AUK Semiconductor

BC846

NPN Silicon Transistor

Descriptions

- General purpose application
- Switching application

Features

- High voltage : V_{CEO}=55V
- Complementary pair with BC856

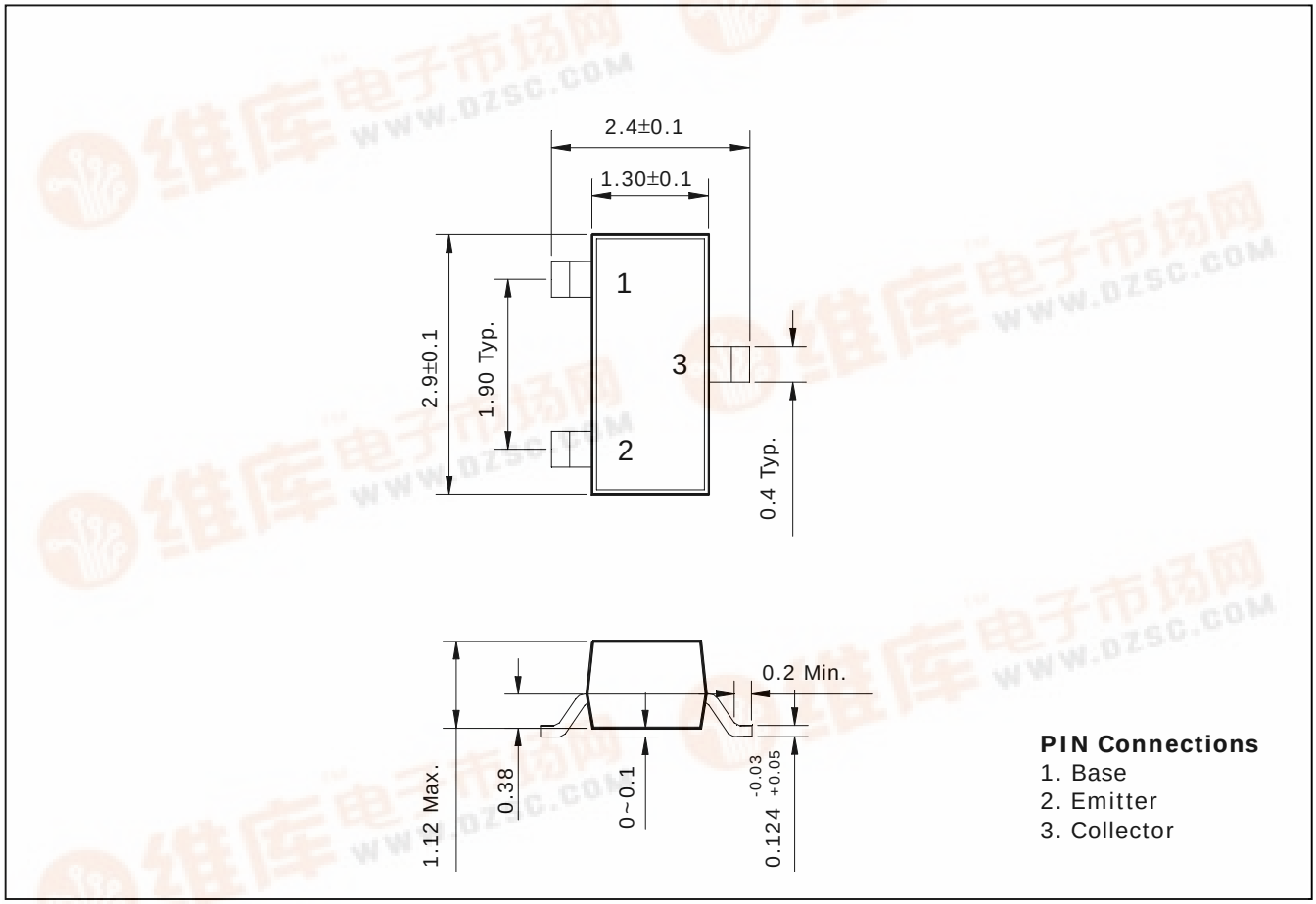
Ordering Information

Type NO.	Marking	Package Code
BC846	QA□	SOT-23

□ : h_{FE} rank

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=200μA, f=1KHz, Rg=2KΩ	-	-	10	dB

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

Electrical Characteristic Curves

Fig. 1 P_C –T_a

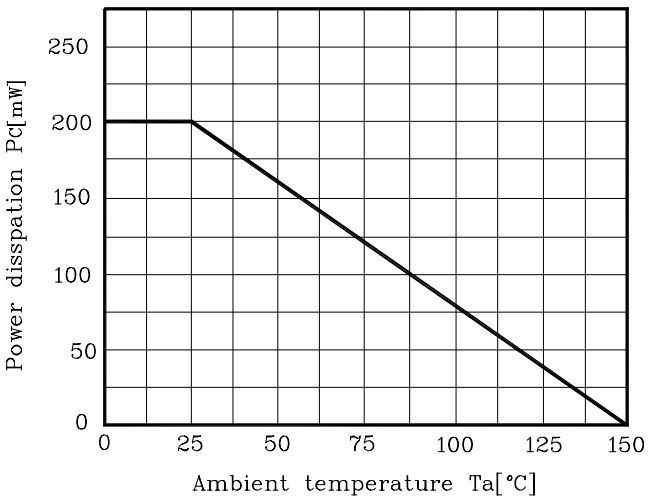


Fig. 2 I_C -V_{BE}

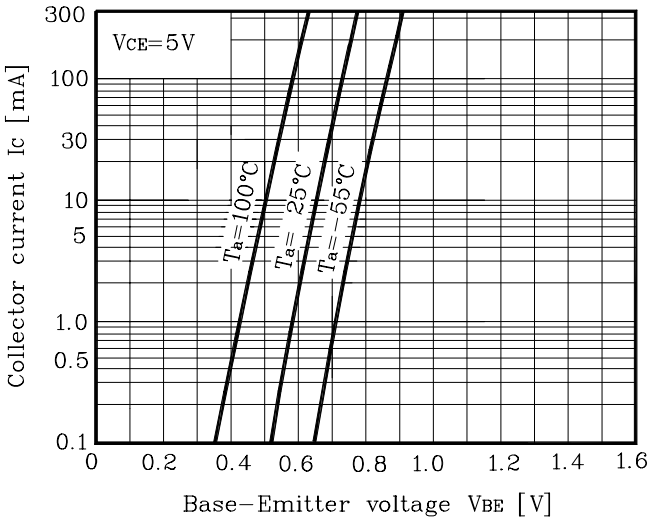


Fig. 3 I_C -V_{CE}

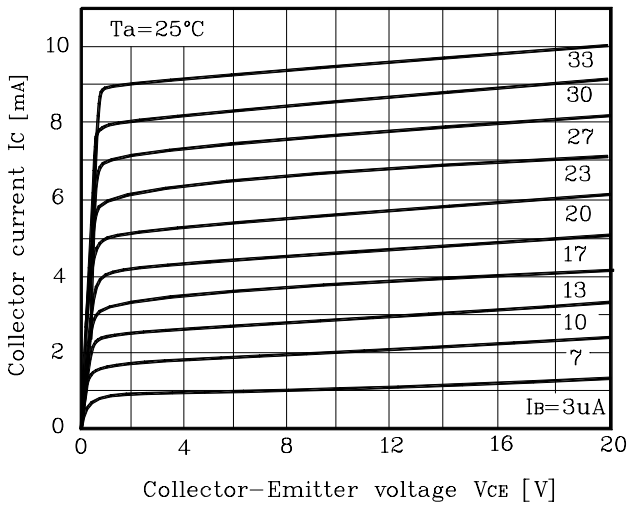


Fig. 4 h_{FE} -I_C

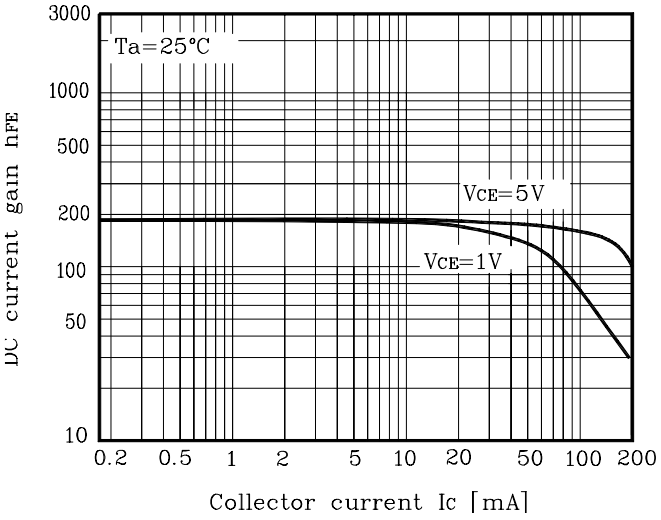


Fig. 5 $V_{CE(sat)}$ -I_C