

Descriptions

- General purpose application
- Switching application

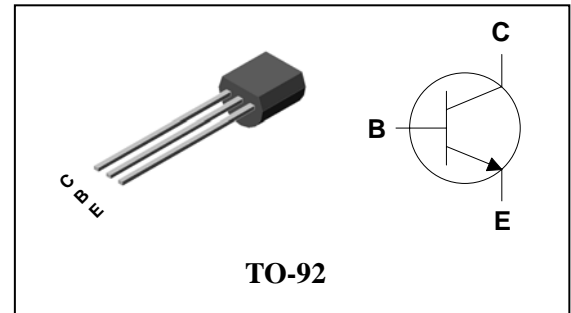
Features

- 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

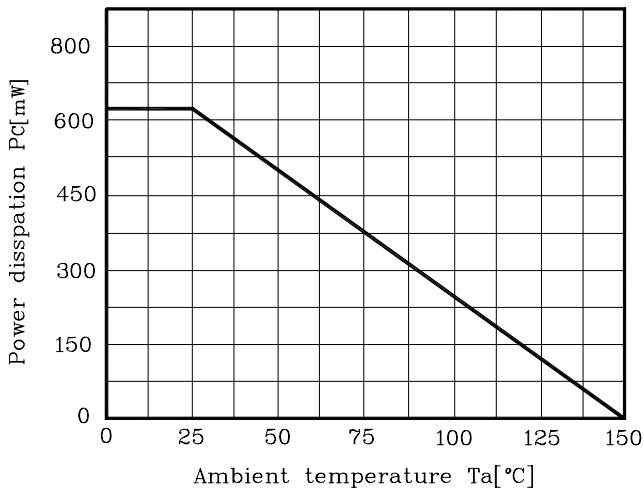


Fig. 2 I_C - V_{BE}

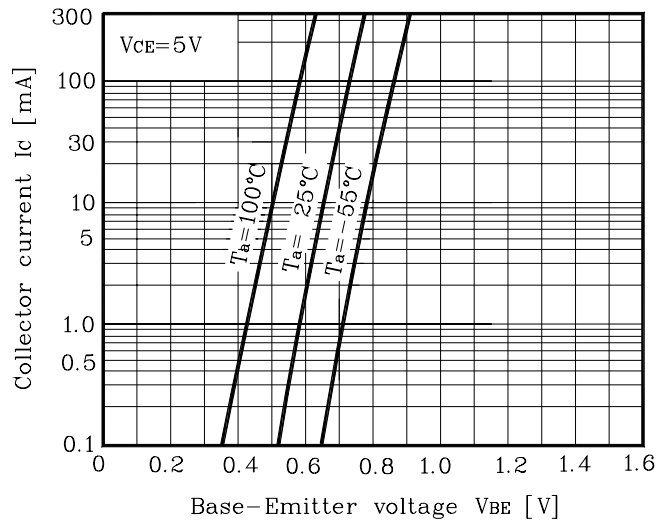


Fig. 3 I_C - V_{CE}

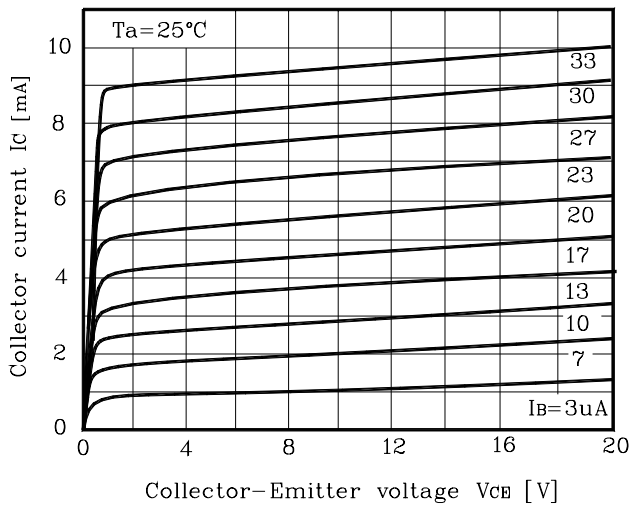


Fig. 4 h_{FE} - I_C

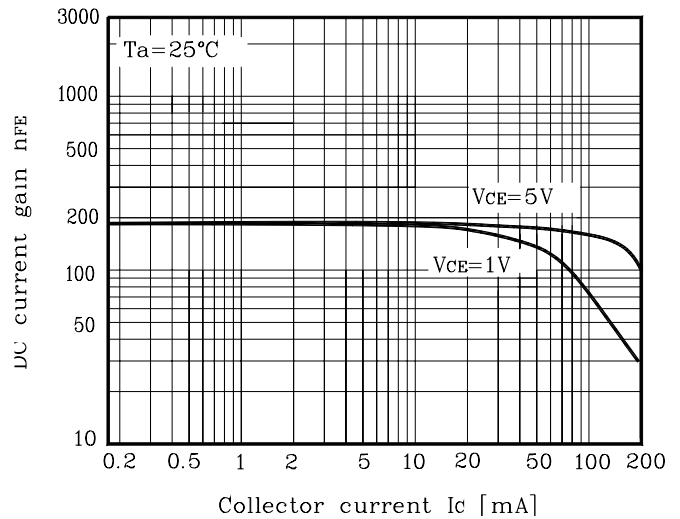
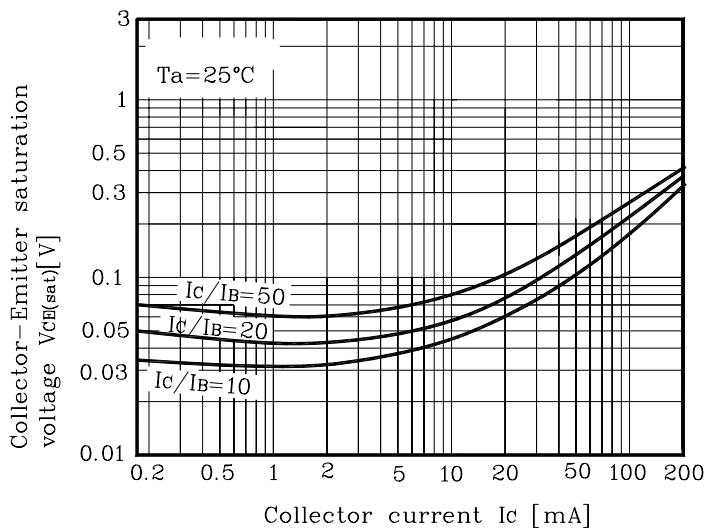
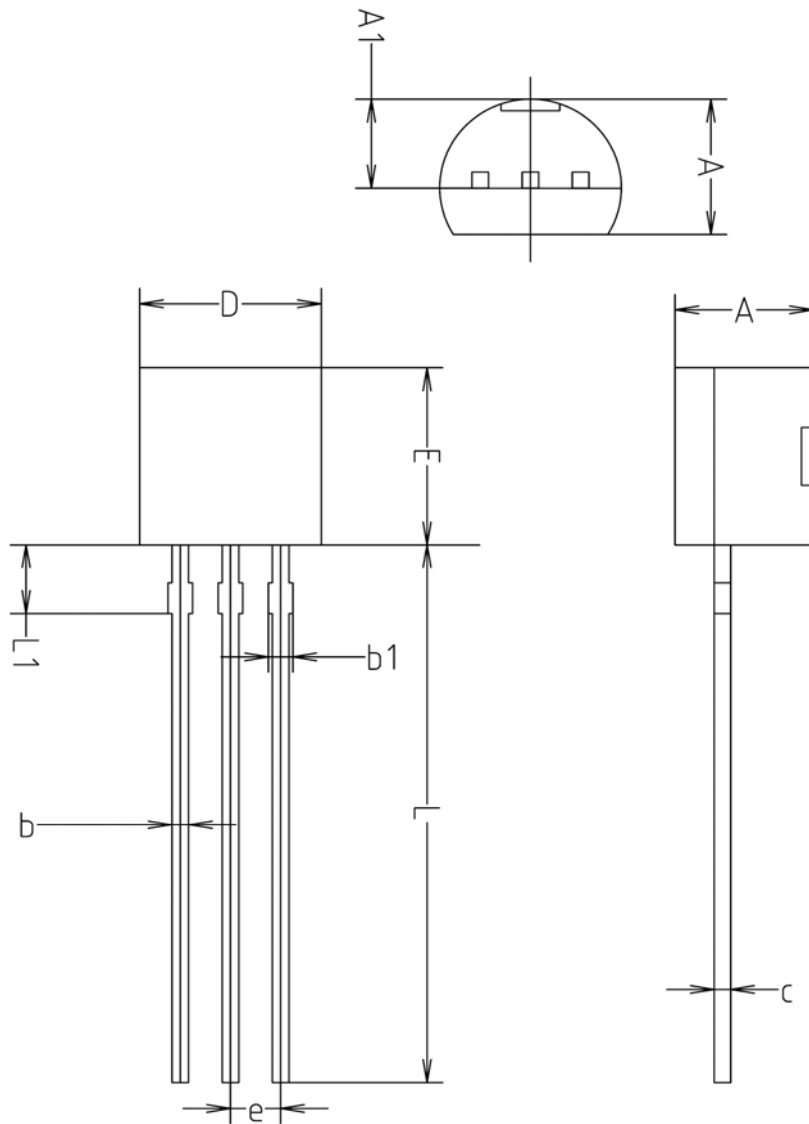


Fig. 5 $V_{CE(sat)}$ - I_C



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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