

SOT-23 Plastic-Encapsulate Transistors

BC856A,B TRANSISTOR (PNP)

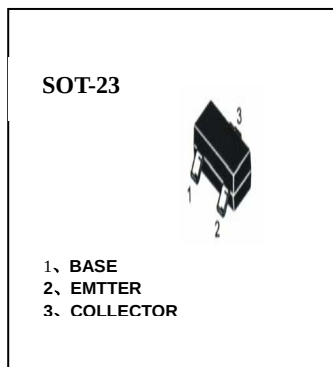
BC857A, B,C

BC858A, B,C

FEATURES

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

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



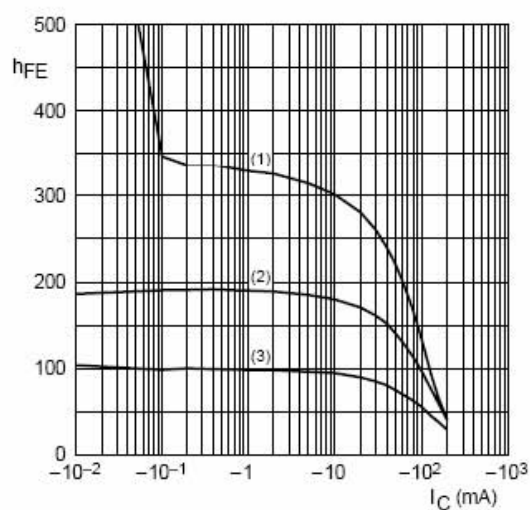
Symbol	Parameter	Value	Units
VCBO	Collector-Base Voltage		
	BC856	-80	V
	BC857	-50	
	BC858	-30	
VCEO	Collector-Emitter Voltage		
	BC856	-65	V
	BC857	-45	
	BC858	-30	
VEBO	Emitter-Base Voltage	-5	V
IC	Collector Current –Continuous	-0.1	A
PC	Collector Power Dissipation	200	mW
TJ	Junction Temperature	150	°C
Tstg	Storage Temperature	-65-150	°C

DEVICE MARKING

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

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

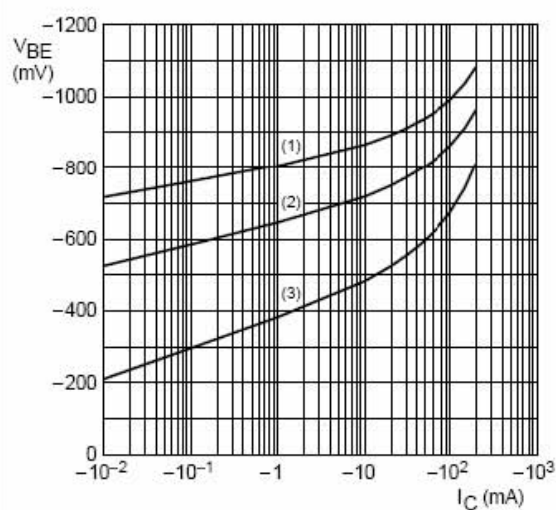
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage BC856 BC857 BC858	VCBO	IC= -10μA, IE=0	-80 -50 -30		V
Collector-emitter breakdown voltage BC856 BC857 BC858	VCEO	IC= -10mA, IB=0	-65 -45 -30		V
Emitter-base breakdown voltage	VEBO	IE= -1μA, IC=0	-5		V
Collector cut-off current BC856 BC857 BC858	ICBO	VCB= -70 V , IE=0 VCB= -45 V , IE=0 VCB= -25 V , IE=0		-0.1	μA
Collector cut-off current BC856 BC857 BC858	ICEO	VCE= -60 V , IB=0 VCE= -40 V , IB=0 VCE= -25 V , IB=0		-10	μA
Emitter cut-off current	IEBO	VEB= -5 V , IC=0		-0.1	μA
DC current gain BC856A, 857A,858A BC856B, 857B,858B BC857C,BC858C	hFE	VCE= -5V, IC= -2mA	125 220 420	250 475 800	
Collector-emitter saturation voltage	VCE(sat)	IC=-100mA, IB= -5 mA		-0.5	V
Base-emitter saturation voltage	VBE(sat)	IC= -100mA, IB= -5mA		-1.1	V
Transition frequency	fT	VCE= -5 V, IC= -10mA f=100MHz	100		MHz
Collector capacitance	Cob	VCB=-10V, f=1MHz		4.5	pF



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

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

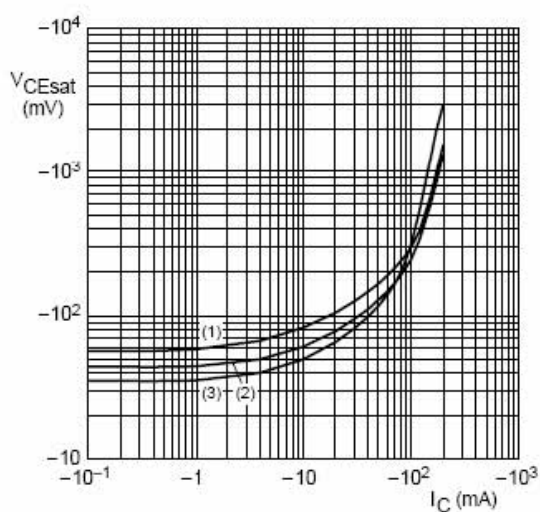
Fig.2 DC current gain as a function of collector current; typical values.



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

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

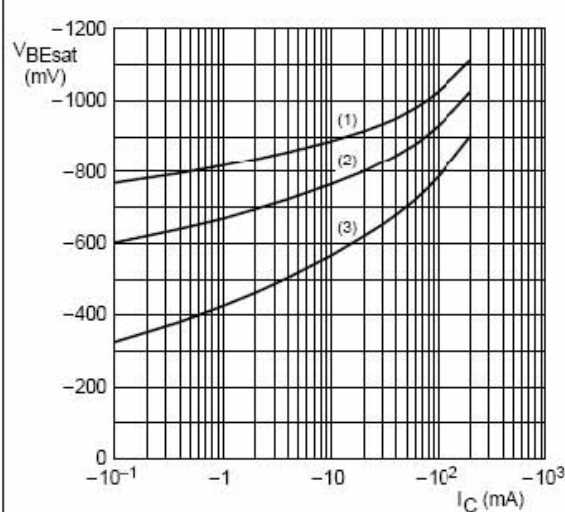
Fig.3 Base-emitter voltage as a function of collector current; typical values.



BC857A; $I_C/I_B = 20$.

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

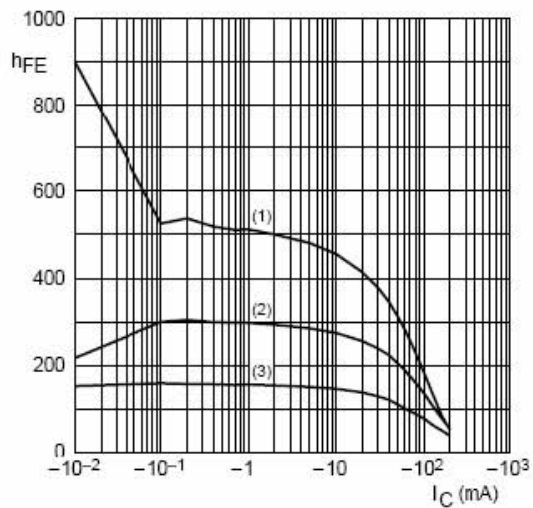
Fig.4 Collector-emitter saturation voltage as a function of collector current; typical values.



BC857A; $I_C/I_B = 20$.

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

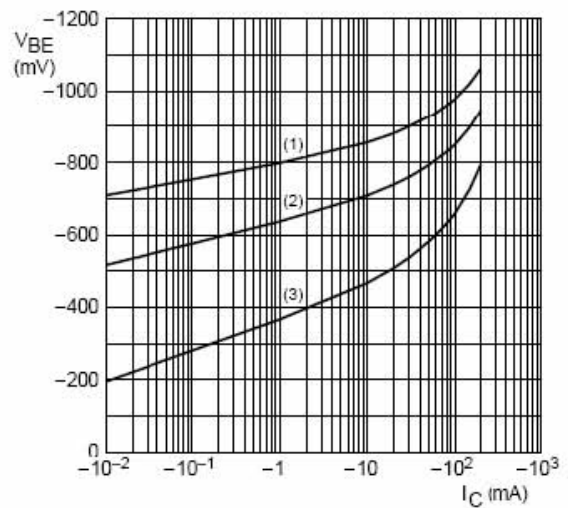
Fig.5 Base-emitter saturation voltage as a function of collector current; typical values.



BC857B; $V_{CE} = -5\text{ V}$.

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

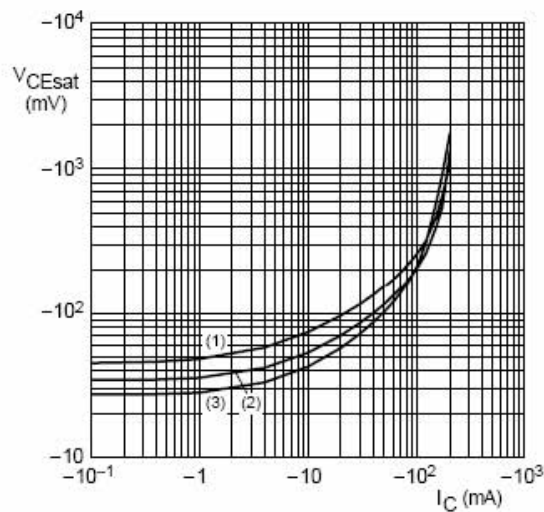
Fig.6 DC current gain as a function of collector current; typical values.



BC857B; $V_{CE} = -5\text{ V}$.

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

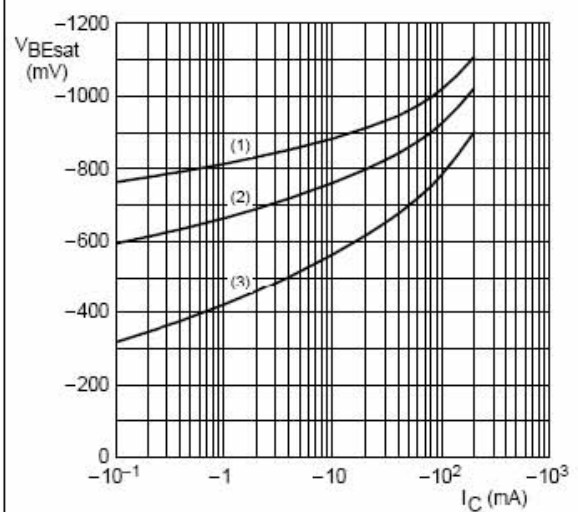
Fig.7 Base-emitter voltage as a function of collector current; typical values.



BC857B; $I_C/I_B = 20$.

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

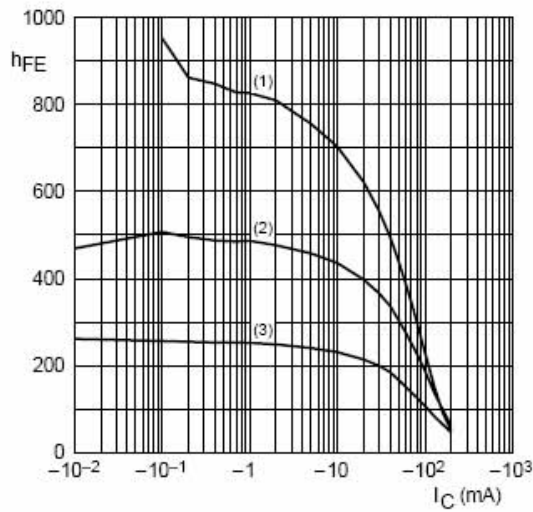
Fig.8 Collector-emitter saturation voltage as a function of collector current; typical values.



BC857B; $I_C/I_B = 20$.

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

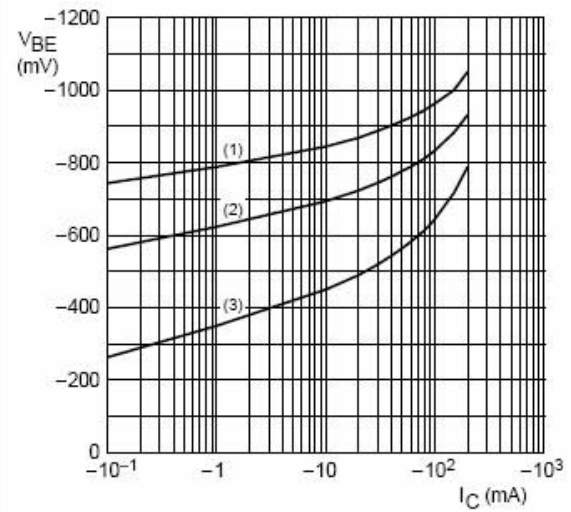
Fig.9 Base-emitter saturation voltage as a function of collector current; typical values.



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

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

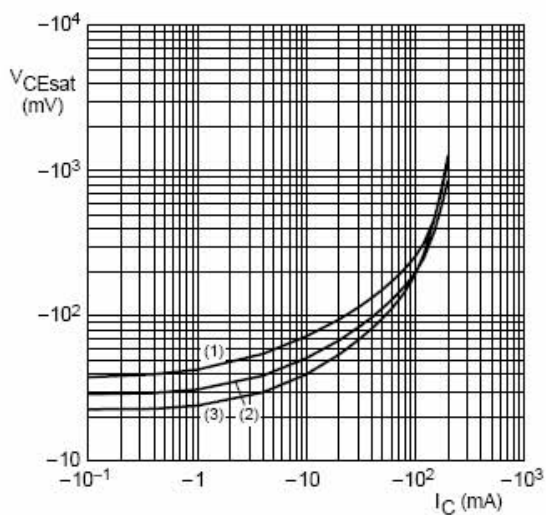
Fig.10 DC current gain as a function of collector current; typical values.



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

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

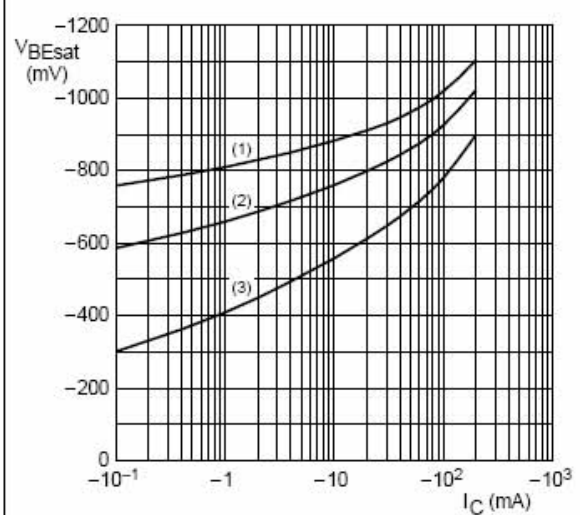
Fig.11 Base-emitter voltage as a function of collector current; typical values.



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.