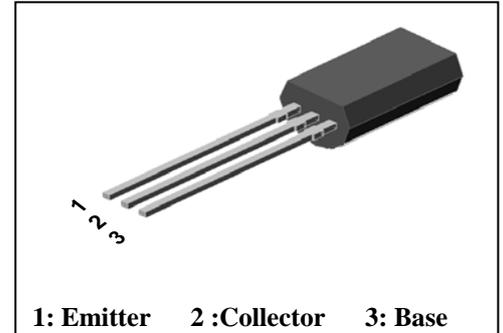


Features

- 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
STC401L	STC401L	TO-92L

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	1000	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ 150	°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	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$	-	-	0.1	μA
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 $P_C - T_a$

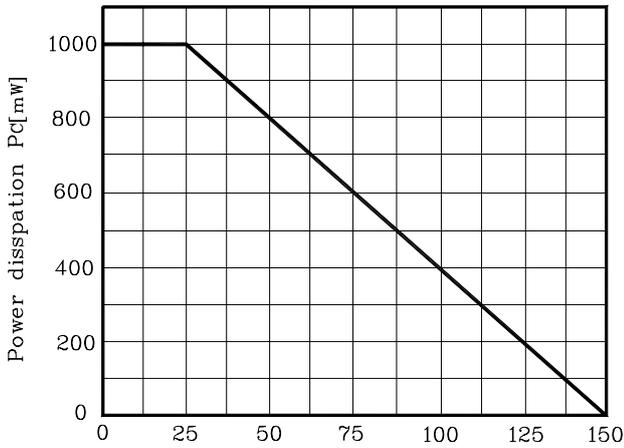


Fig. 2 $V_{CE} - I_C$

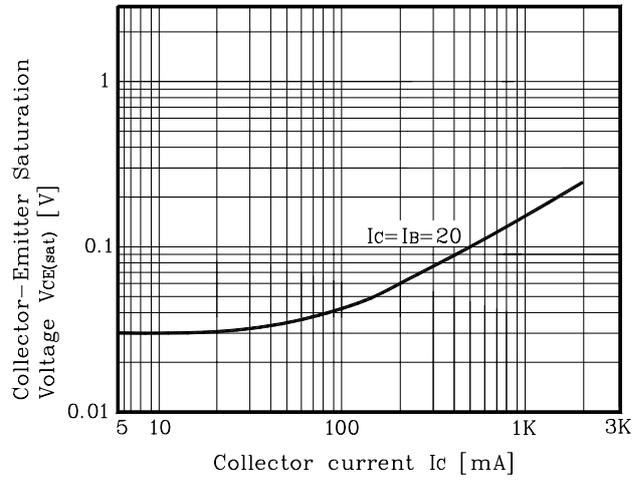


Fig. 3 $h_{FE} - I_C$

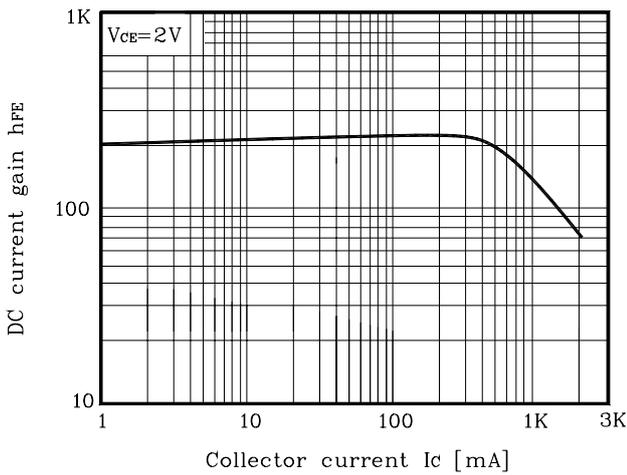


Fig. 4 $C_{ob} - V_{CB}$

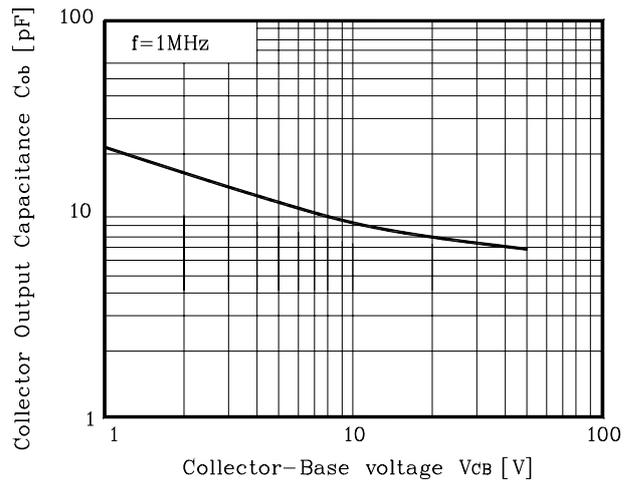


Fig. 5 $I_C - V_{CE}$

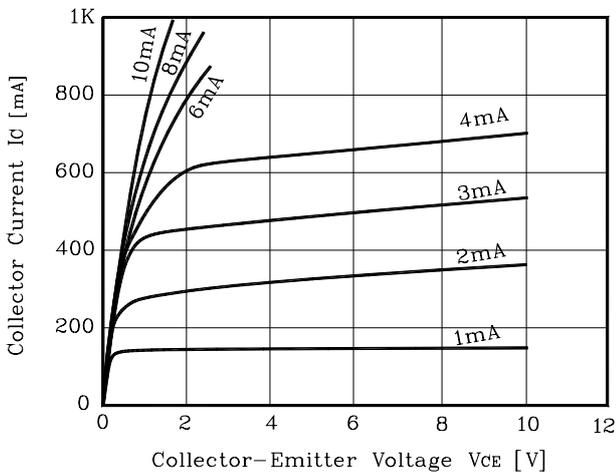
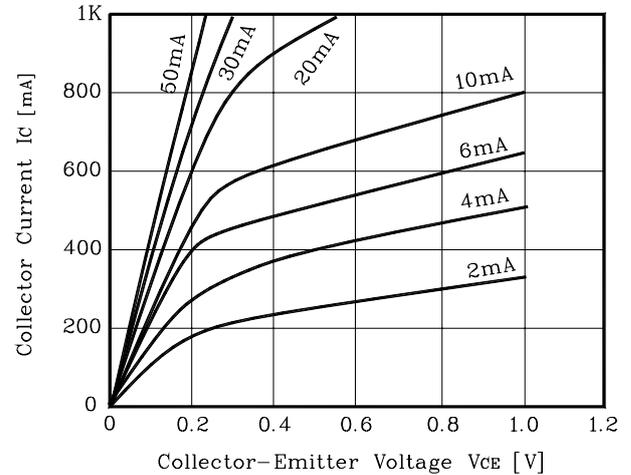


Fig. 6 $I_C - V_{CE}$



Electrical Characteristic Curves

Fig. 7 $f_T - I_C$

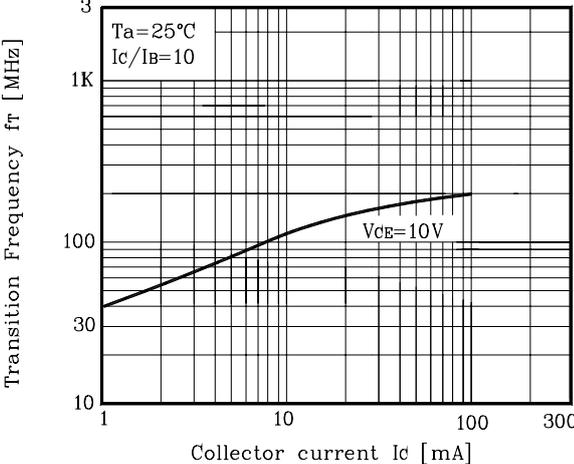
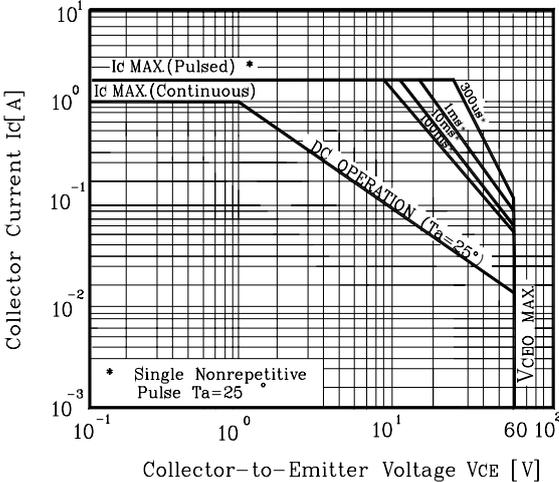
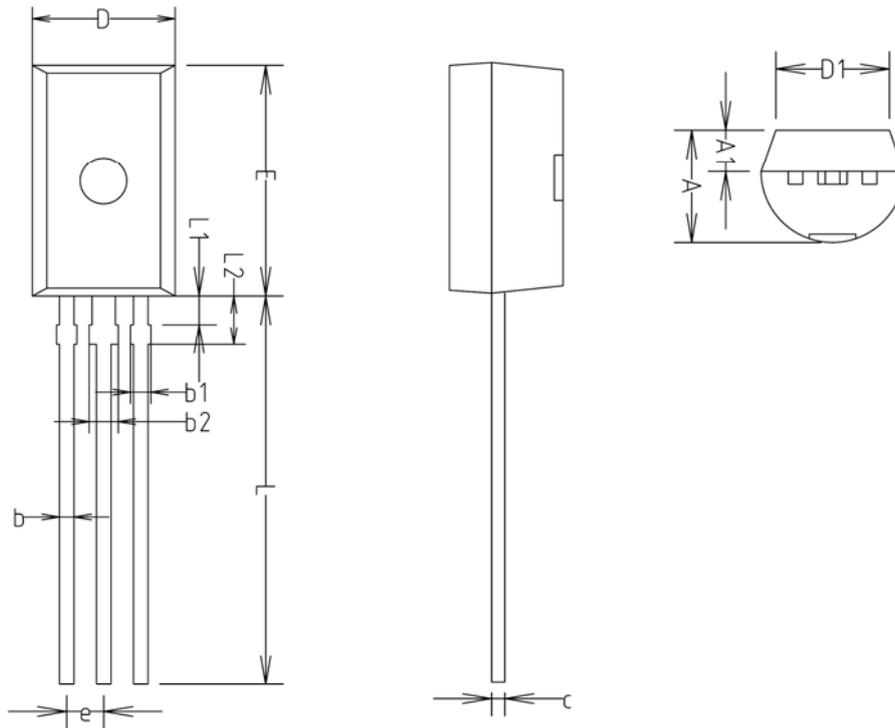


Fig. 8 Safe operating Area



Outline Dimension



SYMBOL	MILLIMETERS(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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