

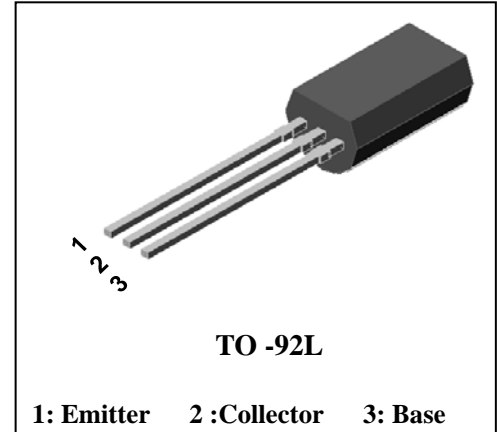
Applications

- Power amplifier application
- High current switching application.

Features

- Power Transistor General Purpose application
- Low saturation voltage : $V_{CE(SAT)} = 0.4V$ Typ.
- High Voltage : $V_{CEO} = 60V$ Min.

PIN Connection



Ordering Information

Type NO.	Marking	Package Code
STC403L	STC403	TO-92L

Absolute maximum ratings

Characteristic	Symbol	Rating	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	3	A(DC)
	* I_{CP}	6	A(Pulse)
Collector power dissipation	P_C	1	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55~150	°C

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

Characteristic	Symbol	Typ.	Max	Unit
Thermal resistance	$R_{th(J-a)}$	-	125.0	°C/W

Electrical Characteristics

Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Emitter breakdown voltage		BV_{CEO}	$I_C = 50\text{mA}, I_B = 0$	60	-	-	V
Collector cut-off current		I_{CBO}	$V_{CB} = 60\text{V}, I_E = 0$	-	-	50	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$	-	-	50	μA
DC current gain		h_{FE}^*	$V_{CE} = 5\text{V}, I_C = 0.5\text{A}$	200	-	400	-
Base-Emitter on voltage		$V_{BE(ON)}$	$V_{CE} = 5\text{V}, I_C = 0.5\text{A}$	-	0.7	1	V
Collector-Emitter saturation voltage		$V_{CE(sat)}$	$I_C = 2\text{A}, I_B = 0.2\text{A}$	-	0.4	1	V
Transition frequency		f_T	$V_{CB} = 5\text{V}, I_C = 0.5\text{A}$	-	30	-	MHz
Collector output capacitance		C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	-	35	-	pF
Switching Time	Turn-on Time	t_{on}	<p style="text-align: center;"> $I_{B1} = -I_{B2} = 0.2\text{A}$ DUTY CYCLE $\leq 1\%$ </p>	-	0.65	-	μs
	Storage Time	t_{stg}		-	1.3	-	
	Fall Time	t_f		-	0.65	-	

* h_{FE} rank : 200~400 Only

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

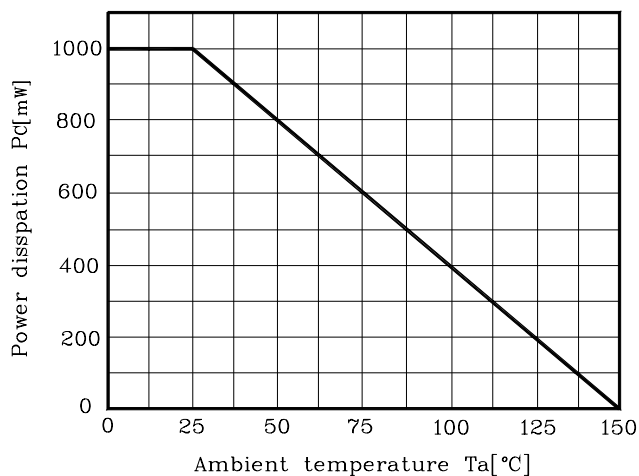


Fig. 2 $V_{CE} - I_C$

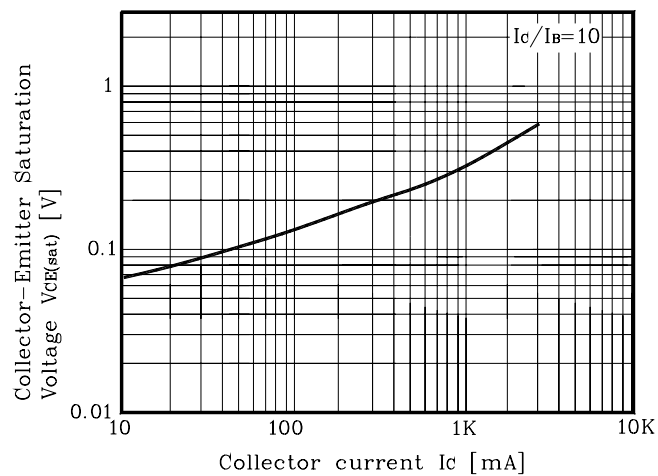


Fig. 3 $h_{FE} - I_C$

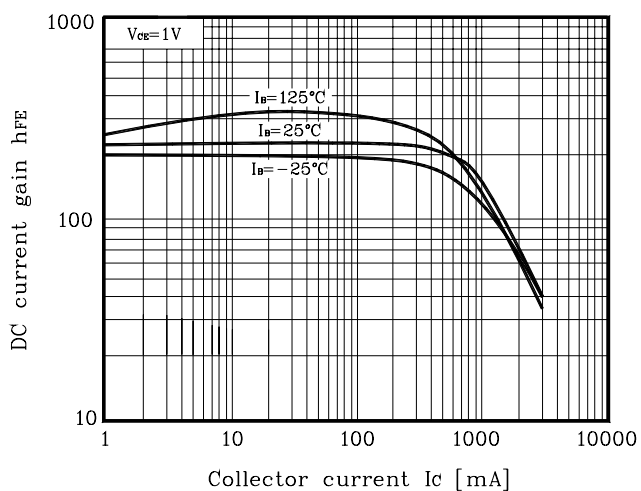


Fig. 4 $h_{FE} - I_C$

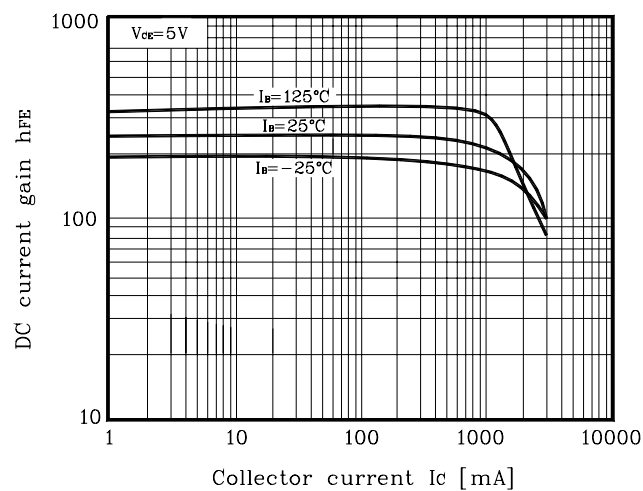


Fig. 5 $I_C - V_{CE}$

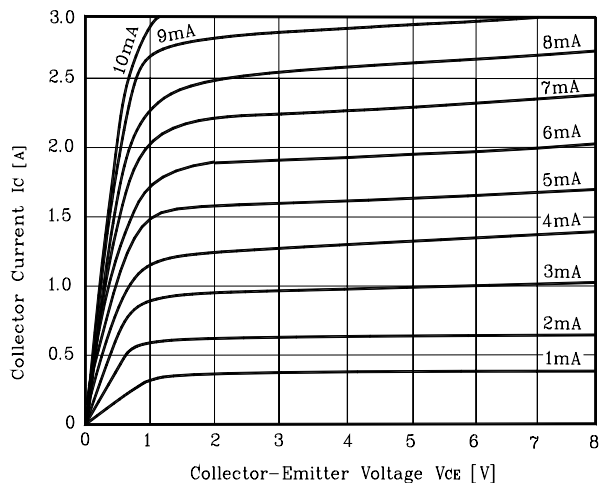
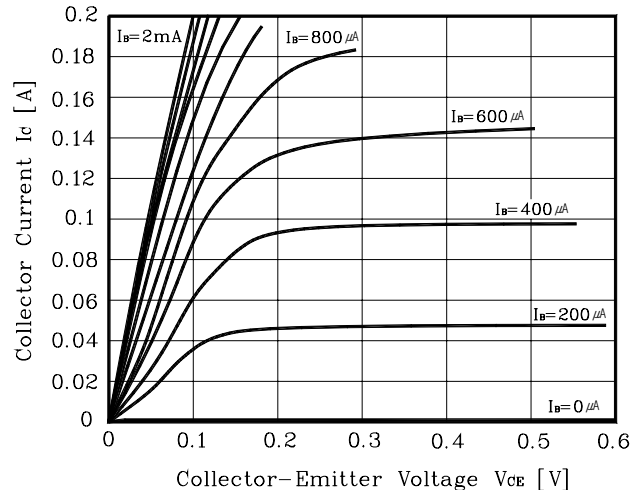
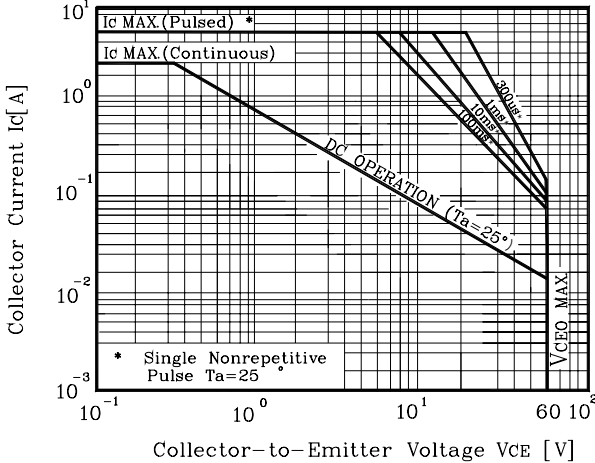


Fig. 6 $I_C - V_{CE}$

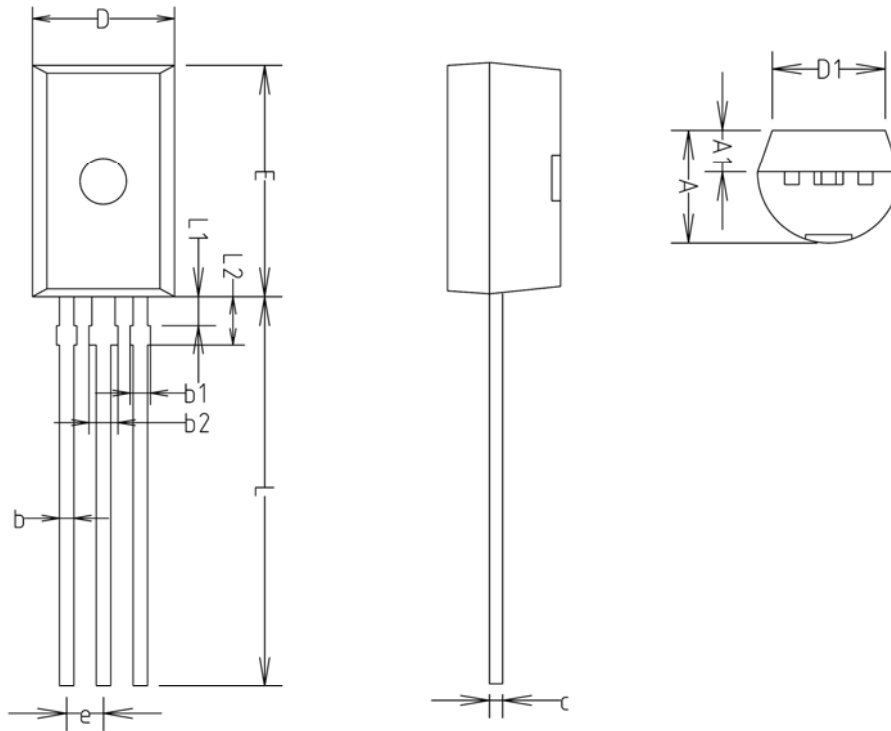


Electrical Characteristic Curves

Fig. 7 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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