

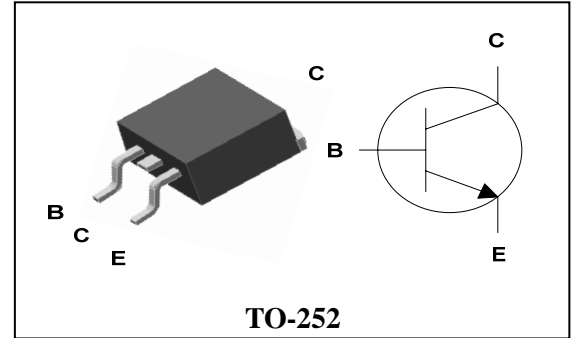
Applications

- Power amplifier application
- High current switching application

Features

- Low saturation switching application
- Voltage regulator application
- High Voltage : $V_{CEO} = 60V$ Min.

PIN Connection



Ordering Information

Type NO.	Marking	Package Code
STC405D	STC 405 YWW	TO-252

YWW(Y : Year code, WW : Weekly code)

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	5	A(DC)
	I_{CP}^*	10	A(Pulse)
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	$^\circ C$

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

Electrical Characteristics

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 80V, I_E = 0$	-	-	10	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$	-	-	10	μA
Collector-Emitter breakdown voltage	BV_{CEO}	$I_C = 1mA, I_B = 0$	60	-	-	V
DC current gain	h_{FE}	$V_{CE} = 5V, I_C = 1A$	200	-	400	-
		$V_{CE} = 5V, I_C = 3A$	80	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3A, I_B = 300mA$	-	-	1	V
Base-Emitter saturation voltage	$V_{BE(SAT)}$	$I_C = 3A, I_B = 300mA$	-	-	1.5	V
Transition frequency	f_T	$V_{CB} = 5V, I_C = 50mA$	-	8	-	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	-	25	-	pF

* HFE rank : 200~400 Only

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

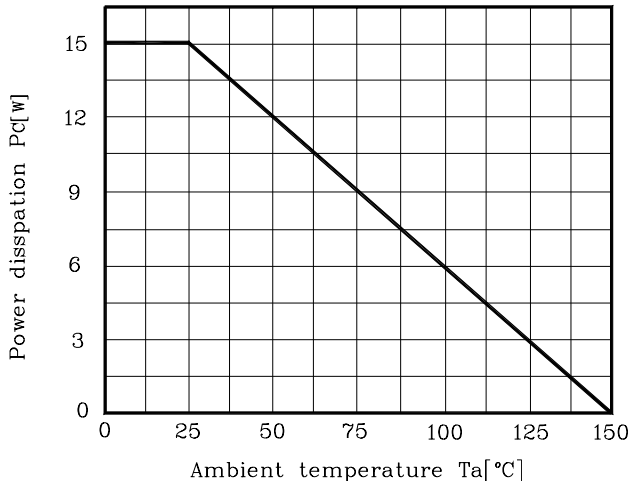


Fig. 2 $V_{CE(sat)} - I_C$

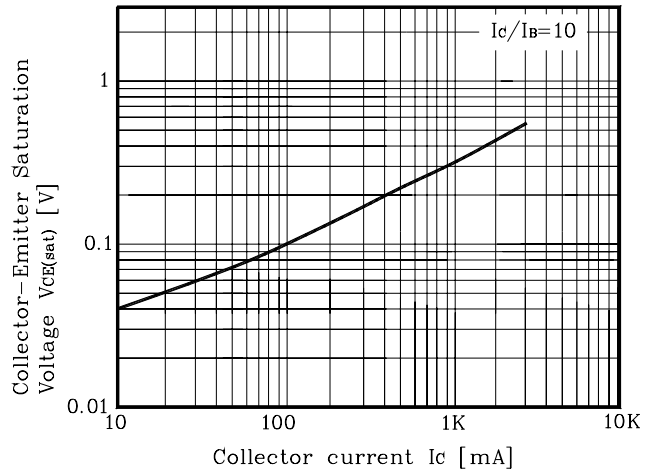


Fig. 3 $h_{FE} - I_C$

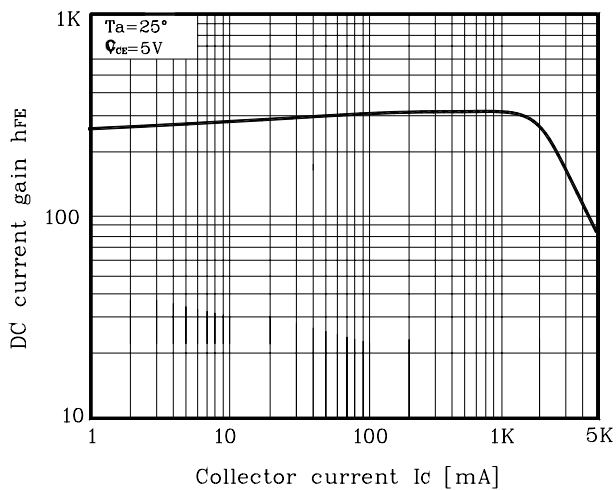


Fig. 4 $I_C - V_{CE}$

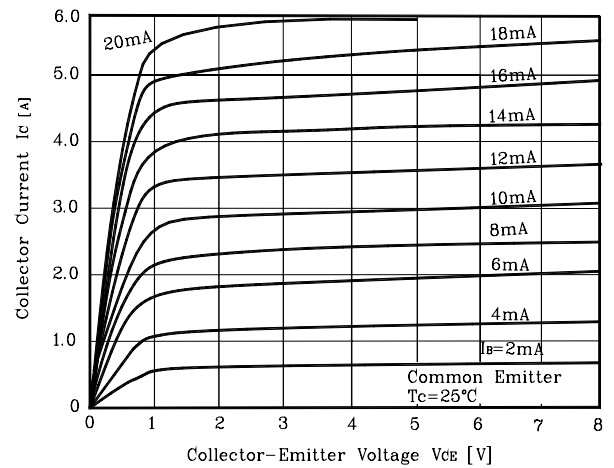
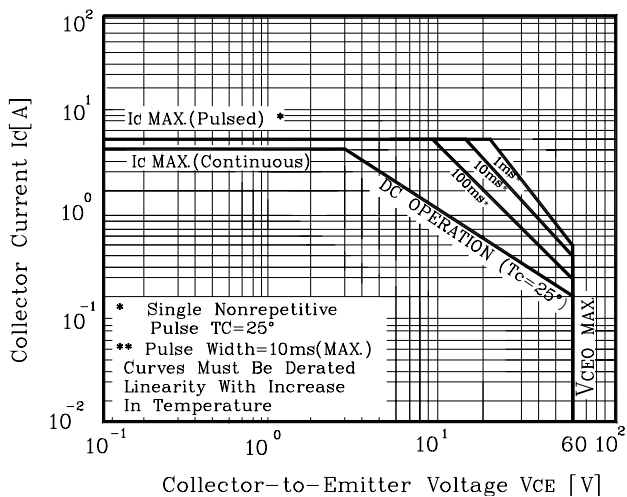
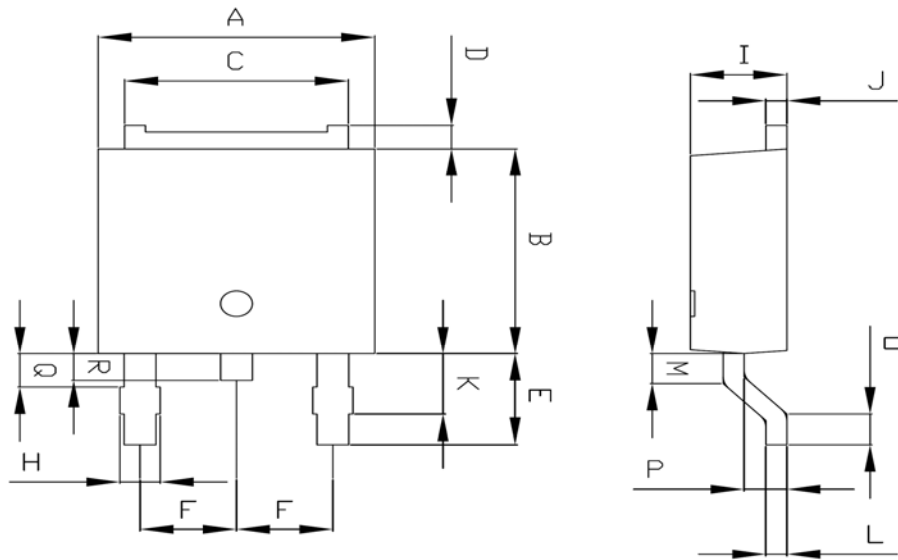


Fig. 5 Safe operating Area

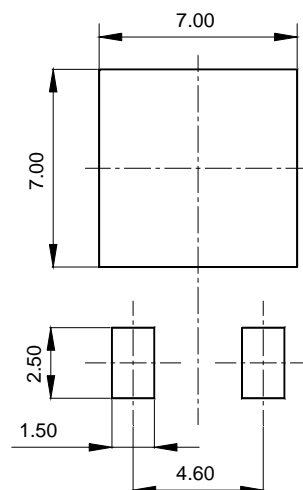


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	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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