

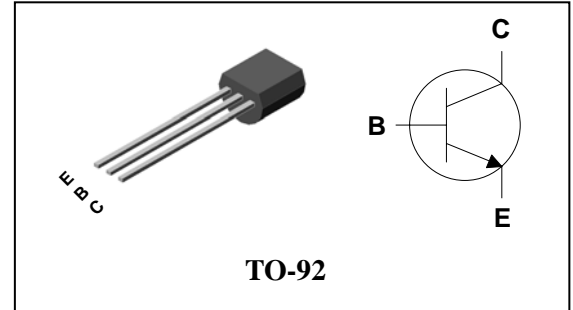
## Descriptions

- General purpose amplifier
- High voltage application

## Features

- High collector breakdown voltage :  
 $V_{CBO} = 180V$ ,  $V_{CEO} = 160V$
- Low collector saturation voltage :  
 $V_{CE(sat)} = 0.5V(MAX.)$
- Complementary pair with 2N5401

## PIN Connection



## Ordering Information

Type NO.	Marking	Package Code
2N5551	2N5551	TO-92

## Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	$V_{CBO}$	180	V
Collector-Emitter voltage	$V_{CEO}$	160	V
Emitter-Base voltage	$V_{EBO}$	6	V
Collector current	$I_C$	600	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	$BV_{CBO}$	$I_C = 100\mu A, I_E = 0$	180	-	-	V
Collector-Emitter breakdown voltage	$BV_{CEO}$	$I_C = 1mA, I_B = 0$	160	-	-	V
Emitter-Base breakdown voltage	$BV_{EBO}$	$I_E = 10\mu A, I_C = 0$	6	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 120V, I_E = 0$	-	-	100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 4V, I_C = 0$	-	-	100	nA
DC current gain	$h_{FE(1)}$	$V_{CE} = 5V, I_C = 1mA$	80	-	-	-
DC current gain	$h_{FE(2)}$	$V_{CE} = 5V, I_C = 10mA$	80	-	250	-
DC current gain	$h_{FE(3)}$	$V_{CE} = 5V, I_C = 50mA$	30	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)(1)}^*$	$I_C = 10mA, I_B = 1mA$	-	-	0.2	V
Collector-Emitter saturation voltage	$V_{CE(sat)(2)}^*$	$I_C = 50mA, I_B = 5mA$	-	-	0.5	V
Base-Emitter saturation voltage	$V_{BE(sat)(1)}^*$	$I_C = 10mA, I_B = 1mA$	-	-	1	V
Base-Emitter saturation voltage	$V_{BE(sat)(2)}^*$	$I_C = 50mA, I_B = 5mA$	-	-	1	V
Transition frequency	$f_T$	$V_{CE} = 10V, I_C = 10mA$	100	-	400	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	-	-	6	pF

\* : Pulse Tester : Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2.0\%$

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

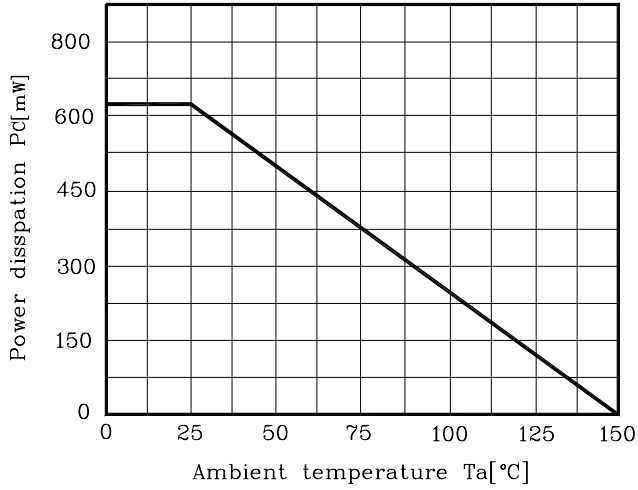


Fig. 2  $I_C - V_{BE}$

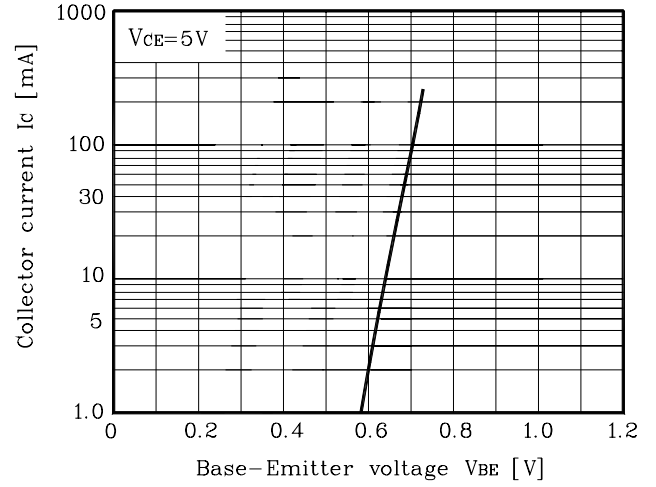


Fig. 3  $f_T - I_C$

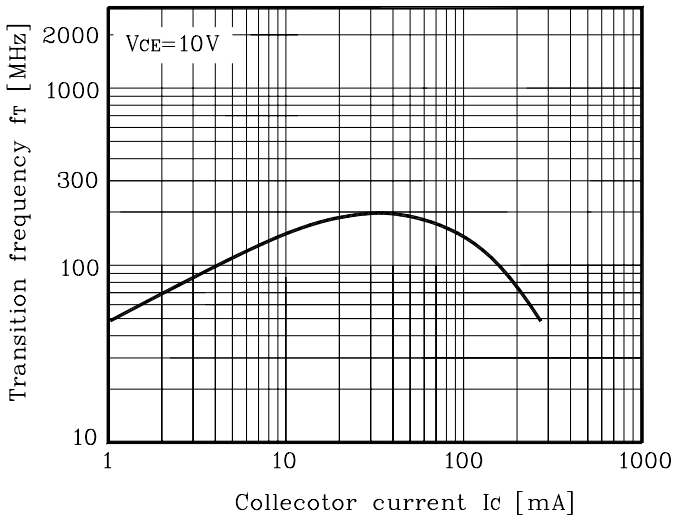


Fig. 4  $V_{CE(sat)}, V_{BE(sat)} - I_C$

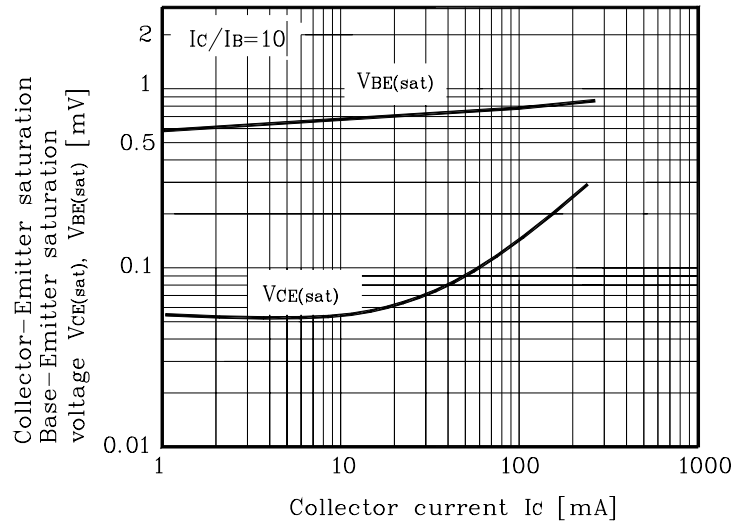
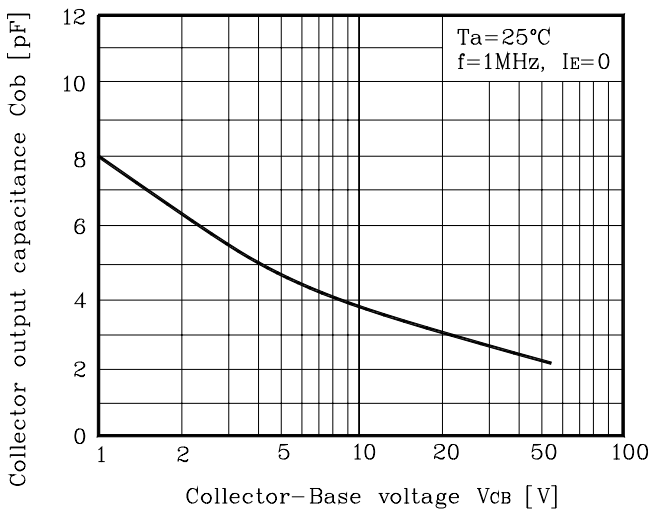
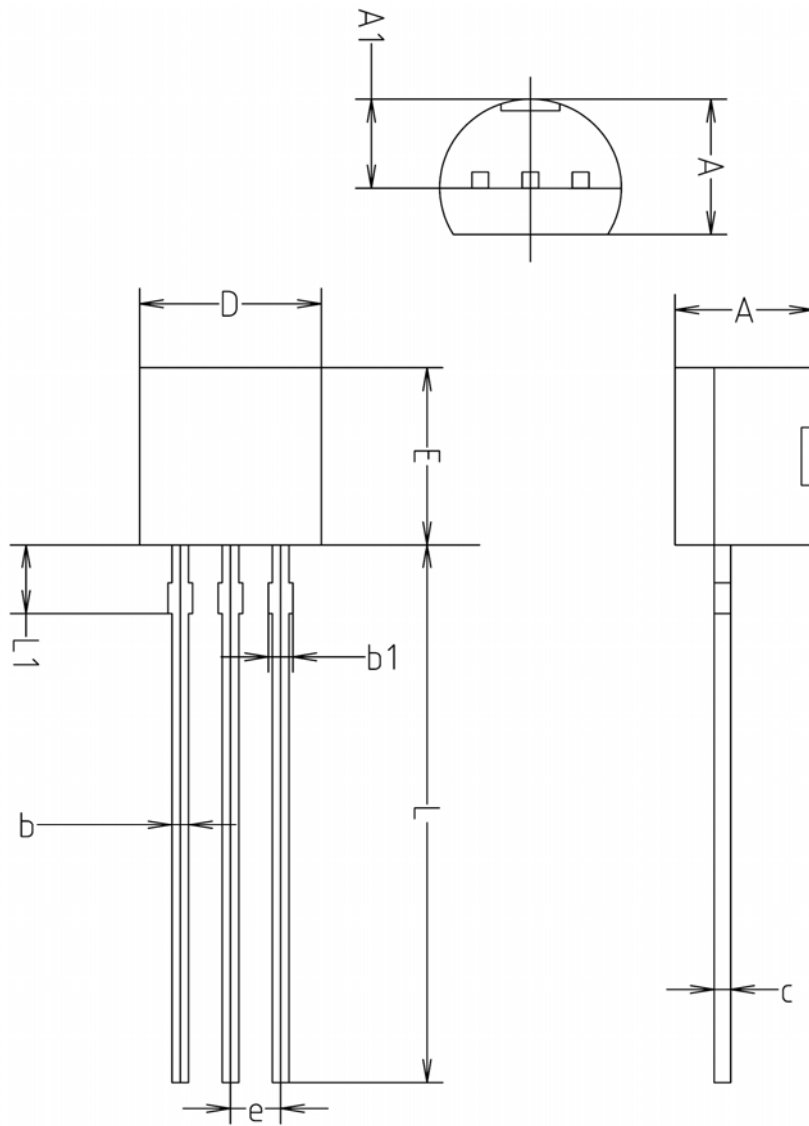


Fig. 5  $C_{ob} - V_{CB}$



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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