

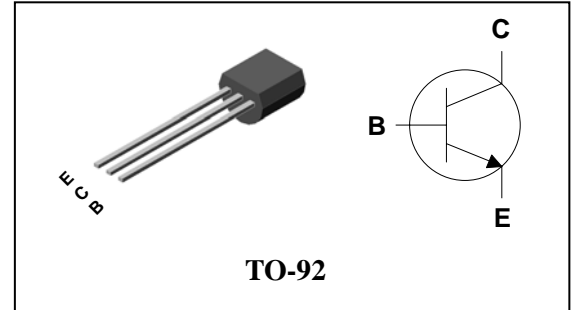
Description

- 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

PIN Connection



Ordering Information

Type NO.	Marking	Package Code
STC945	STC945	TO-92

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	500	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	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
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 $P_C - T_a$

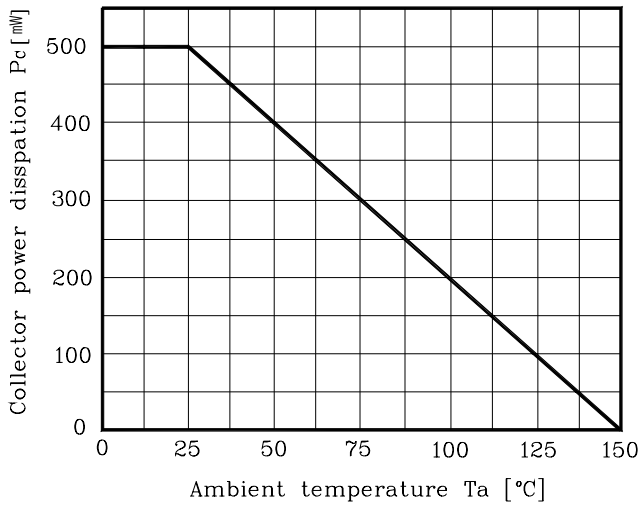


Fig. 2 $I_C - V_{BE}$

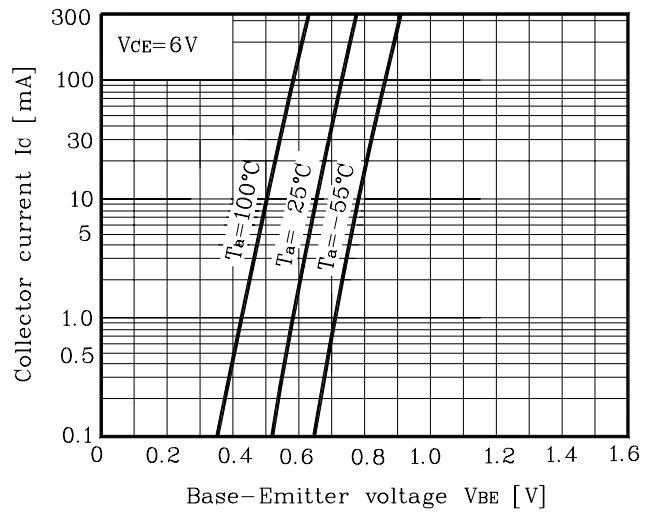


Fig. 3 $I_C - V_{CE}$

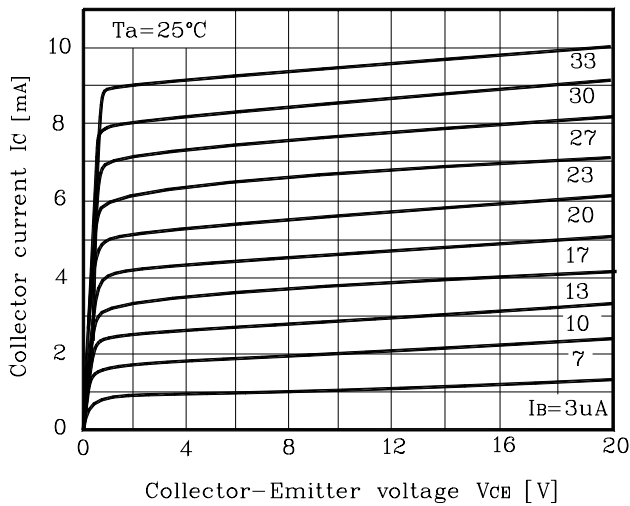


Fig. 4 $h_{FE} - I_C$

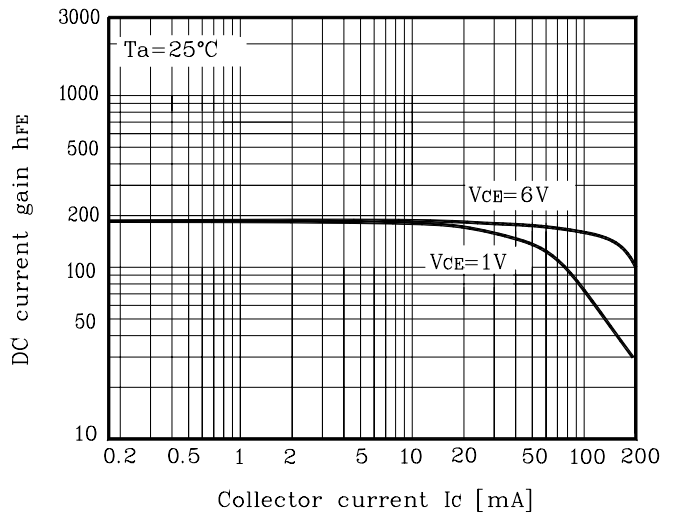
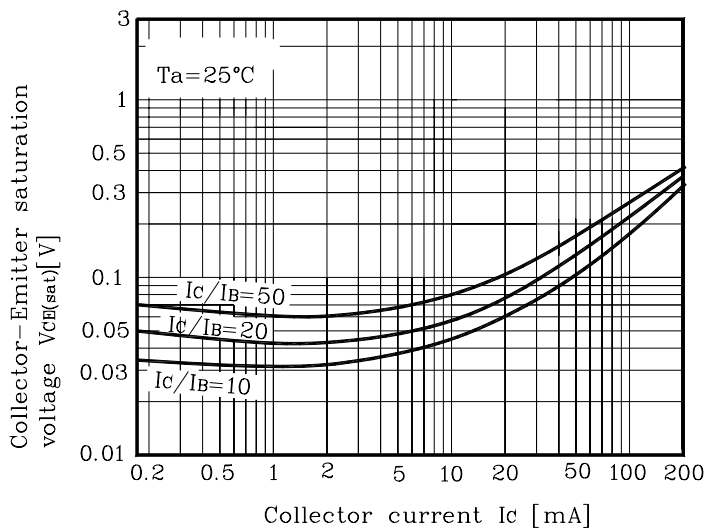
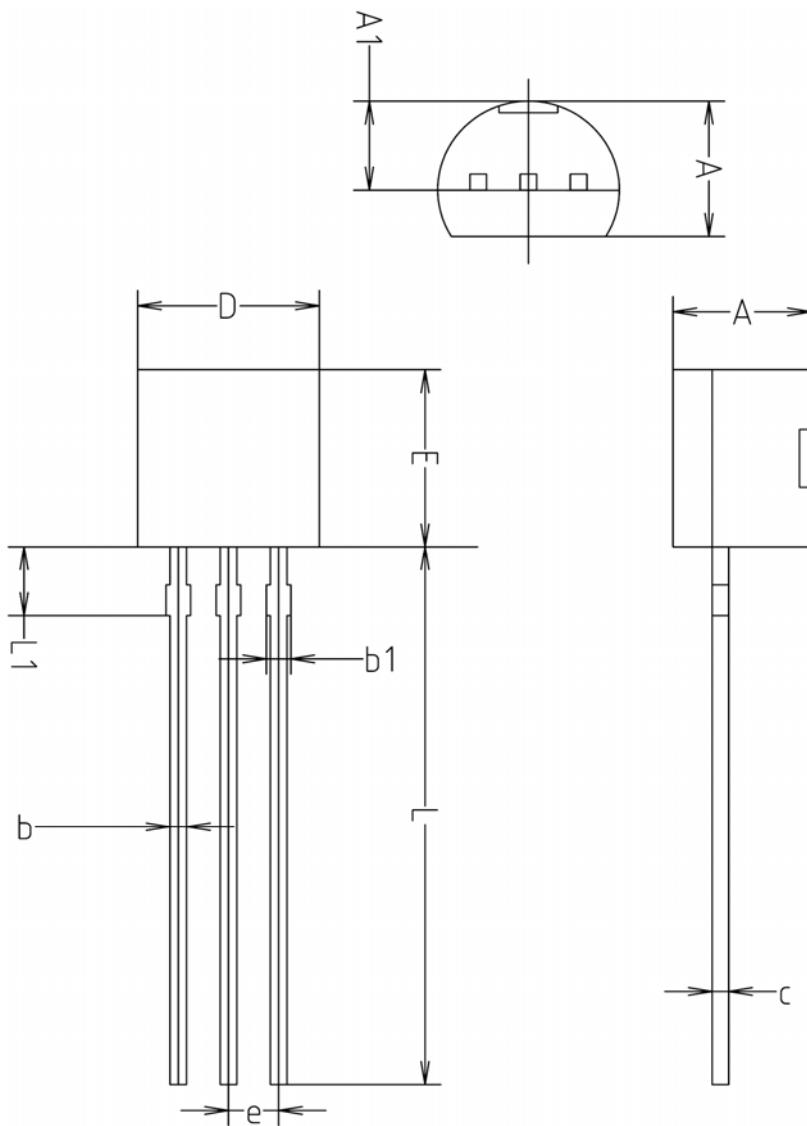


Fig. 5 $V_{CE(sat)} - I_C$



Outline Dimension



SYMBOL	MILLMETERS(mm)		
	MINIMUM	NOMINAL	MAXIMUM
A	3.40	3.50	3.66
A1	2.46	2.51	2.59
b	0.39	0.44	0.53
b1	0.39	—	0.63
c	0.35	0.42	0.47
D	4.48	4.60	4.70
E	4.48	4.60	4.70
e	1.17	1.27	1.37
L	13.70	14.00	14.77
L1	1.55	1.70	2.15

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