


Description

- General small signal amplifier

Features

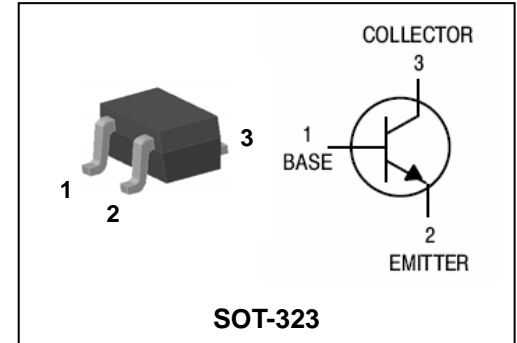
- Low collector saturation voltage : $V_{CE} = 0.4V(\text{Max.})$
- Low output capacitance : $C_{ob} = 2pF(\text{Typ.})$
- Complementary pair with STA1576

Ordering Information

Type NO.	Marking	Package Code
STC4081		SOT-323

①Device Code ②hFE Rank ③Year&Week Code

PIN Connection



Absolute maximum ratings

($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	50	V
Collector-Emitter voltage	V_{CEO}	50	V
Emitter-Base voltage	V_{EBO}	5	V
Collector current	I_C	150	mA
Collector dissipation	P_C	200	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ 150	$^\circ\text{C}$

Electrical Characteristics

($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	$I_C = 50\mu\text{A}, I_E = 0$	50	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	$I_C = 1\text{mA}, I_B = 0$	50	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	$I_E = 50\mu\text{A}, I_C = 0$	5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = 30\text{V}, I_E = 0$	-	-	0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$	-	-	0.5	μA
DC current gain	h_{FE}^*	$V_{CE} = 6\text{V}, I_C = 1\text{mA}$	70	-	700	-
Collector-Emitter saturation voltage	$V_{CE(\text{sat})}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	-	-	0.4	V
Transistion frequency	f_T	$V_{CE} = 12\text{V}, I_C = 2\text{mA}$	-	180	-	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 12\text{V}, I_E = 0, f = 1\text{MHz}$	-	2	-	pF
Noise figure	NF	$V_{CE} = 6\text{V}, I_C = 0.1\text{mA}, f = 1\text{KHz}, R_g = 10\text{K}\Omega$	-	1	10	dB

* : h_{FE} rank / O : 70 ~ 140, Y : 120 ~ 240, G : 200 ~ 400, L : 300 ~ 700

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

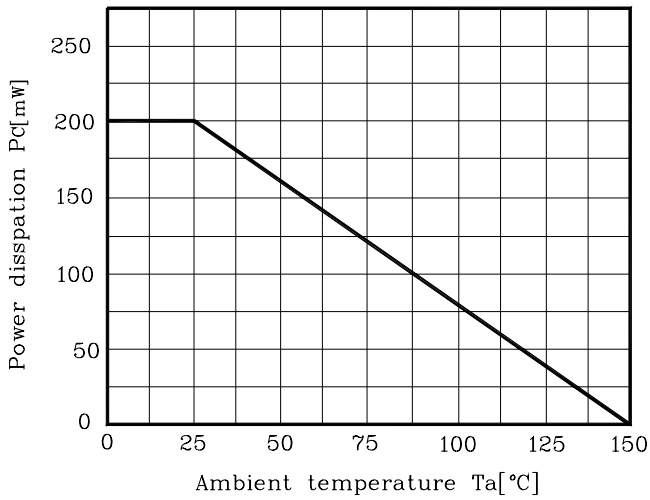


Fig. 2 $I_C - V_{BE}$

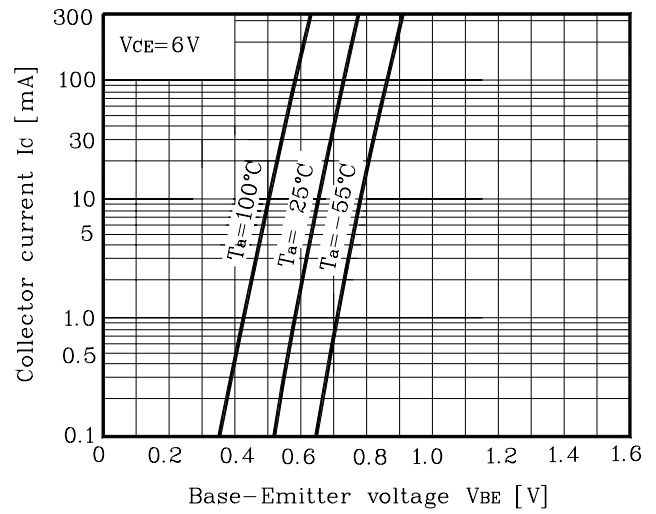


Fig. 3 $I_C - V_{CE}$

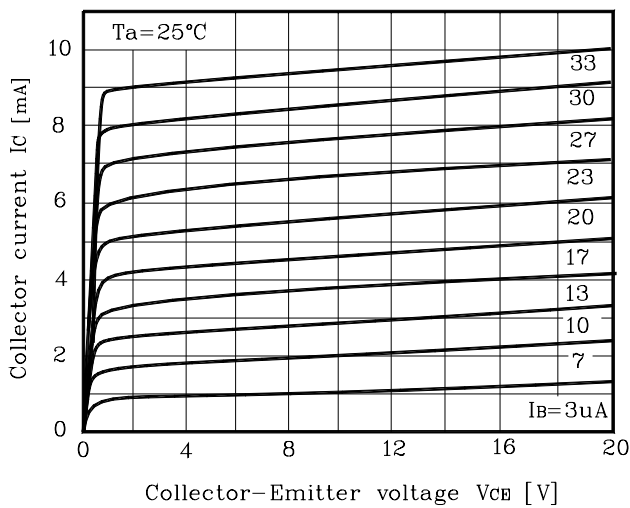


Fig. 4 $h_{FE} - I_C$

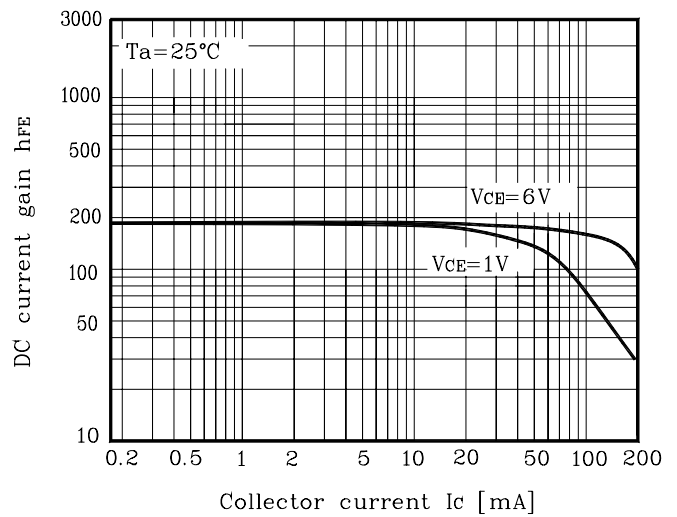
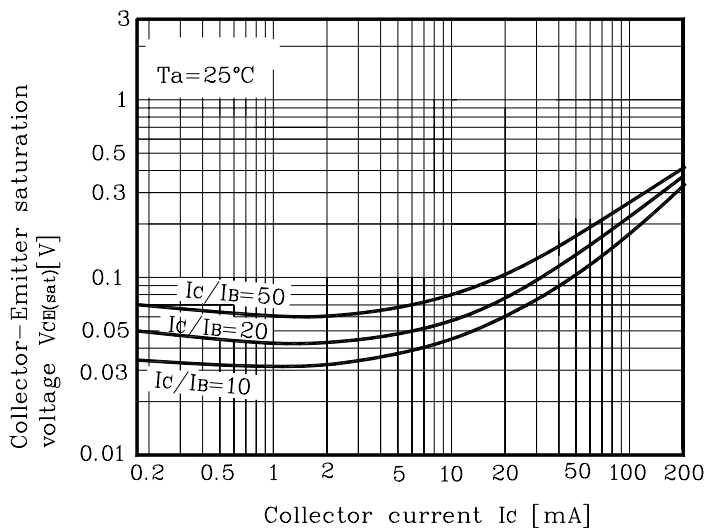
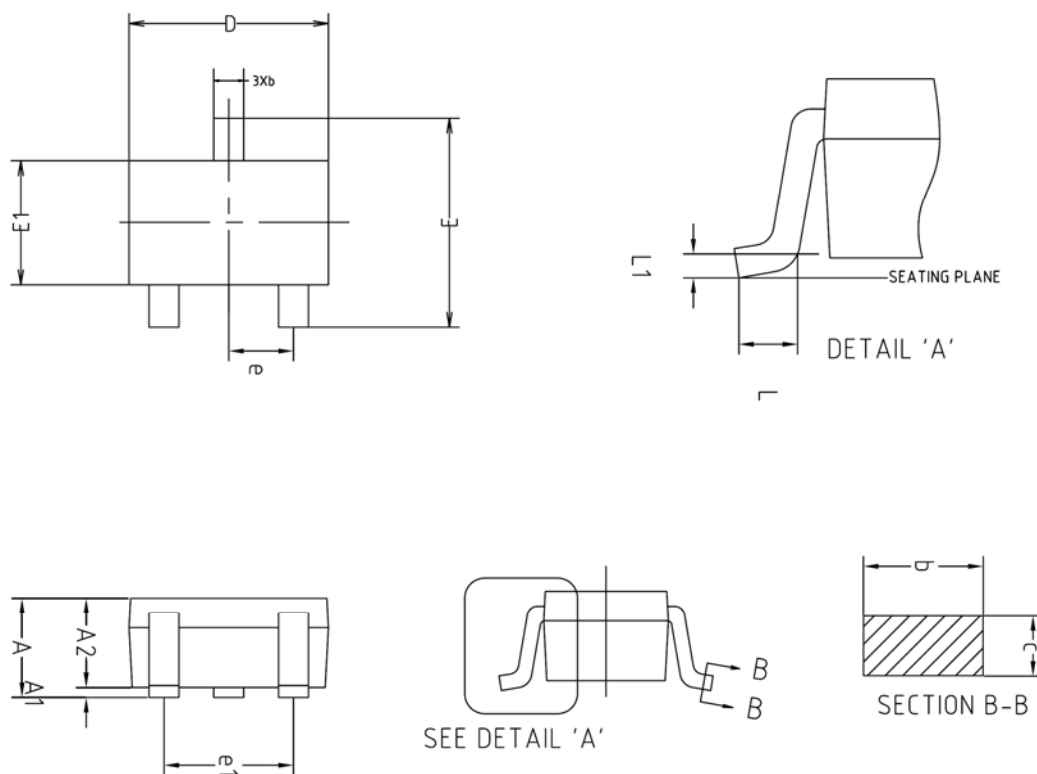


Fig. 5 $V_{CE(sat)} - I_C$

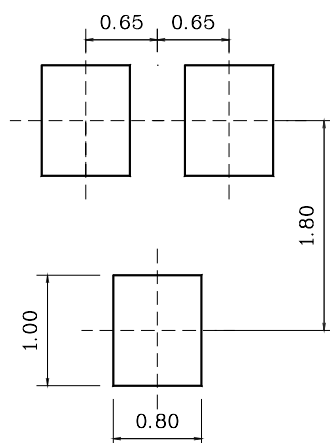


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	0.90	-	1.25	
A1	0.00	-	0.10	
A2	0.85	0.90	0.95	
b	0.30	-	0.40	
c	0.10	-	0.25	
D	1.90	2.00	2.10	
E	1.95	2.10	2.25	
E1	1.15	1.25	1.35	
e	0.65BSC			
e1	1.20	-	1.40	
L	0.10	-	-	
L1	0.12BSC			

※Recommend PCB solder land [Unit: mm]



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