E = 0$ $V_{CB} = -25\text{V}, I_E = 0$		-0.1	μA
Collector cut-off current	BC856 BC857 BC858	I_{CEO} $V_{CE} = -60\text{V}, I_B = 0$ $V_{CE} = -40\text{V}, I_B = 0$ $V_{CE} = -25\text{V}, I_B = 0$		-0.1	μA
Emitter cut-off current		I_{EBO} $V_{EB} = -5\text{V}, I_C = 0$		-0.1	μA
DC current gain	BC856A, 857A, 858A BC856B, 857B, 858B BC857C, BC858C	h_{FE} $V_{CE} = -5\text{V}, I_C = -2\text{mA}$	125 220 420	250 475 800	
Collector-emitter saturation voltage		$V_{CE(sat)}$ $I_C = -100\text{mA}, I_B = -5\text{mA}$		-0.5	V
Base-emitter saturation voltage		$V_{BE(sat)}$ $I_C = -100\text{mA}, I_B = -5\text{mA}$		-1.1	V
Transition frequency		f_T $V_{CE} = -5\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	100		MHz
Collector capacitance		C_{ob} $V_{CB} = -10\text{V}, f = 1\text{MHz}$		4.5	pF

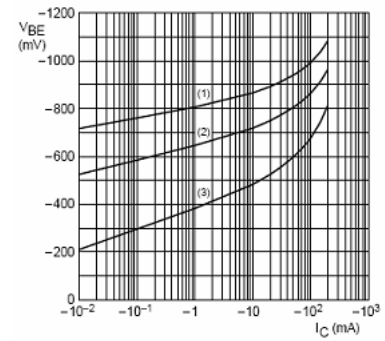
BC856A/B BC857A/B/C BC858A/B/C

Typical Characteristics



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

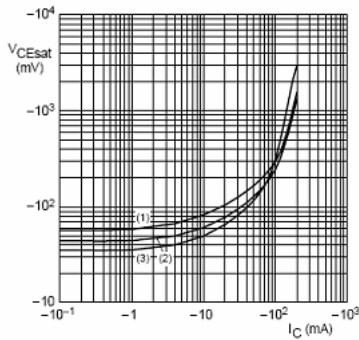
Fig.2 DC current gain as a function of collector current; typical values.



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

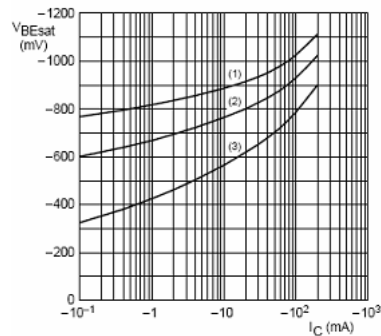
Fig.3 Base-emitter voltage as a function of collector current; typical values.

BC856A/B
BC857A/B/C Typical Characteristics
BC858A/B/C



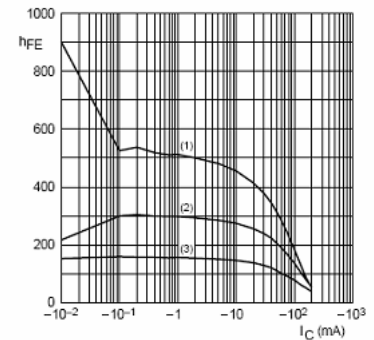
BC857A; $I_C/I_B = 20$.
(1) $T_{amb} = 150\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = -55\text{ }^{\circ}\text{C}$.

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



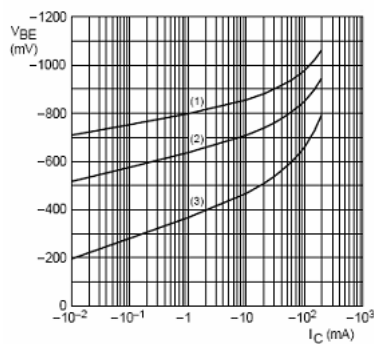
BC857A; $I_C/I_B = 20$.
(1) $T_{amb} = -55\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = 150\text{ }^{\circ}\text{C}$.

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



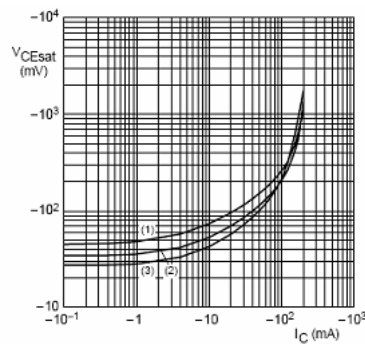
BC857B; $V_{CE} = -5\text{ V}$.
(1) $T_{amb} = 150\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = -55\text{ }^{\circ}\text{C}$.

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



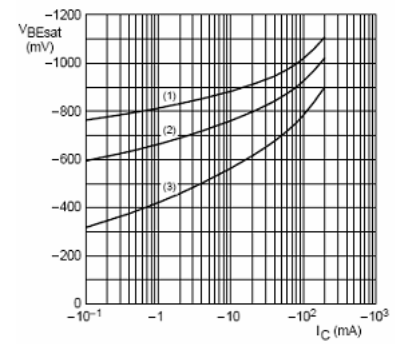
BC857B; $V_{CE} = -5\text{ V}$.
(1) $T_{amb} = -55\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = 150\text{ }^{\circ}\text{C}$.

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.