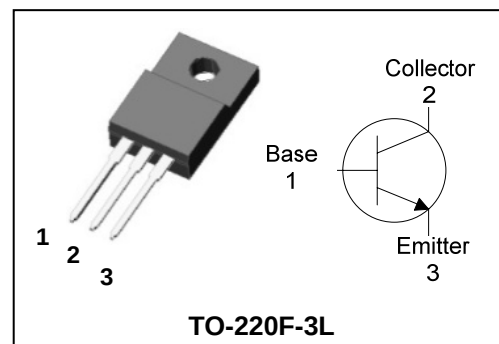


Features

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

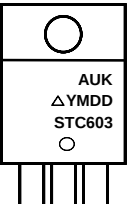
PIN Connection



Ordering Information

Type NO.	Marking	Package Code
STC603PI	STC603	TO-220F-3L

Marking Diagram

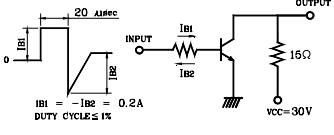
	Column 1 : Manufacturer Column 2 : Production Information – Δ : Factory Management Code – YMDD : Date Code (Year, Month, Date) Column 3 : Device Code
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Absolute maximum ratings

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
Collector power dissipation ($T_c = 25^\circ C$)	P_C	15	W
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 ~ 150	$^\circ C$

Characteristic		Symbol	Typ.	Max.	Unit
Thermal resistance	Junction-case	$R_{th(J-C)}$	-	8.33	$^\circ C/W$

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	-	MH
Collector output capacitance		C_{ob}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$	-	20	-	pF
Switching Time	Turn-on Time	T_{on}		-	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 $P_C - T_a$

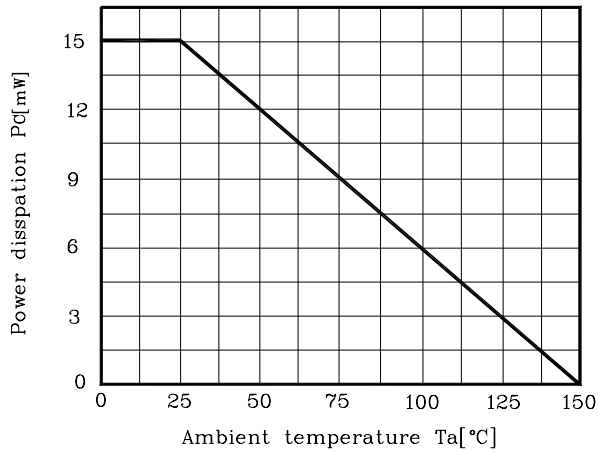


Fig. 2 $V_{CE(sat)} - I_C$

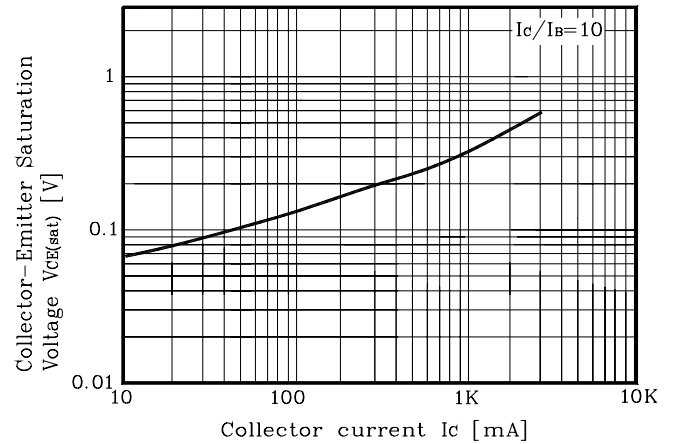


Fig. 3 $h_{FE} - I_C$

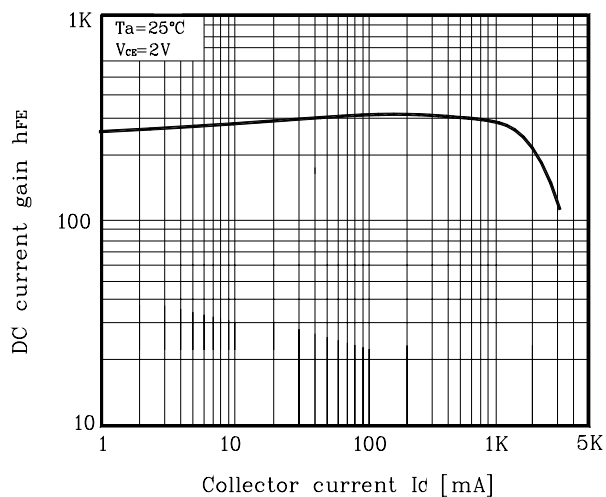


Fig. 4 $I_C - V_{CE}$

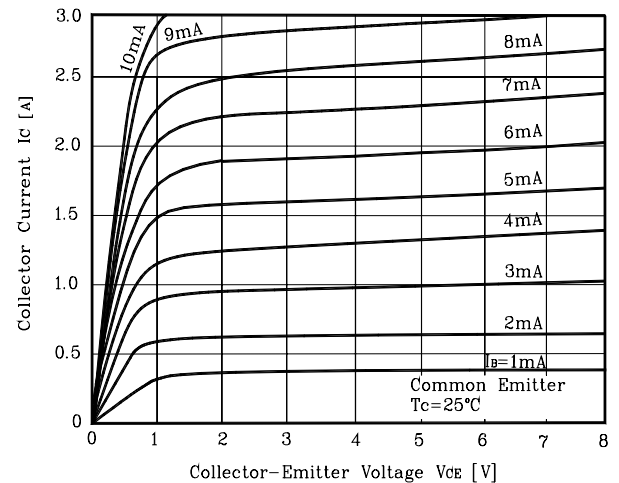
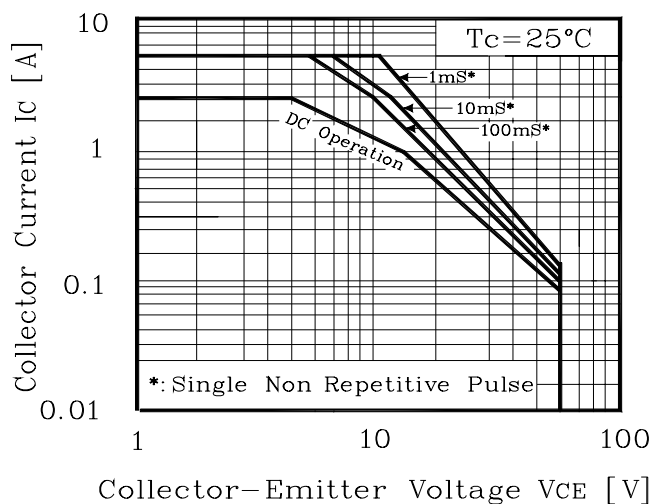
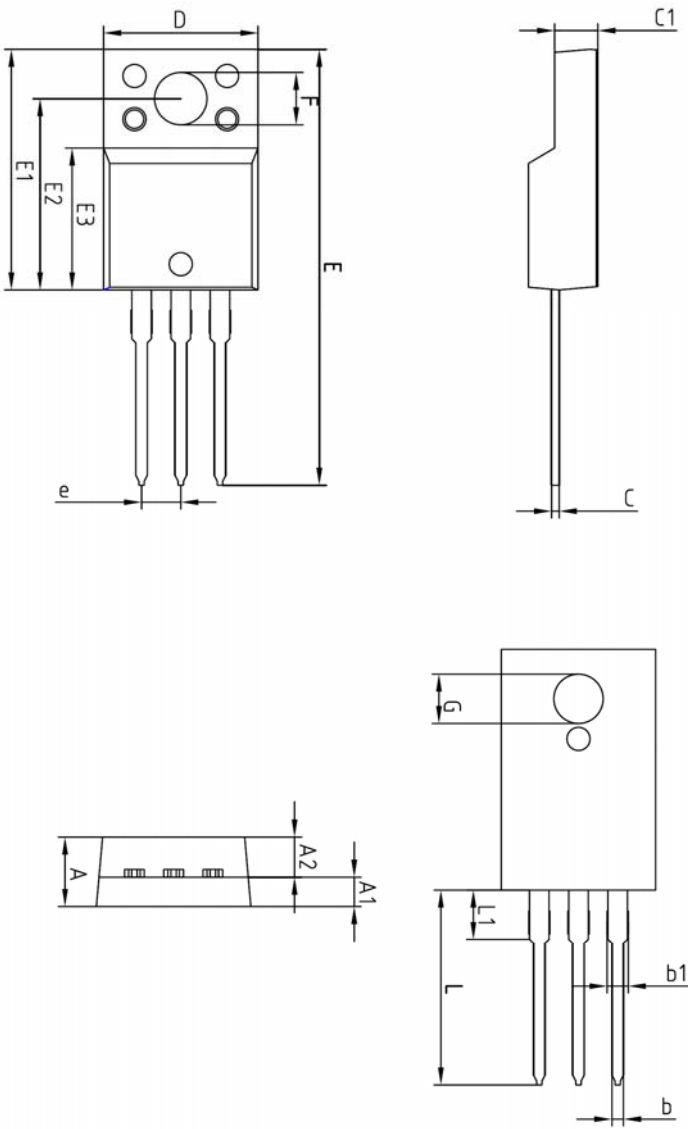


Fig. 5 Safe Operating Area



Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	—	—	4.60	
A1	2.45	2.50	2.55	
A2	1.95	2.00	2.05	
b	0.65	0.75	0.85	
b1	1.07	1.27	1.47	
C	0.40	0.50	0.60	
C1	2.70	2.80	2.90	
D	9.90	10.00	10.10	
E	28.00	—	28.60	
E1	15.50	15.60	15.70	
E2	12.30	12.40	12.50	
E3	9.15	9.20	9.25	
F	3.30	3.40	3.50	
G	3.10	3.20	3.30	
e	2.54 BSC			
L	12.40	—	13.00	
L1	3.46 BSC			

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