

**Description**

- General small signal amplifier

**Features**

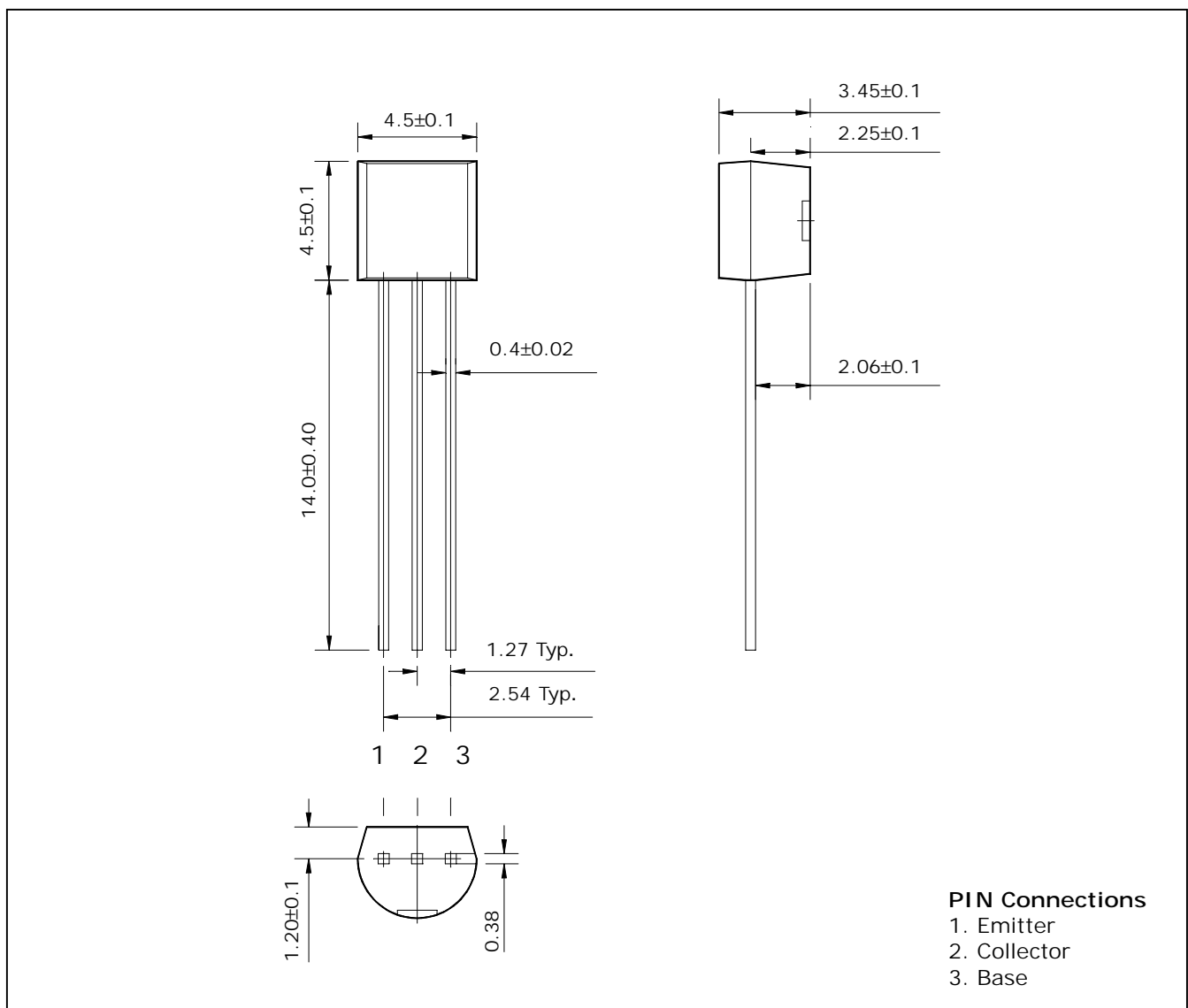
- Low collector saturation voltage :  $V_{CE(sat)}=0.25V(\text{Max.})$
- Low output capacitance :  $C_{ob}=2pF(\text{Typ.})$
- Complementary pair with STA733

**Ordering Information**

Type NO.	Marking	Package Code
STC945	STC945	TO-92

**Outline Dimensions**

unit : mm



## Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	$V_{CBO}$	50	V
Collector-Emitter voltage	$V_{CEO}$	40	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	$BV_{CBO}$	$I_C=50\mu A, I_E=0$	50	-	-	V
Collector-Emitter breakdown voltage	$BV_{CEO}$	$I_C=1mA, I_B=0$	40	-	-	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	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_C=0$	-	-	0.1	$\mu A$
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
Transistion 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 / O : 70 ~ 140, Y : 120 ~ 240, G : 200 ~ 400, L : 300 ~ 700

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

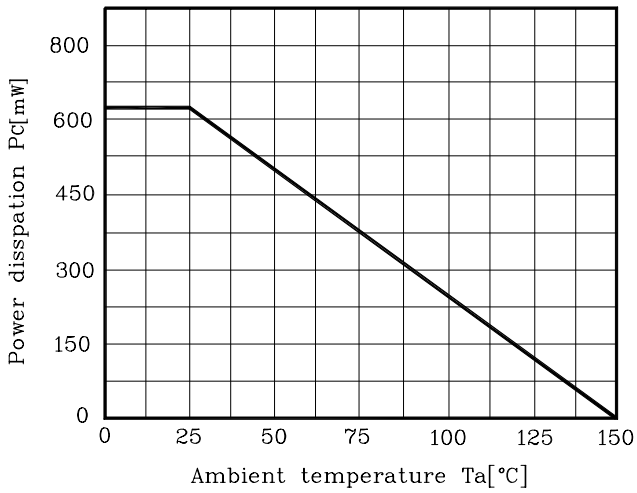


Fig. 2  $I_C - V_{BE}$

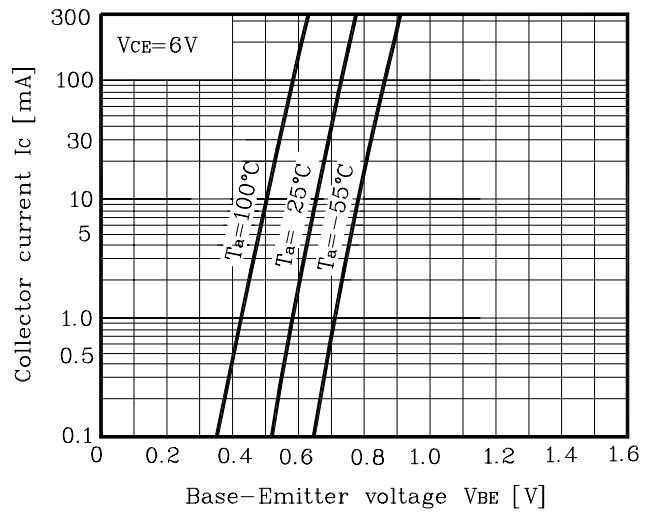


Fig. 3  $I_C - V_{CE}$

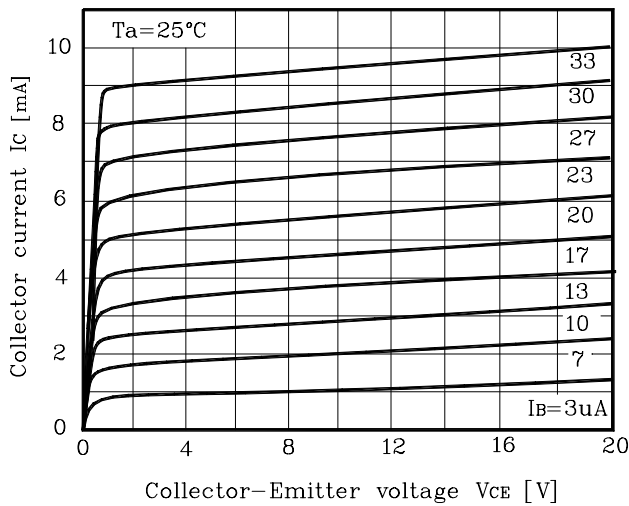


Fig. 4  $h_{FE} - I_C$

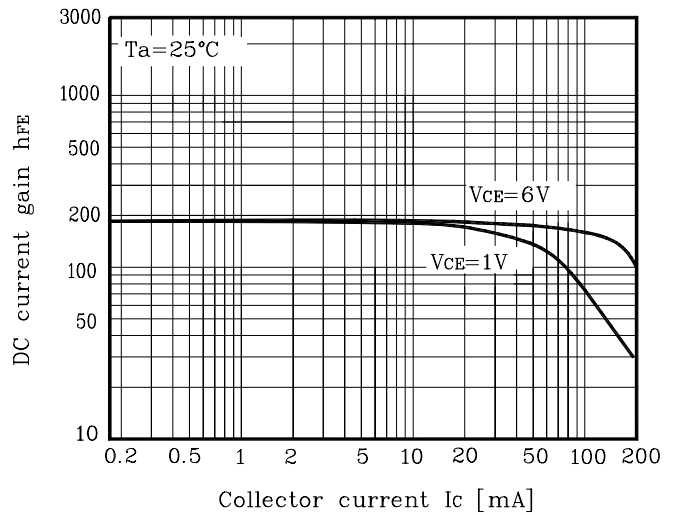


Fig. 5  $V_{CE(sat)} - I_C$

