

STC1815

NPN Silicon Transistor

Description

- General small signal amplifier

Features

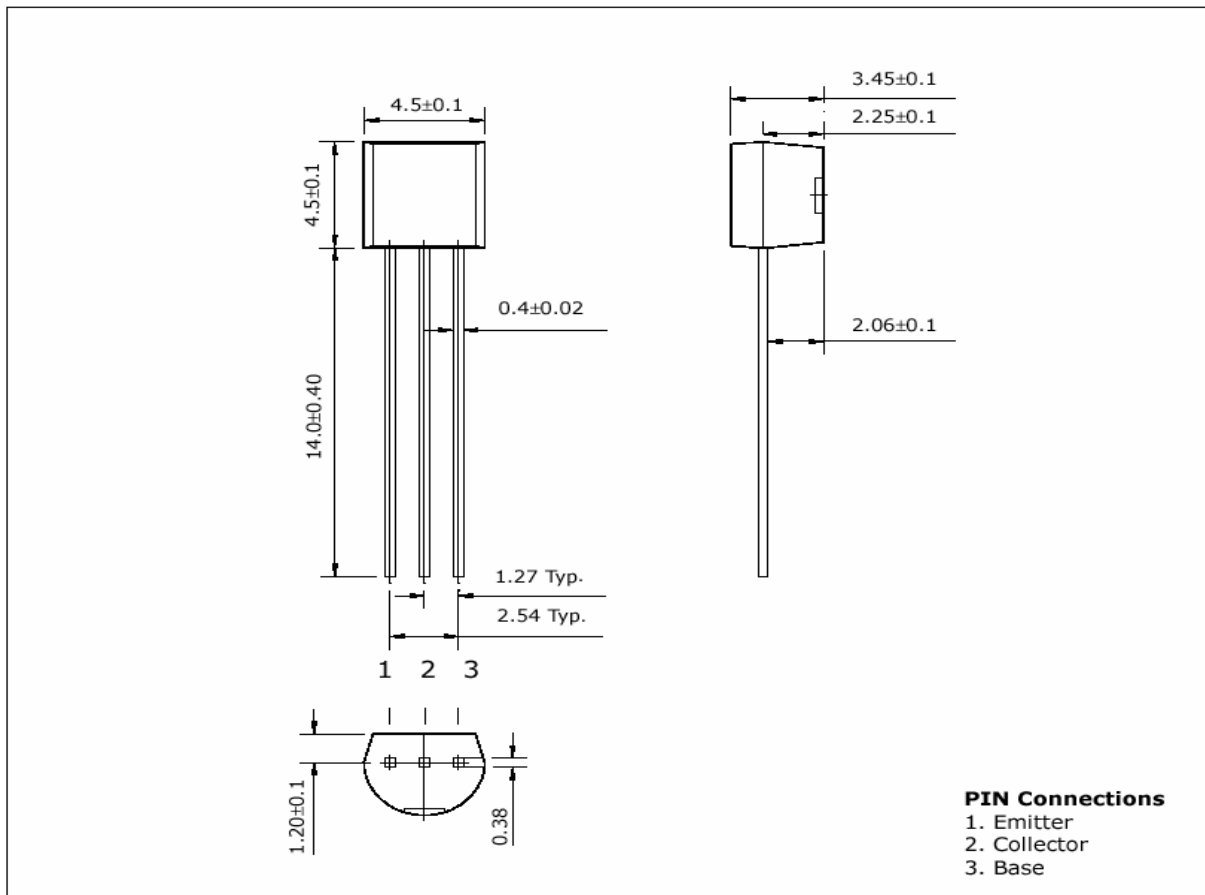
- Low collector saturation voltage : $V_{CE(sat)}=0.25V(\text{Max.})$
- Low output capacitance : $C_{ob}=2pF(\text{Typ.})$
- Complementary pair with STC1015

Ordering Information

Type NO.	Marking	Package Code
STC1815	STC1815	TO-92

Outline Dimensions

unit : mm



Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	60	V
Collector-Emitter voltage	V_{CEO}	50	V
Emitter-Base voltage	V_{EBO}	5	V
Collector current	I_C	150	mA
Collector dissipation	P_C	625	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-Base breakdown voltage	BV_{CBO}	$I_C=50\mu A, I_E=0$	60	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	$I_C=1mA, I_B=0$	50	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	$I_E=50\mu A, I_C=0$	5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=50V, I_E=0$	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$	-	-	0.1	μA
DC current gain	h_{FE}^*	$V_{CE}=6V, I_C=2mA$	70	-	700	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$	-	-	0.25	V
Transistor frequency	f_T	$V_{CE}=10V, I_C=1mA$	80	-	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	-	2	3.5	pF
Noise figure	NF	$V_{CE}=6V, I_C=0.1mA, f=1KHz, R_g=10K\Omega$	-	-	10	dB

* : h_{FE} rank / A : 70 ~ 140, B : 120 ~ 240, C : 200 ~ 400, D : 300 ~ 700

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

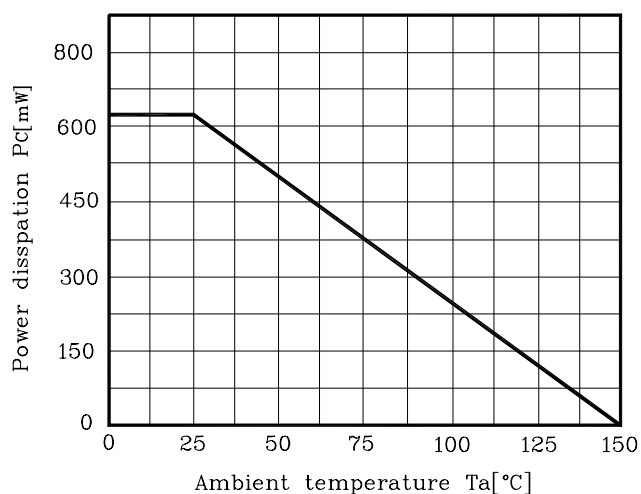


Fig. 2 $I_C - V_{BE}$

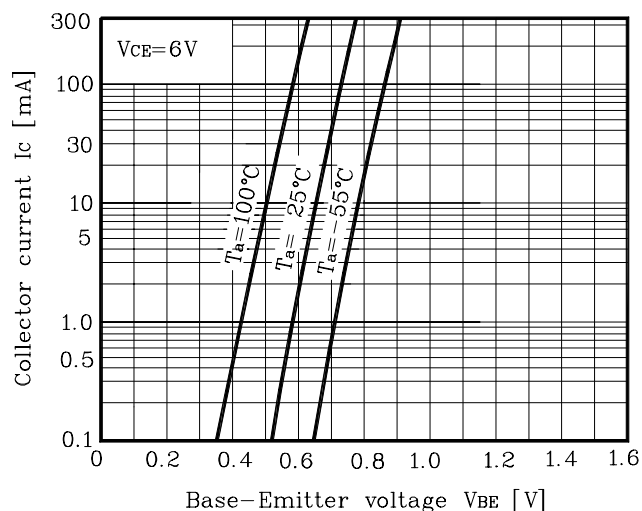


Fig. 3 $I_C - V_{CE}$

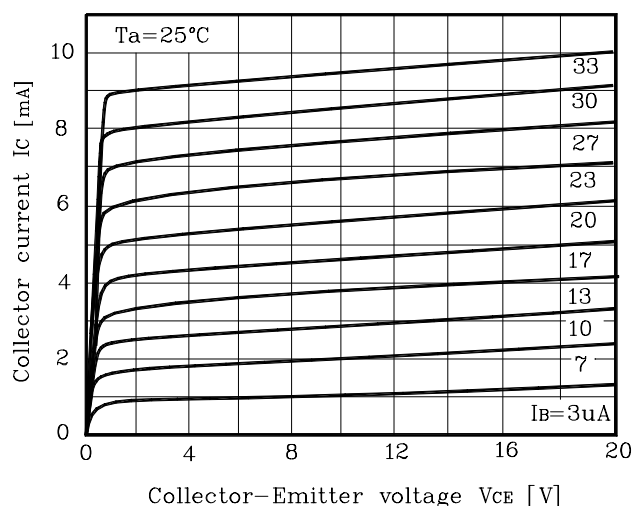


Fig. 4 $h_{FE} - I_C$

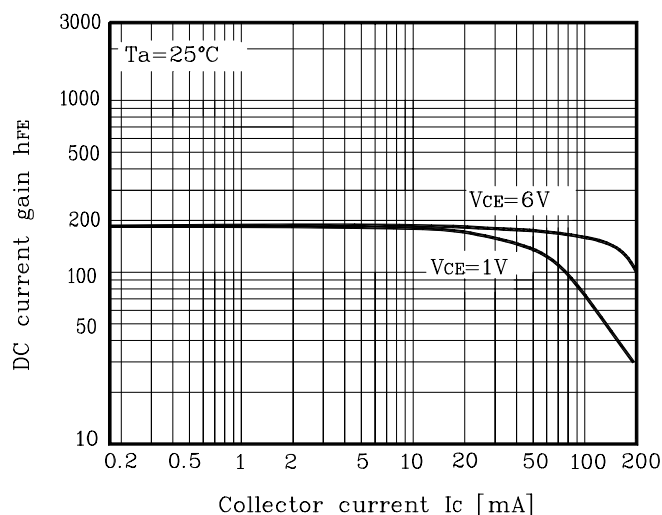


Fig. 5 $V_{CE(sat)} - I_C$

