

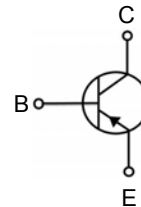
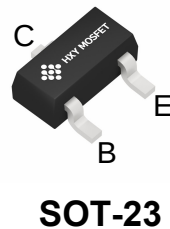


Features

- Collector Current: $I_C = -0.1A$
- Power Dissipation of 200mw

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
BC857C,235	SOT-23	3G	3000



Maxmim Ratings (Ta=25 unless otherwise noted)

Symbl	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-50	V
V_{CEO}	Collector-Emitter Voltage	-45	V
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	-55-150	°C

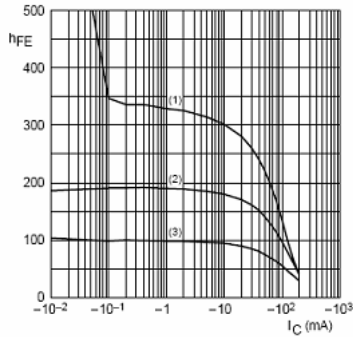


Electrcal Charcteristics (Ta=25 unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	VCBO	IC= -10μA, IE=0	-50		V
Collector-emitter breakdown voltage	VCEO	IC= -10mA, IB=0	-45		V
Emitter-base breakdown voltage	VEBO	IE= -1μA, IC=0	-5		V
Collector cut-off current	ICBO	VCB= -45 V ,IE=0		-0.1	μA
Collector cut-off current	ICEO	VCE= -40 V , IB=0		-0.1	μA
Emitter cut-off current	IEBO	VEB= -5 V , IC=0		-0.1	μA
DC current gain	hFE	VCE= -5V, IC= -2mA	420	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

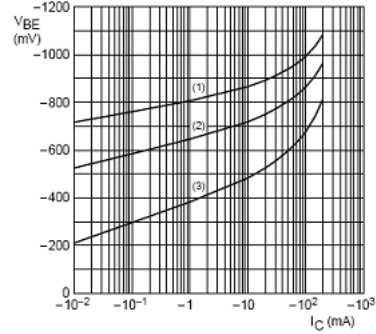


Typical Characteristics



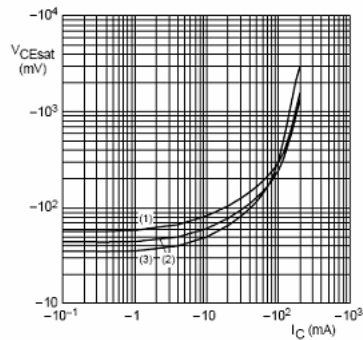
BC857A; $V_{CE} = -5\text{ V}$.
(1) $T_{amb} = 150\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = -55\text{ }^{\circ}\text{C}$.

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



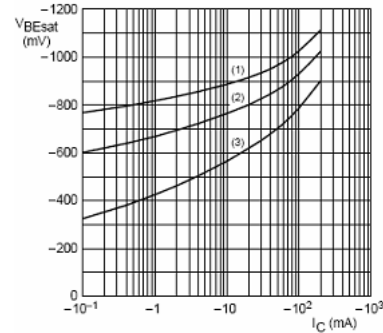
BC857A; $V_{CE} = -5\text{ V}$.
(1) $T_{amb} = -55\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = 150\text{ }^{\circ}\text{C}$.

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



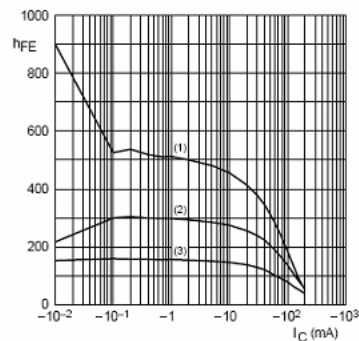
BC857A; $I_C/I_B = 20$.
(1) $T_{amb} = 150\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = -55\text{ }^{\circ}\text{C}$.

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



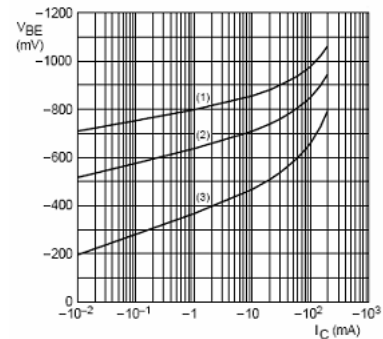
BC857A; $I_C/I_B = 20$.
(1) $T_{amb} = -55\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = 150\text{ }^{\circ}\text{C}$.

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



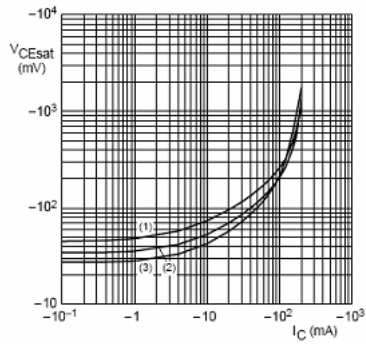
BC857B; $V_{CE} = -5\text{ V}$.
(1) $T_{amb} = 150\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = -55\text{ }^{\circ}\text{C}$.

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) $T_{amb} = 150\text{ }^{\circ}\text{C}$.

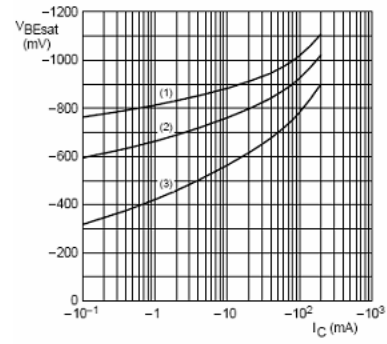
Fig.7 Base-emitter voltage as a function of collector current; typical values.



BC857B; $I_C/I_B = 20$.

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

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



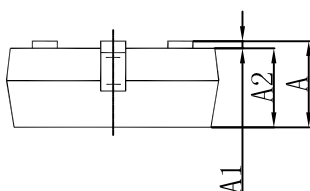
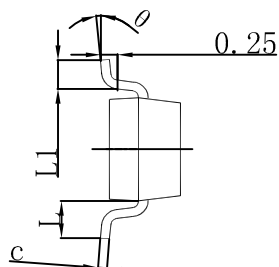
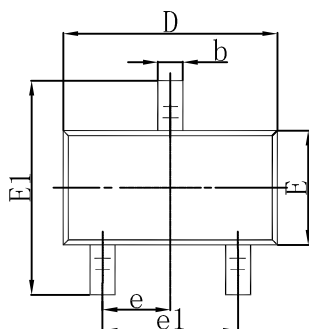
BC857B; $I_C/I_B = 20$.

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

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

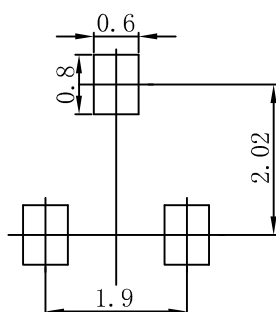


Package Dimensions SOT-23



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.



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