

**Descriptions**

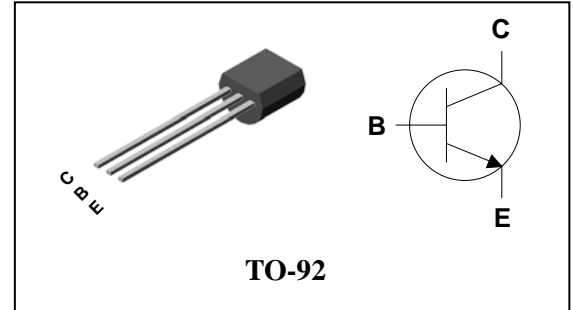
- General purpose application
- Switching application

**Features**

- High voltage :  $V_{CEO} = 55V$
- Complementary pair with SBC556

**Ordering Information**

Type NO.	Marking	Package Code
SBC546	SBC546	TO-92

**PIN Connection**

**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	$P_C$	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-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	$V_{CE} = 5V, I_C = 200\mu A, f = 1KHz, R_g = 2K\Omega$	-	-	10	dB

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

Electrical Characteristic Curves

Fig. 1  $P_C$ - $T_a$

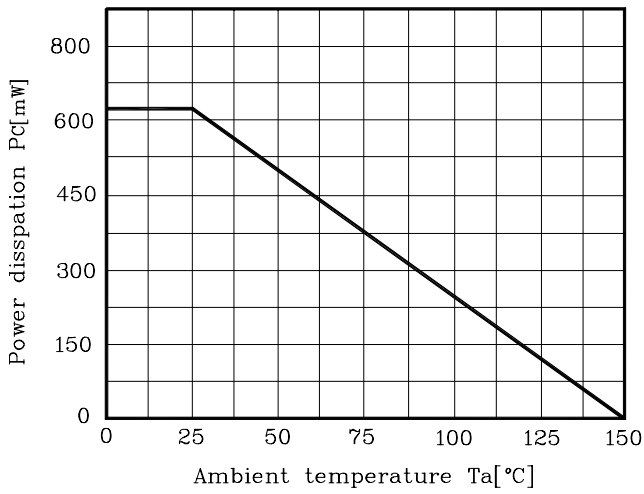


Fig. 2  $I_C$ - $V_{BE}$

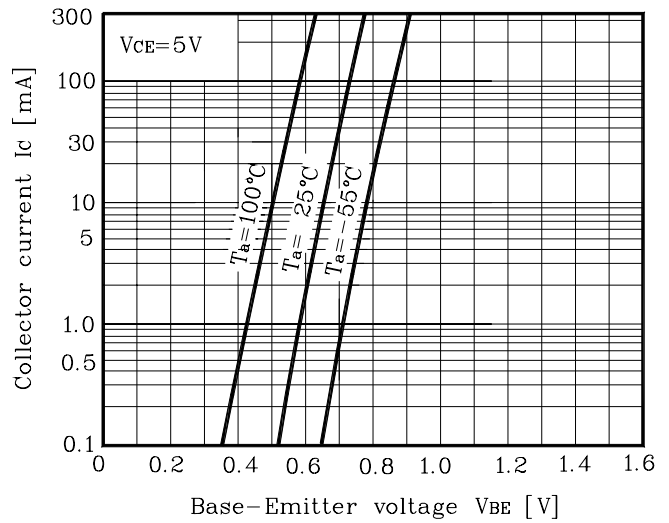


Fig. 3  $I_C$ - $V_{CE}$

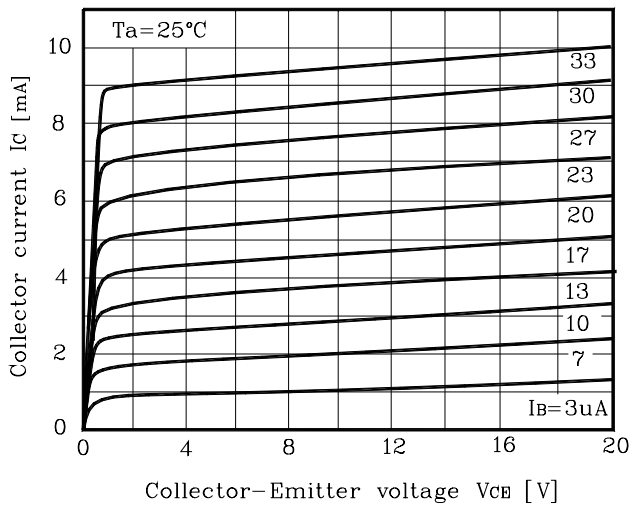


Fig. 4  $h_{FE}$ - $I_C$

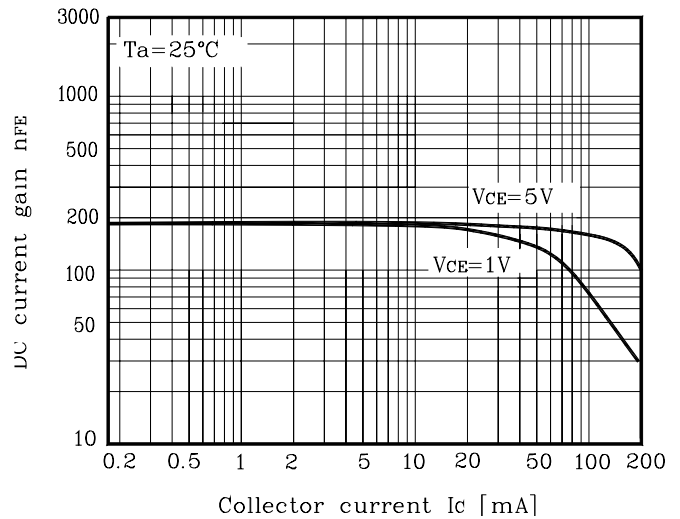
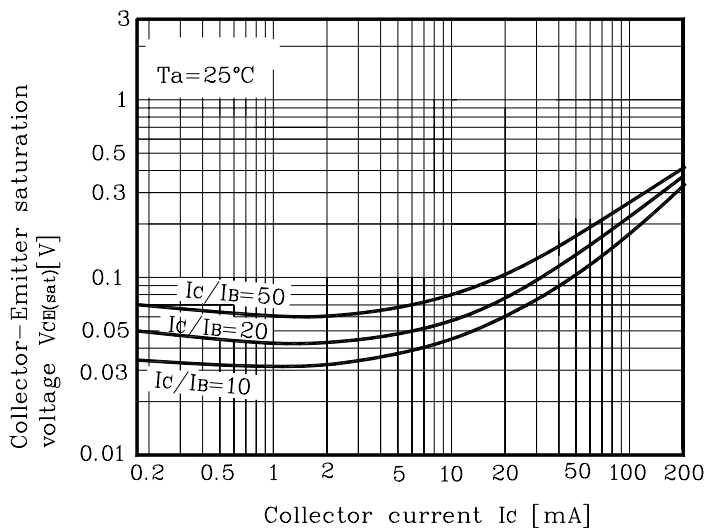
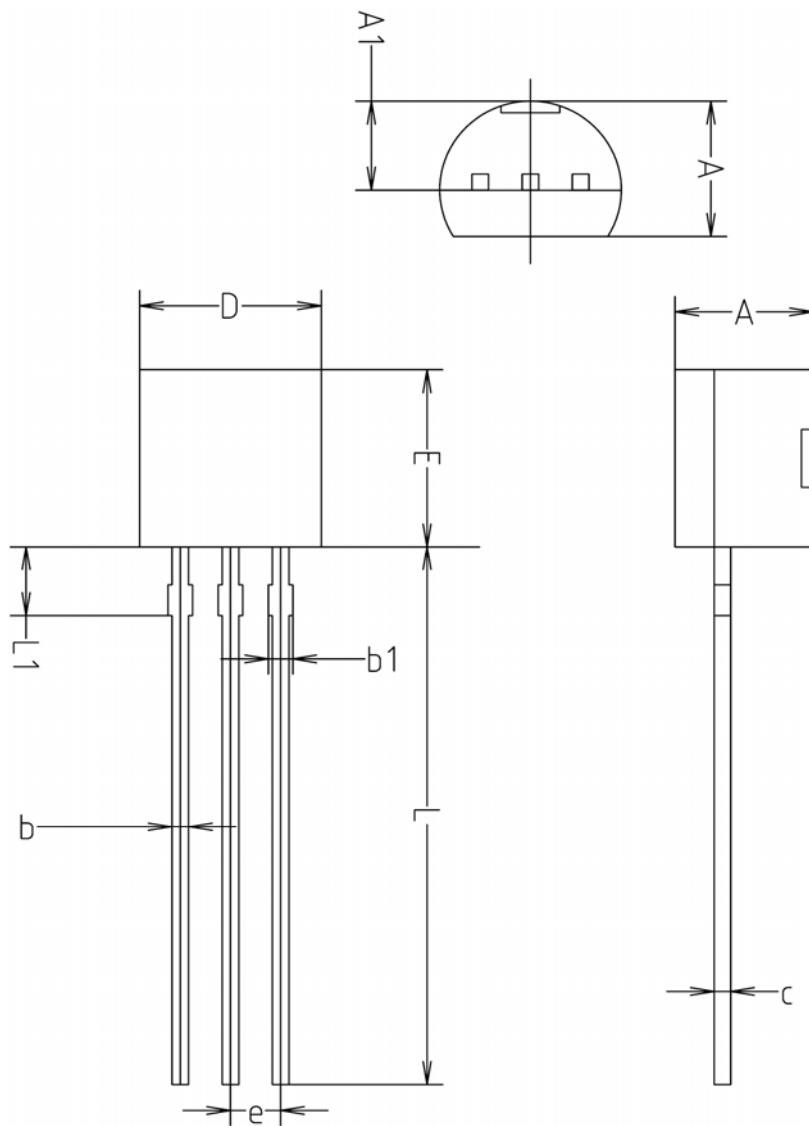


Fig. 5  $V_{CE(sat)}$ - $I_C$



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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