

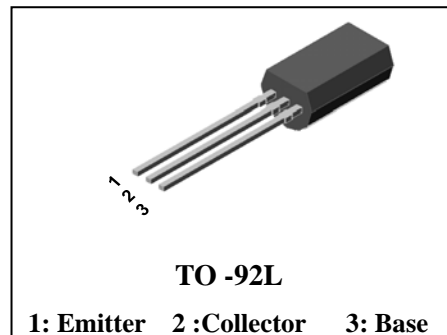
## Applications

- Power amplifier application
- High current switching application

## Features

- High current :  $I_C=2A$
- Complementary pair with STA3250L

## PIN Connection



## Ordering Information

Type NO.	Marking	Package Code
STC4250L	STC4250 YWW	TO-92L

HW2: DEVICE CODE, YWW(Y : Year code, WW : Weekly code)

## Absolute Maximum Ratings

[ $T_a=25^\circ\text{C}$ ]

Characteristic	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	50	V
Collector-emitter voltage	$V_{CEO}$	50	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	2	A
Base current	$I_B$	0.4	A
Collector Power dissipation	$P_C$	1	W
	$P_C^*$	2	W
Junction temperature	$T_J$	150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55~150	$^\circ\text{C}$

\* Device mounted on ceramic substrate ( $250\text{mm}^2 \times 0.8\text{t}$ )

## Electrical Characteristics

[Ta=25°C]

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C=10mA, I_B=0$	50	-	-	V	
Collector cut-off current	$I_{CBO}$	$V_{CB}=50V, I_E=0$	-	-	0.1	$\mu A$	
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_C=0$	-	-	0.1	$\mu A$	
DC current gain	$h_{FE}$	$V_{CE}=2V, I_C=0.5A^*$	120	-	240		
	$h_{FE}$	$V_{CE}=2V, I_C=1.5A^*$	40	-	-		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1A, I_B=0.05A^*$	-	-	0.35	V	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=1A, I_B=0.05A^*$	-	-	1.2	V	
Transition frequency	$f_T$	$V_{CE}=2V, I_C=50mA$	-	240	-	MHz	
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$	-	15	-	pF	
Switching Time	Turn-on Time	$t_{on}$		-	100	-	nS
	Storage Time	$t_{stg}$		-	300	-	
	Fall Time	$t_f$		-	50	-	

\*: Pulse test:  $t_p \leq 300\mu s$ , Duty cycle  $\leq 2\%$

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

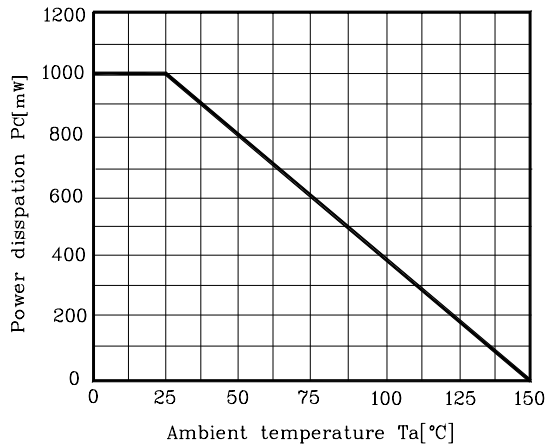


Fig. 2  $I_C - V_{BE}$

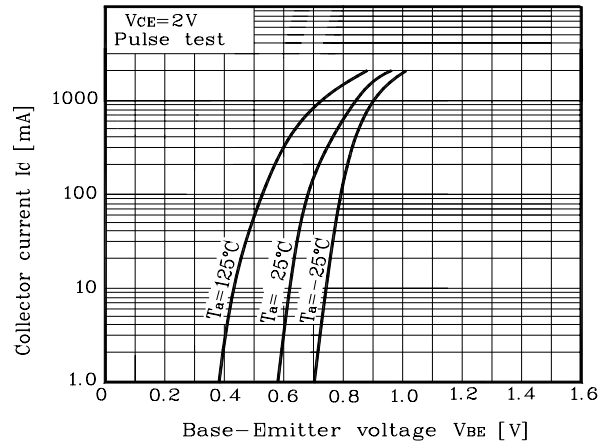


Fig. 3  $I_C - V_{CE}$

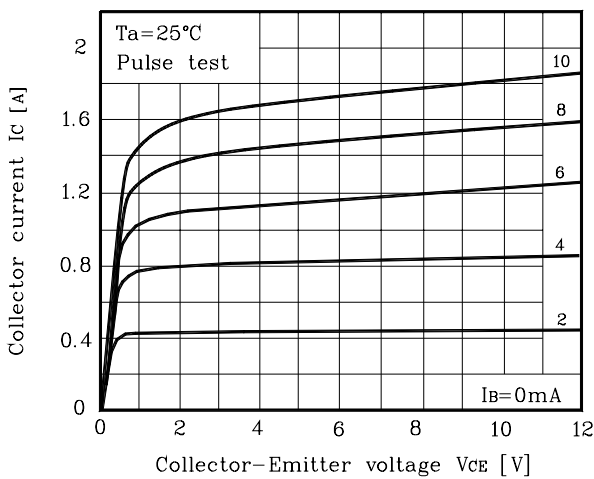


Fig. 4  $h_{FE} - I_C$

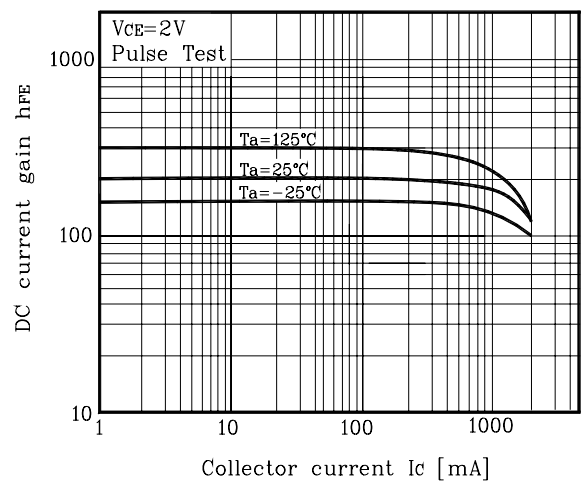


Fig. 5  $V_{CE(sat)} - I_C$

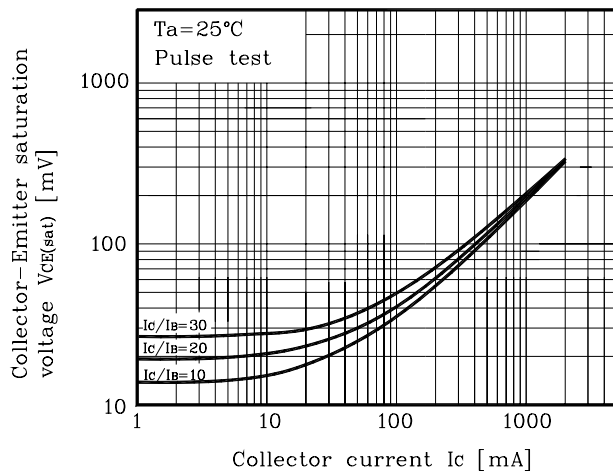
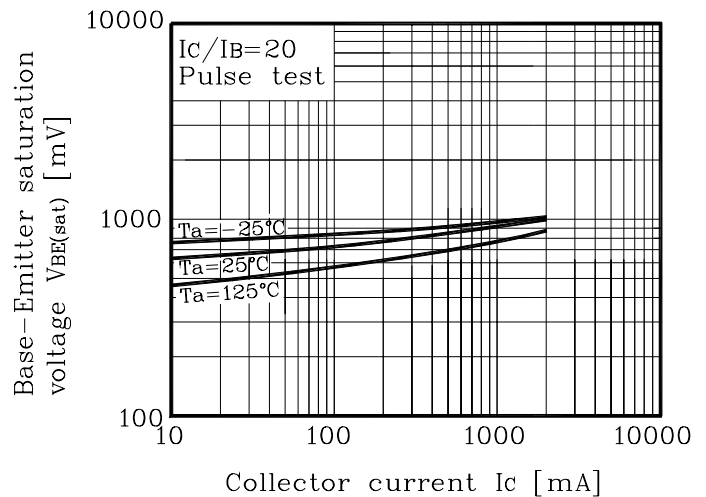


Fig. 6  $V_{BE(sat)} - I_C$



Electrical Characteristic Curves

Fig. 7  $C_{Ob} - V_{CB}$

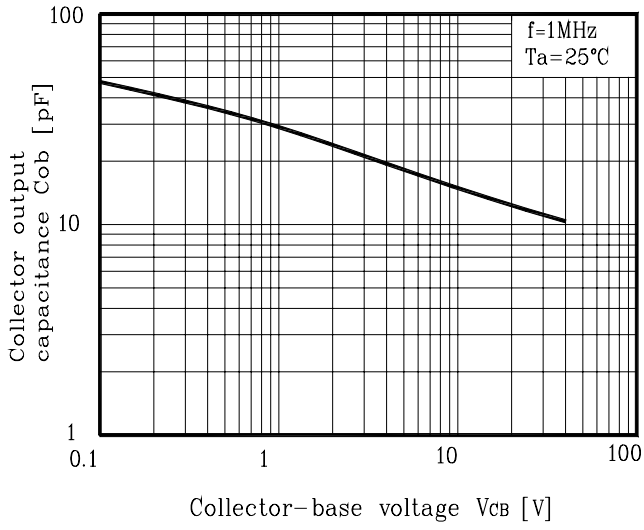
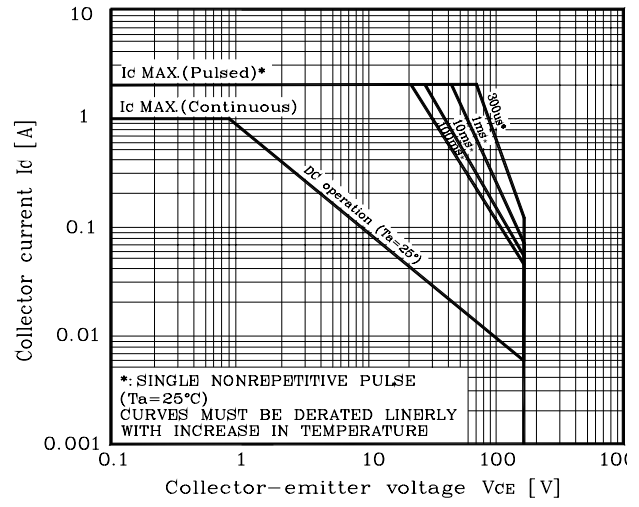
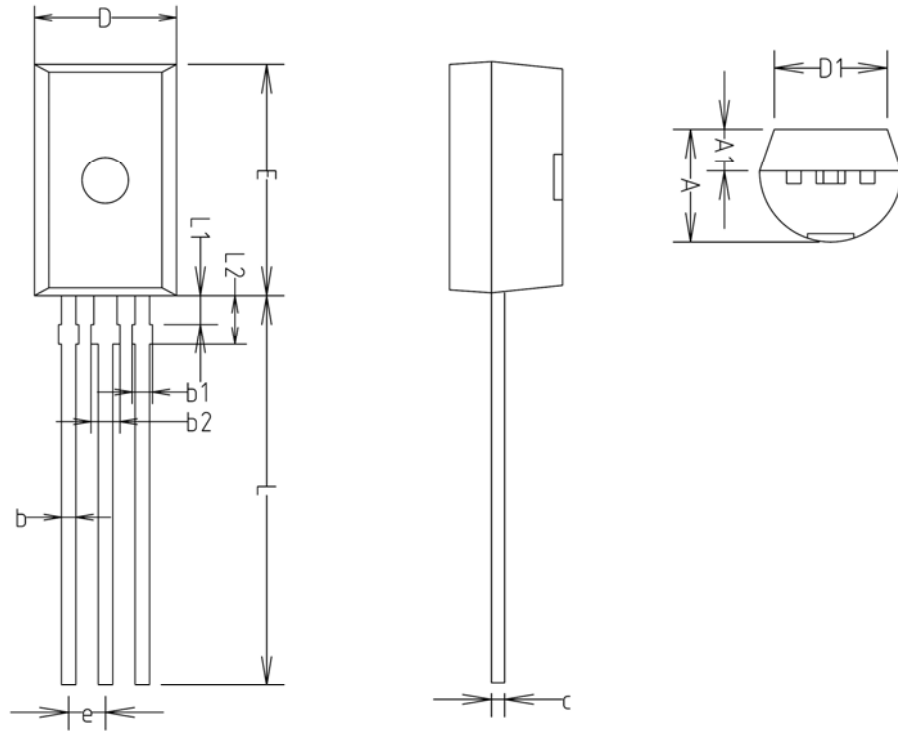


Fig. 8 Safe Operating Area



## Outline Dimension(mm)



SYMBOL	MILLMETERS(mm)			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	3.70	3.90	4.10	
A1	1.25	1.45	1.65	
b	0.40	0.50	0.60	
b1	—	—	0.70	
b2	—	—	1.00	
c	0.35	0.45	0.55	
D	4.70	4.90	5.10	
D1	3.70	3.90	4.10	
E	7.80	8.00	8.20	
e	1.27 TYP			
L	13.10	13.50	13.90	
L1	0.90	1.00	1.10	
L2	1.50	1.70	1.90	

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