

FEATURES

Ideally suited for automatic insertion

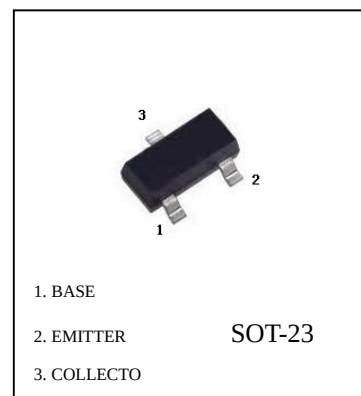
For Switching and AF Amplifier Applications

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)

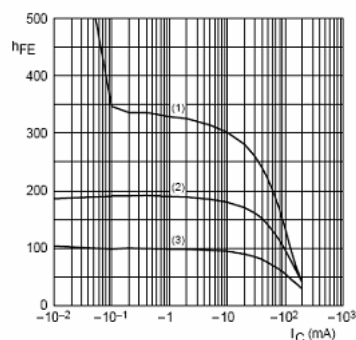
Parameter		Symbol	Value	Unit
Collector-Base Voltage	BC856	V_{CBO}	-80	V
	BC857	V_{CBO}	-50	
	BC858	V_{CBO}	-30	
Collector-Emitter Voltage	BC856	V_{CEO}	-65	V
	BC857	V_{CEO}	-45	
	BC858	V_{CEO}	-30	
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current -Continuous		I_C	-0.1	A
Collector Power Dissipation		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	V_{CBO}	$I_C = -10\mu\text{A}, I_E = 0$	-80		V
	BC857			-50		
	BC858			-30		
Collector-emitter breakdown voltage	BC856	V_{CEO}	$I_C = -10\text{mA}, I_B = 0$	-65		V
	BC857			-45		
	BC858			-30		
Emitter-base breakdown voltage		V_{EBO}	$I_E = -1\mu\text{A}, I_C = 0$	-5		V
Collector cut-off current	BC856	I_{CBO}	$V_{CB} = -70\text{V}, I_E = 0$			μA
	BC857		$V_{CB} = -45\text{V}, I_E = 0$		-0.1	
	BC858		$V_{CB} = -25\text{V}, I_E = 0$			
Collector cut-off current	BC856	I_{CEO}	$V_{CE} = -60\text{V}, I_B = 0$			μA
	BC857		$V_{CE} = -40\text{V}, I_B = 0$		-0.1	
	BC858		$V_{CE} = -25\text{V}, I_B = 0$			
Emitter cut-off current		I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$		-0.1	μA
DC current gain	BC856A, 857A, 858A	hFE	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$	125	250	
	BC856B, 857B, 858B			220	475	
	BC857C, BC858C			420	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

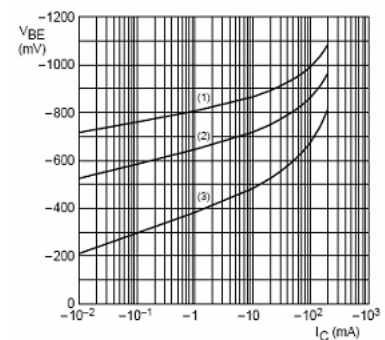
BC856A/B BC857A/B/C BC858A/B/C

Typical Characteristics



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

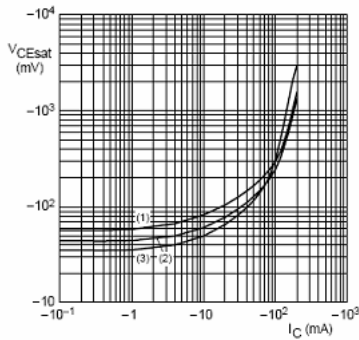
Fig.2 DC current gain as a function of collector current; typical values.



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

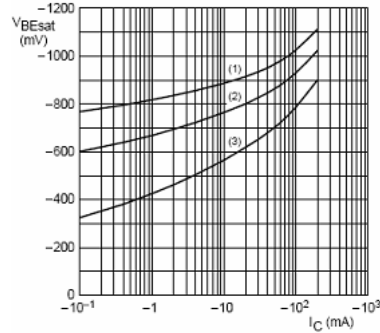
Fig.3 Base-emitter voltage as a function of collector current; typical values.

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



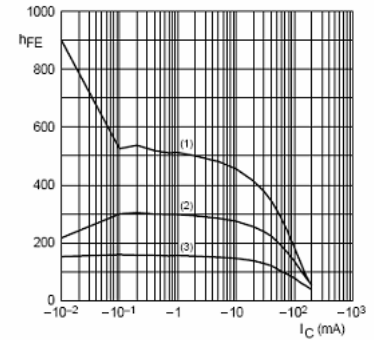
BC857A; $I_C/I_B = 20$.
(1) $T_{amb} = 150\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = -55\text{ }^{\circ}\text{C}$.

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



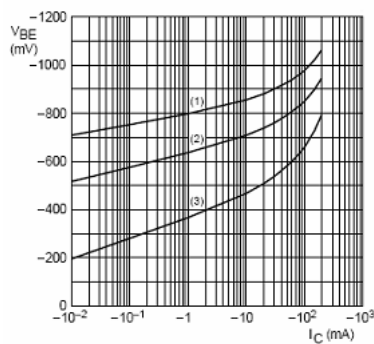
BC857A; $I_C/I_B = 20$.
(1) $T_{amb} = -55\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = 150\text{ }^{\circ}\text{C}$.

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



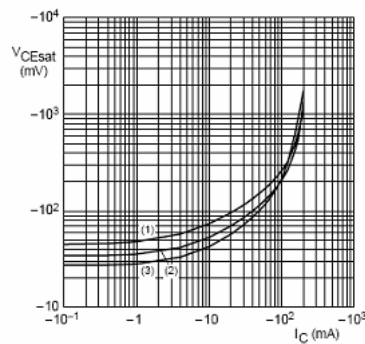
BC857B; $V_{CE} = -5\text{ V}$.
(1) $T_{amb} = 150\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = -55\text{ }^{\circ}\text{C}$.

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



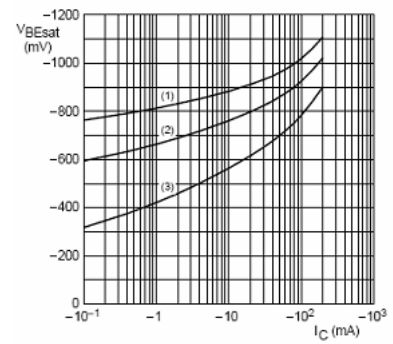
BC857B; $V_{CE} = -5\text{ V}$.
(1) $T_{amb} = -55\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = 150\text{ }^{\circ}\text{C}$.

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.