



BC846F

NPN Silicon Transistor

Descriptions

- General purpose application
- Switching application

Features

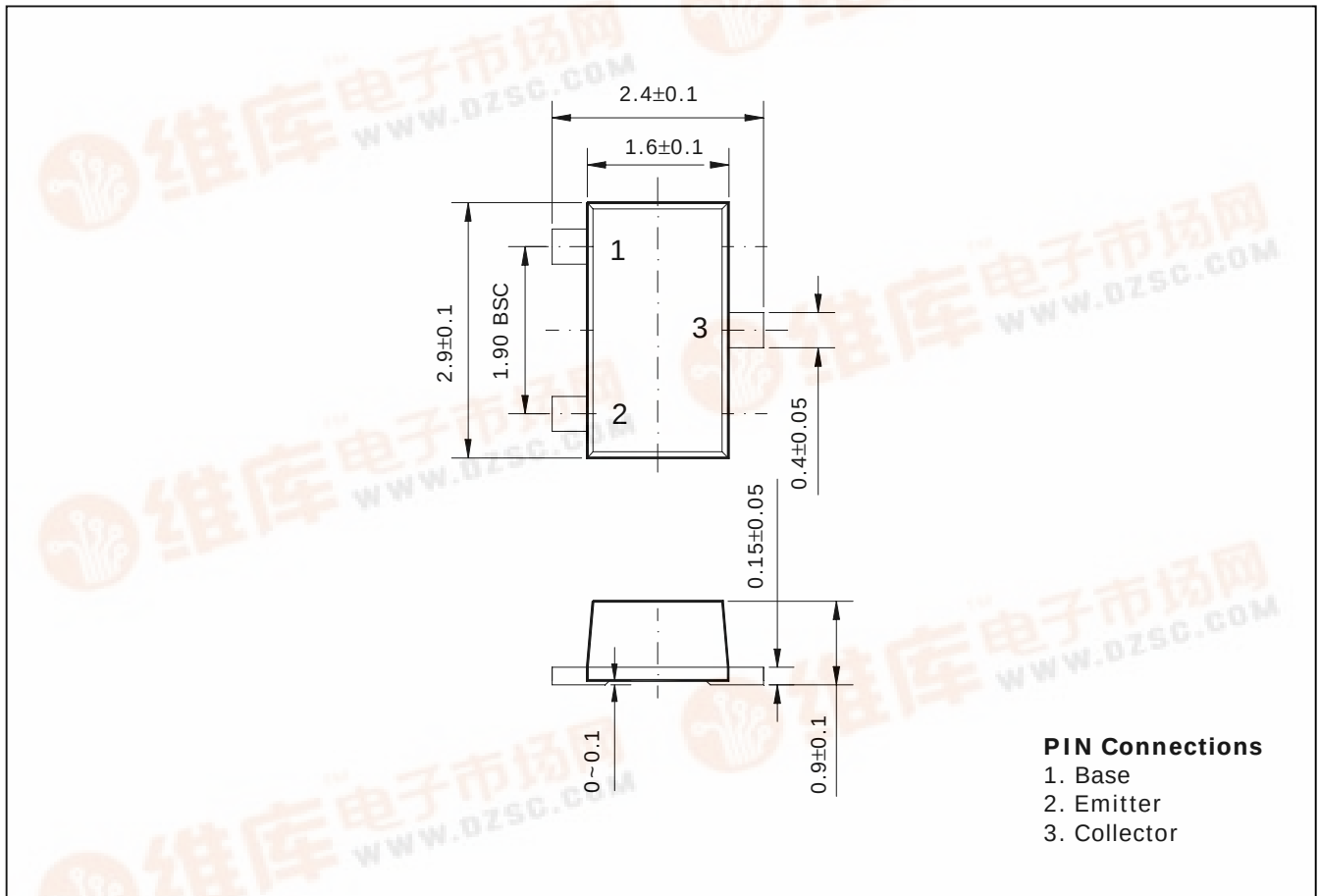
- High voltage : $V_{CEO}=55V$
- Complementary pair with BC856F

Ordering Information

Type NO.	Marking	Package Code
BC846F	QA□ □ : h_{FE} rank	SOT-23F

Outline Dimensions

unit : mm



Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	80	V
Collector-Emitter voltage	V_{CEO}	55	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}	$I_C=1mA, I_B=0$	55	-	-	V
Base-Emitter turn on voltage	$V_{BE(ON)}$	$V_{CE}=5V, I_C=2mA$	550	-	700	mV
Base-Emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=5mA$	-	900	-	mV
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=5mA$	-	-	600	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	$V_{CE}=5V, I_C=10mA$	-	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 $P_C - T_a$

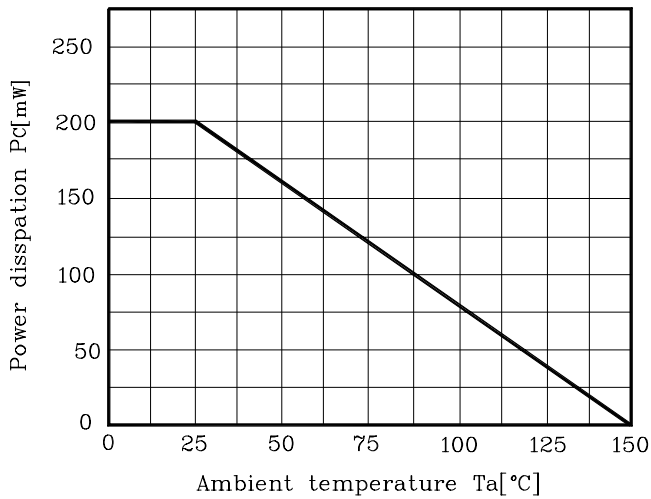


Fig. 2 $I_C - V_{BE}$

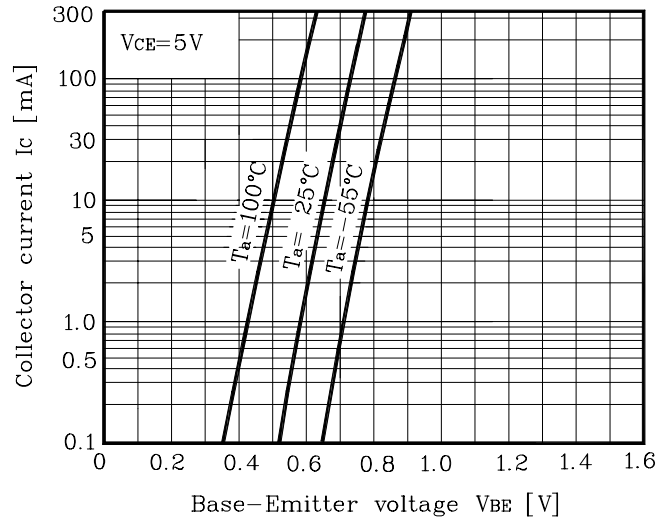


Fig. 3 $I_C - V_{CE}$

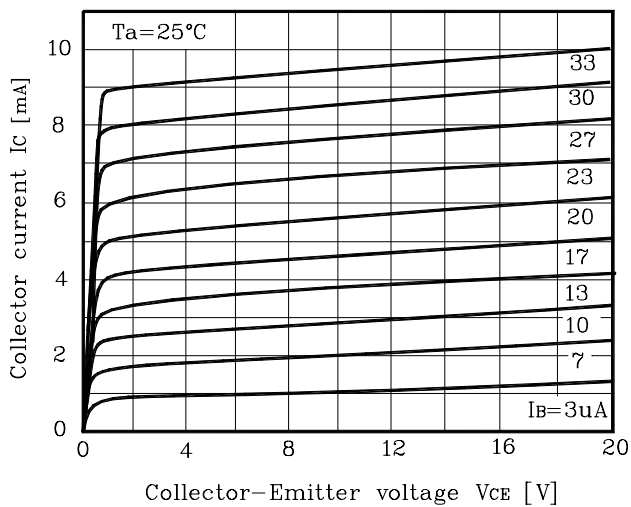


Fig. 4 $h_{FE} - I_C$

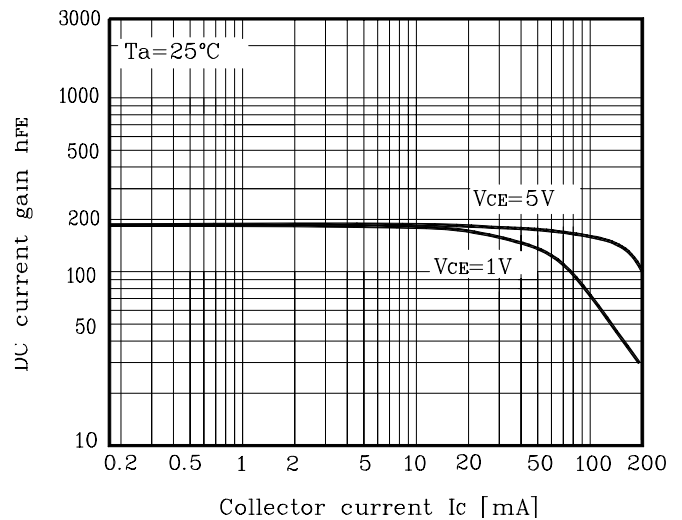


Fig. 5 $V_{CE(sat)} - I_C$

