

Descriptions

- General purpose application
- Switching application

Features

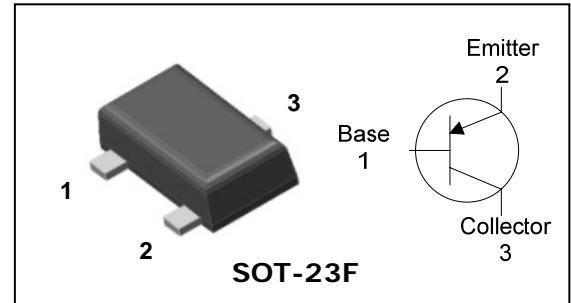
- High voltage : $V_{CEO} = -45V$
- Complementary pair with BC847F

Ordering Information

Type NO.	Marking	Package Code
BC857F	\overline{UA} \square \square ① ② ③	SOT-23F

① Device Code ② hFE Rank ③ Year&Week Code

PIN Connection



Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	-50	V
Collector-Emitter voltage	V_{CEO}	-45	V
Emitter-Base voltage	V_{EBO}	-5	V
Collector current	I_C	-100	mA
Collector dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ 150	°C

Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Emitter breakdown voltage	BV_{CEO}	$I_C = -2mA, I_B = 0$	-45	-	-	V
Base -Emitter turn on voltage	$V_{BE(ON)}$	$V_{CE} = -5V, I_C = -2mA$	-	-	-700	mV
Base -Emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100mA, I_B = -5mA$	-	-900	-	mV
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -5mA$	-	-	-650	mV
Collector cut-off current	I_{CBO}	$V_{CB} = -35V, I_E = 0$	-	-	-15	nA
DC current gain	h_{FE}^*	$V_{CE} = -5V, I_C = -2mA$	110	-	800	-
Transition frequency	f_T	$V_{CB} = -5V, I_C = -10mA$	-	150	-	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	-	4.5	pF
Noise Figure	NF	$V_{CE} = -5V, I_C = -200\mu A, f = 1KHz, R_g = 2K\Omega$	-	-	10	dB

* : h_{FE} rank / A : 110 ~ 220, B : 200 ~ 450, C : 420 ~ 800

Electrical Characteristic Curves

Fig. 1 P_C - T_a

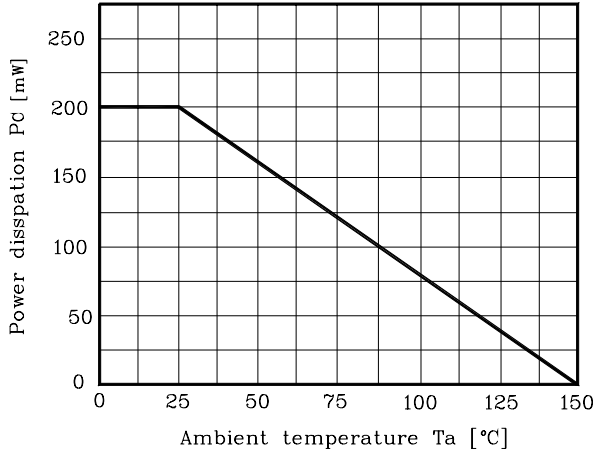


Fig. 2 I_C - V_{BE}

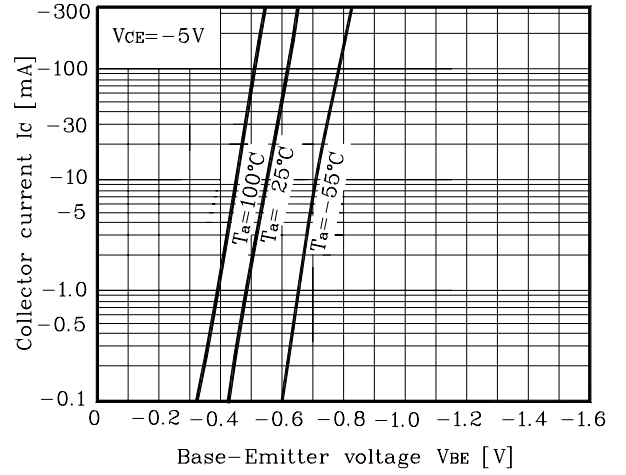


Fig. 3 I_C - V_{CE}

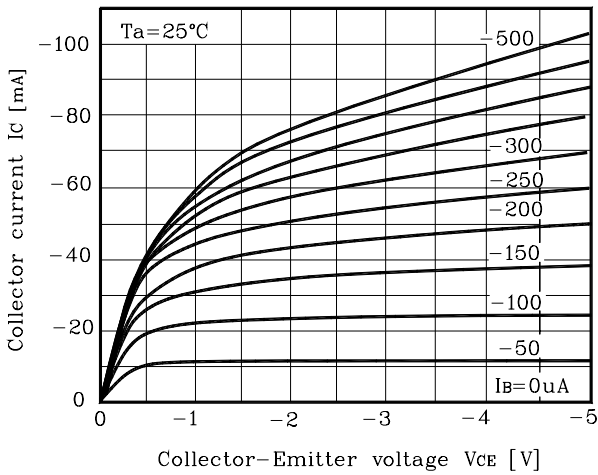


Fig. 4 h_{FE} - I_C

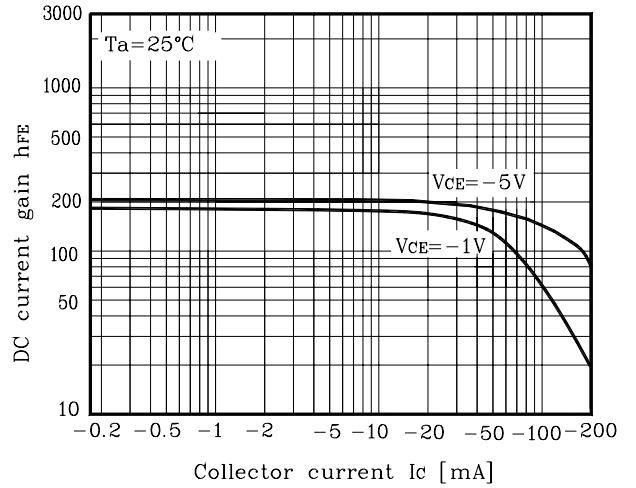
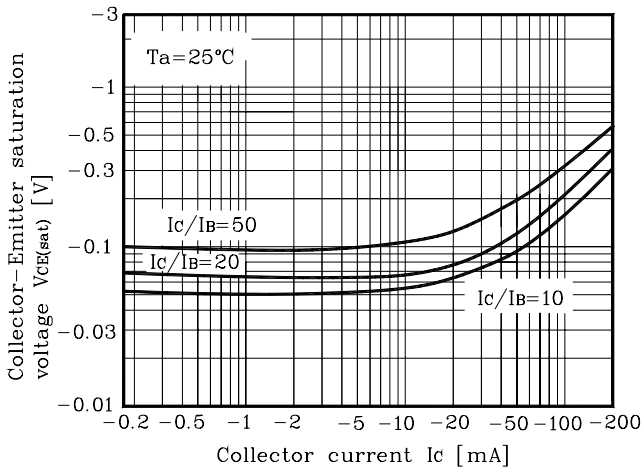
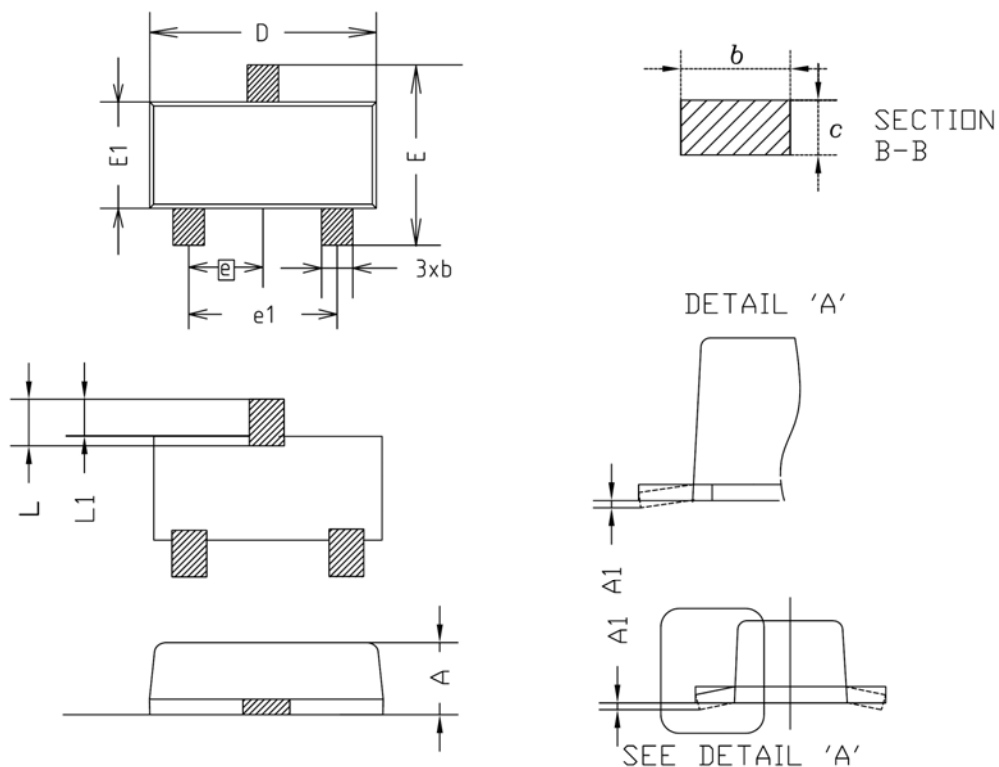


Fig. 5 $V_{CE(sat)}$ - I_C

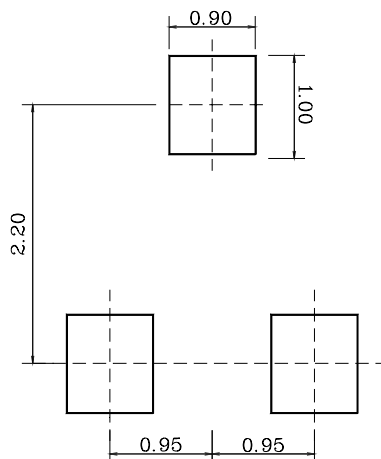


Outline Dimension



SYMBOL	MILLIMETER(mm)			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	0.80	0.90	1.00	
A1	0.00	-	0.10	
b	0.35	0.40	0.45	
c	0.10	0.15	0.20	
D	2.80	2.90	3.00	
E	2.30	2.40	2.50	
E1	1.50	1.60	1.70	
e	0.95BSC			
e1	1.80	1.90	2.00	
L	0.48	0.58	0.68	
L1	0.30	-	0.50	

※Recommend PCB solder land [Unit: mm]



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