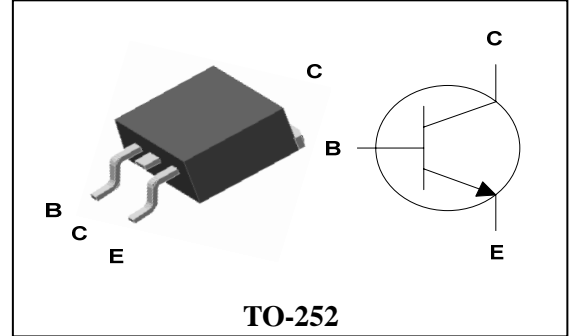


## Features

- Low saturation switching application
- Voltage regulator application
- Low saturation :  $V_{CE(SAT)}=0.4V$  Max.
- High Voltage :  $V_{CEO}=60V$  Min.

## PIN Connection



## Ordering Information

Type NO.	Marking	Package Code
STC401D	STC401□	TO-252

□ : Year & Week Code

## Absolute maximum ratings

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	$V_{CBO}$	80	V
Collector-Emitter voltage	$V_{CEO}$	60	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	1	A(DC)
	$I_{CP}^*$	2	A(Pulse)
Collector dissipation	$P_C(T_a=25^\circ C)$	1	W
	$P_C(T_C=25^\circ C)$	10	
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55~150	$^\circ C$

\* : Single pulse,  $t_p=300 \mu s$

## Electrical Characteristics

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	$BV_{CBO}$	$I_C=100\ \mu A, I_E=0$	80	-	-	V
Collector-Emitter breakdown voltage	$BV_{CEO}$	$I_C=1mA, I_B=0$	60	-	-	V
Emitter-Base breakdown voltage	$BV_{EBO}$	$I_E=10mA, I_C=0$	5	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60V, I_E=0$	-	-	0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_C=0$	-	-	0.1	$\mu A$
DC current gain	$h_{FE}^*$	$V_{CE}=2V, I_C=100mA$	200	-	400	-
		$V_{CE}=2V, I_C=1A$	80	-	-	
Base-Emitter on voltage	$V_{BE(ON)}$	$V_{CE}=2V, I_C=500mA$	-	-	1.2	V
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$	-	-	0.4	V
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$	-	10	-	pF
Transition frequency	$f_T$	$V_{CB}=10V, I_C=50mA$	-	160	-	MHz

\*  $h_{FE}$  rank : 200~ 400 Only

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

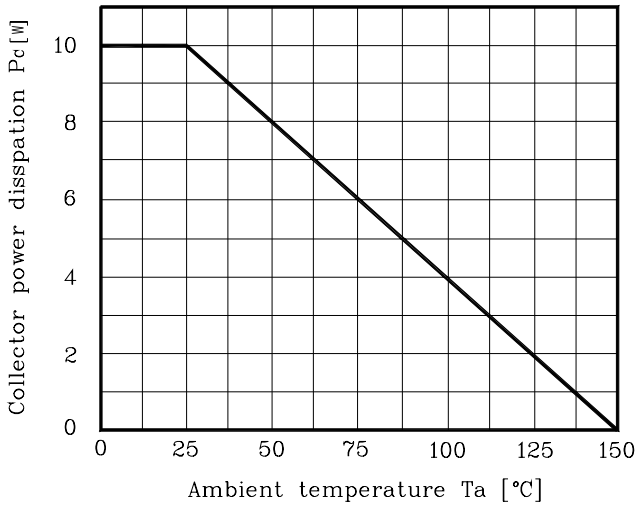


Fig. 2  $V_{CE} - I_C$

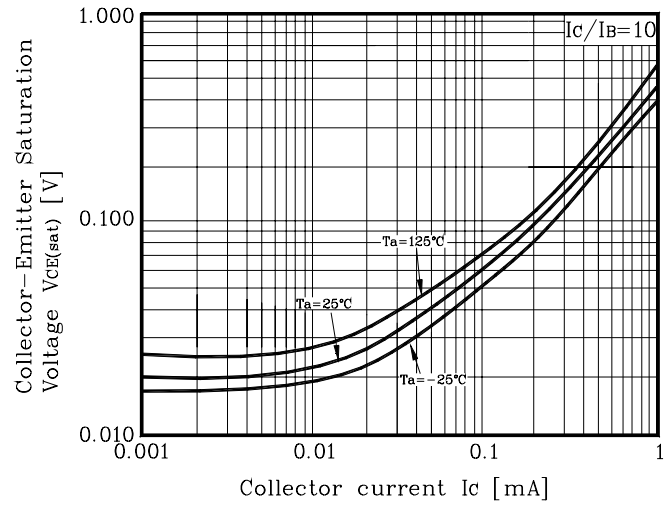


Fig. 3  $h_{FE} - I_C$

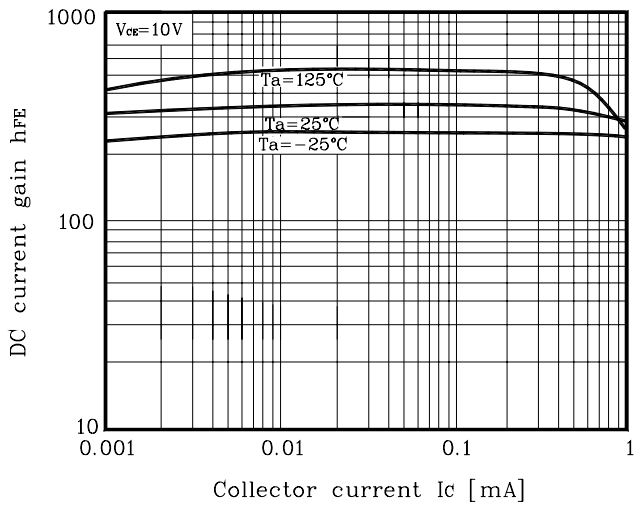


Fig. 4  $h_{FE} - I_C$

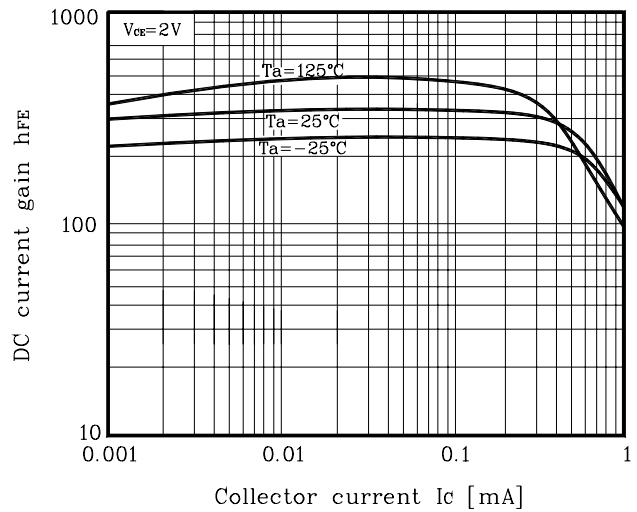


Fig. 5  $h_{FE} - I_C$

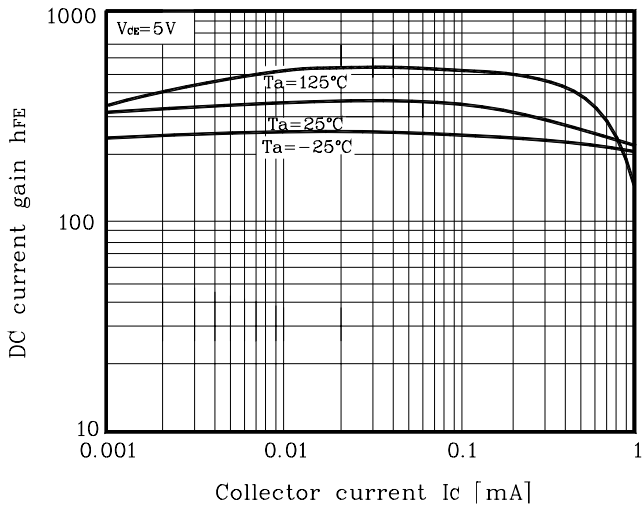
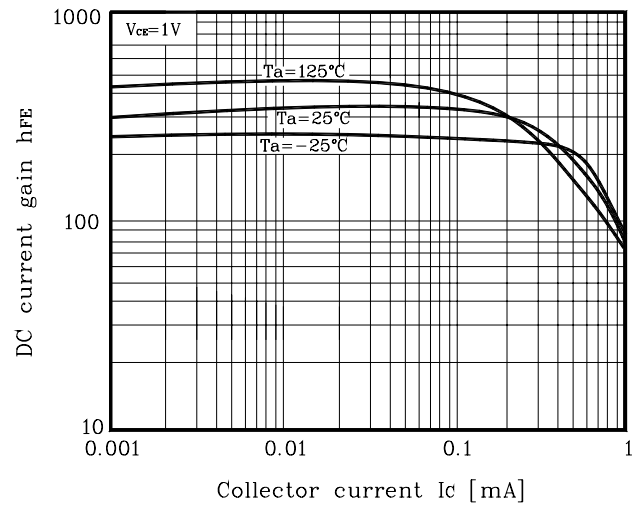
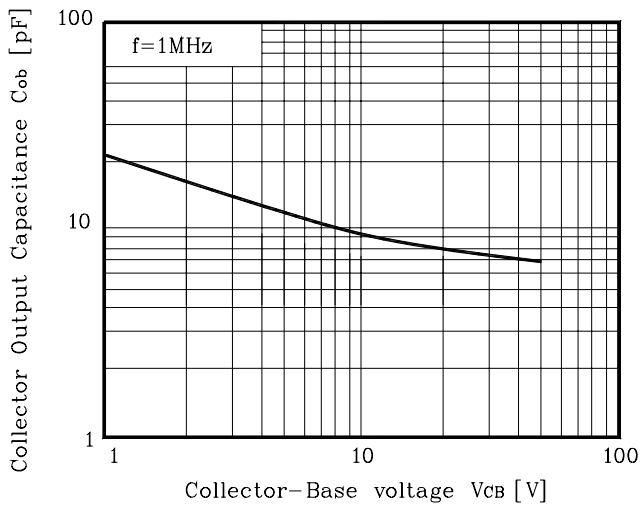


Fig. 6  $h_{FE} - I_C$

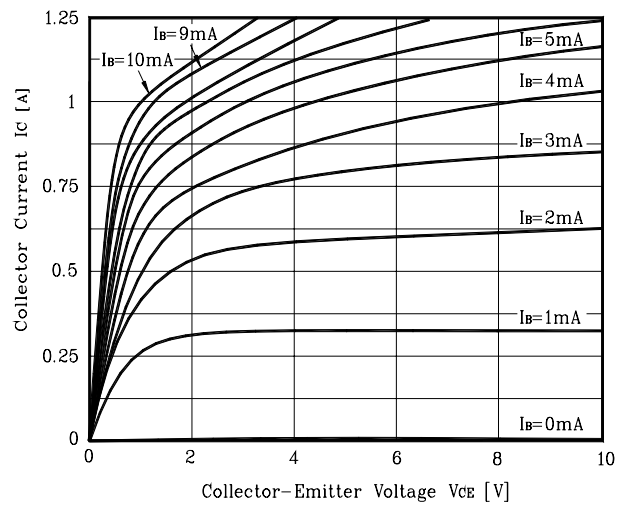


## Electrical Characteristic Curves

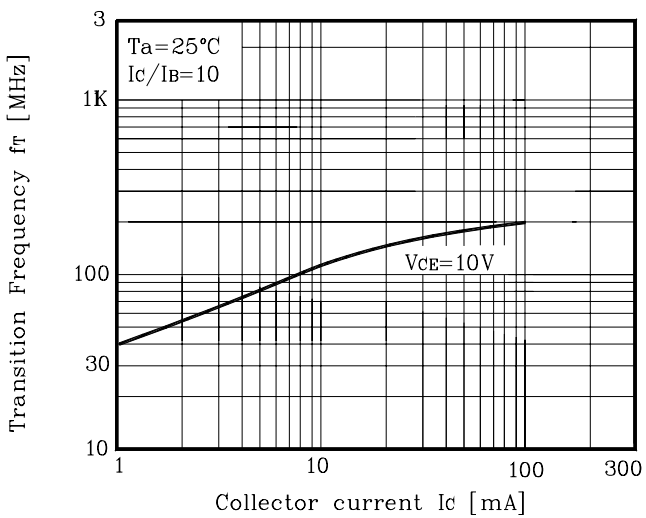
**Fig. 7**  $C_{ob} - V_{CB}$



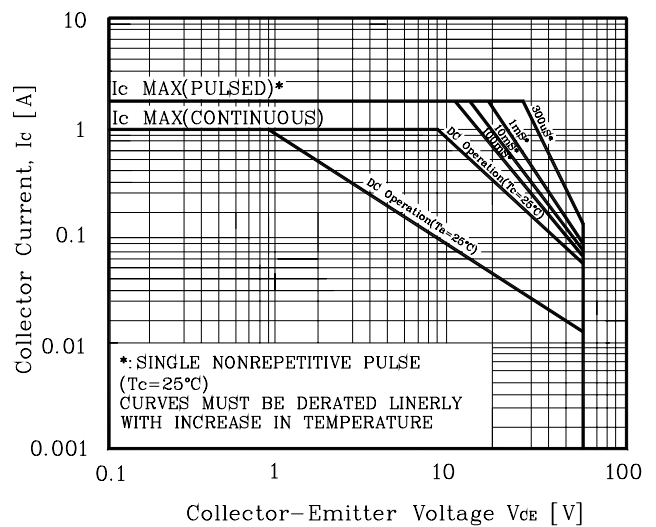
**Fig. 8**  $I_C - V_{CE}$



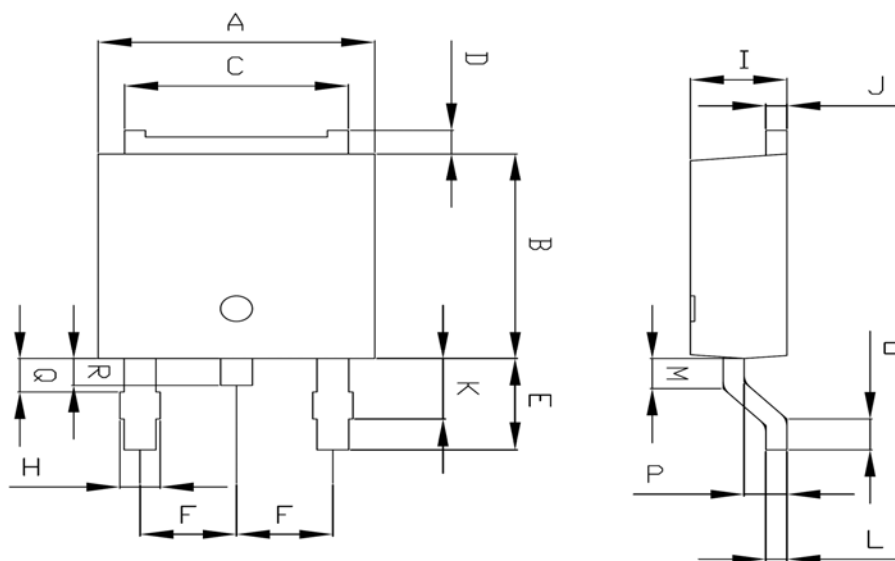
**Fig. 9**  $f_T - I_C$



**Fig. 10** Safe operating Area

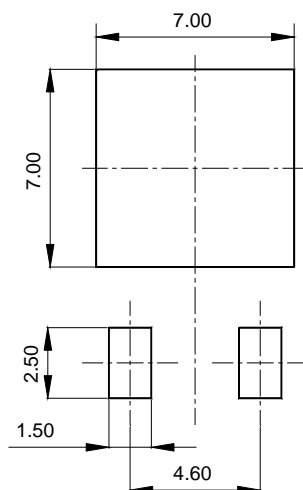


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	6.40	6.60	6.80	
B	5.90	6.10	6.30	
C	5.04	5.34	5.64	
D	0.50	0.70	0.90	
E	2.50	2.70	2.90	
F	2.10	2.30	2.50	
H	0.96 MAX			
I	2.20	2.30	2.40	
J	0.40	0.50	0.60	
K	1.60	1.80	2.00	
L	0.40	0.50	0.60	
M	0.81	0.91	1.01	
O	0.80	0.90	1.00	
P	0.90	1.00	1.10	
Q	0.95 MAX			
R	0.60	0.80	1.00	

※Recommend PCB solder land [Unit: mm]



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