


## Description

- General small signal amplifier

## Features

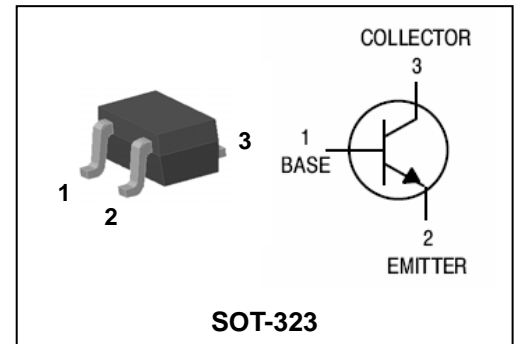
- Low collector saturation voltage :  $V_{CE}=0.4V(\text{Max.})$
- Low output capacitance :  $C_{ob}=2pF(\text{Typ.})$
- Complementary pair with STA1576

## 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	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$	-	-	0.5	$\mu\text{A}$
DC current gain	$h_{FE}^*$	$V_{CE}=6\text{V}, I_C=1\text{mA}$	70	-	700	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$	-	-	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  $P_C - T_a$

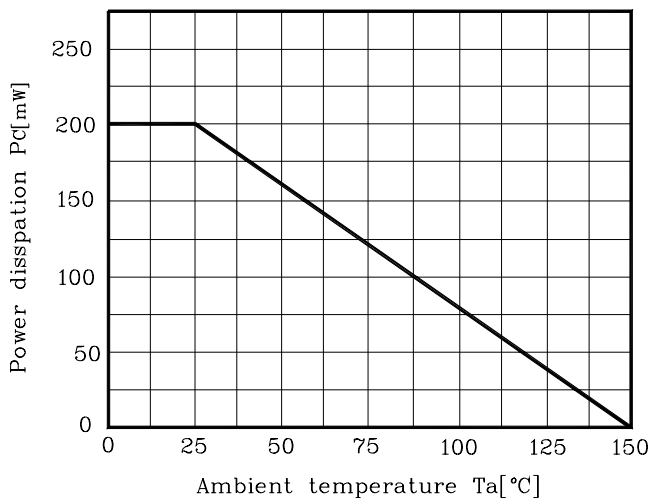


Fig. 2  $I_C - V_{BE}$

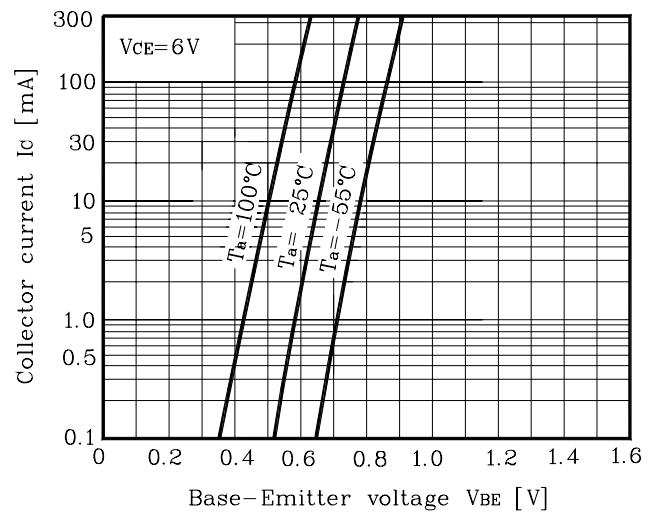


Fig. 3  $I_C - V_{CE}$

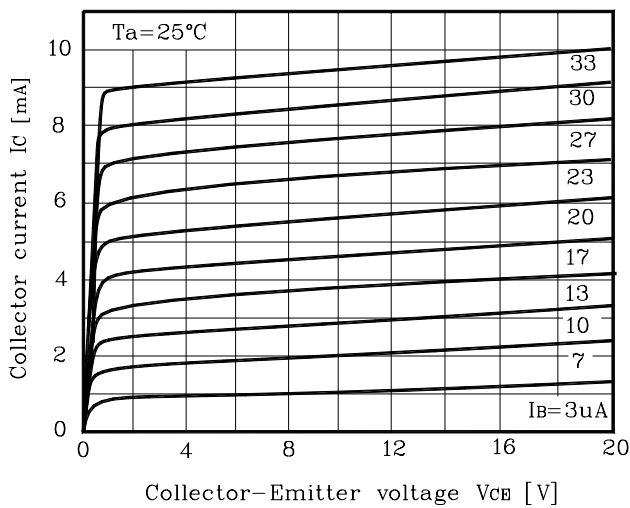


Fig. 4  $h_{FE} - I_C$

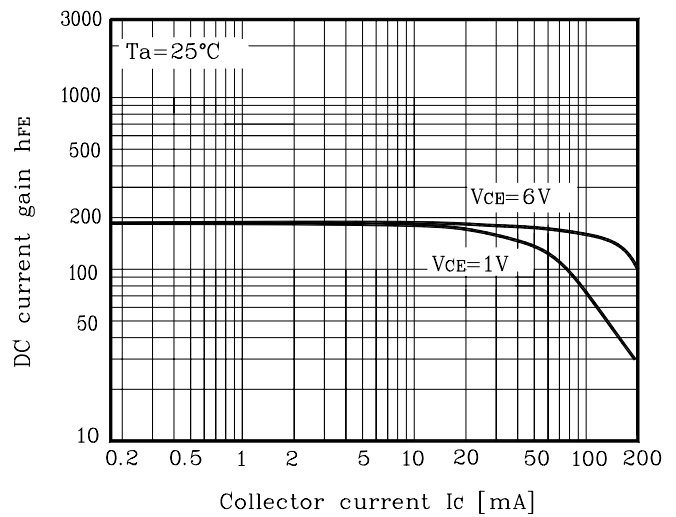
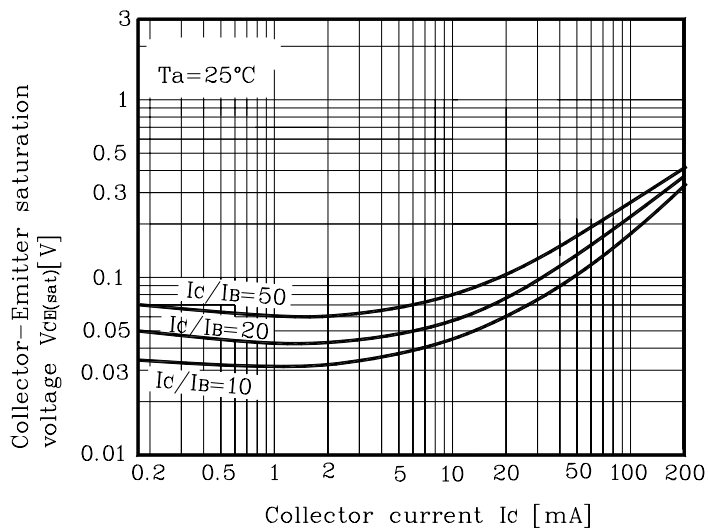
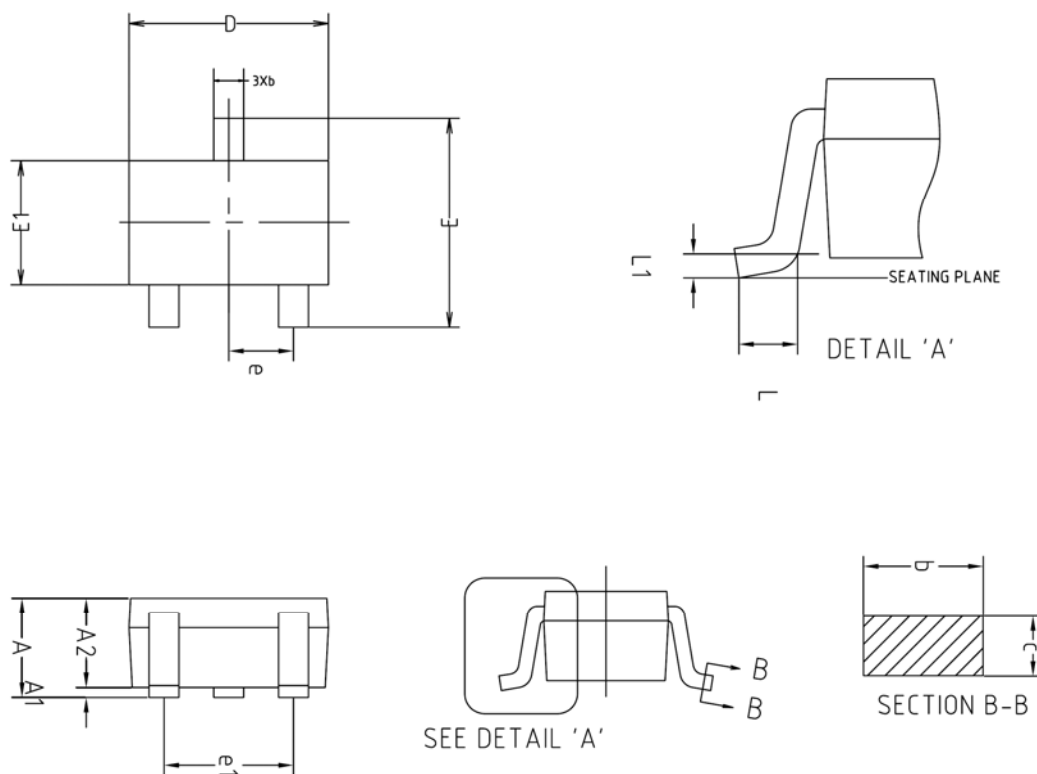


Fig. 5  $V_{CE(sat)} - I_C$

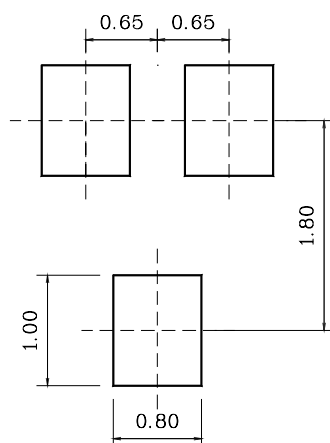


## Outline Dimension



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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