

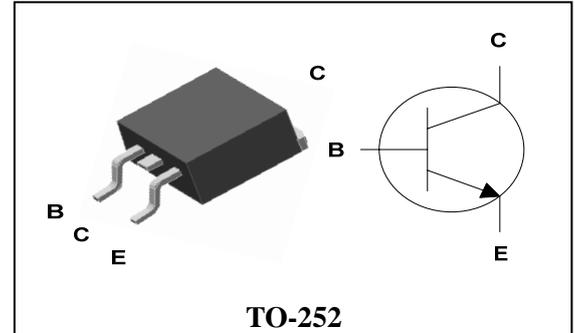
## Applications

- 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
STC403D	STC403	TO-252

## Absolute Maximum Ratings

[Ta=25°C]

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	$P_C(T_a = 25^\circ C)$	1.2	W
	$P_C(T_C = 25^\circ C)$	15	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	Junction-ambient	$R_{th(J-a)}$	-	104.1	°C/W
Thermal resistance	Junction-case	$R_{th(J-c)}$	-	8.3	°C/W

## Electrical Characteristics

(Ta=25°C)

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

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

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

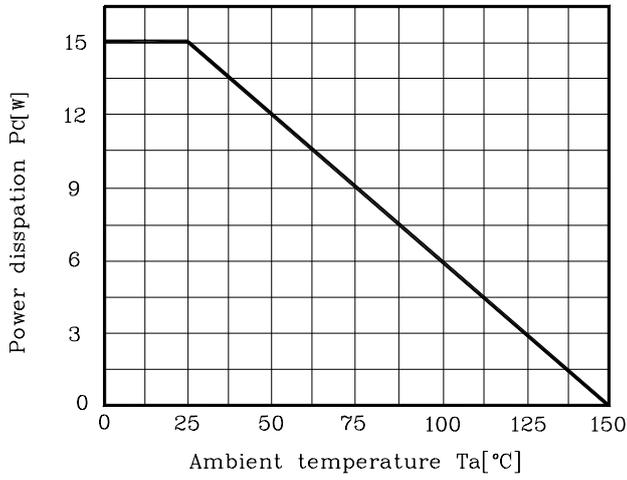


Fig. 2  $V_{CE} - I_C$

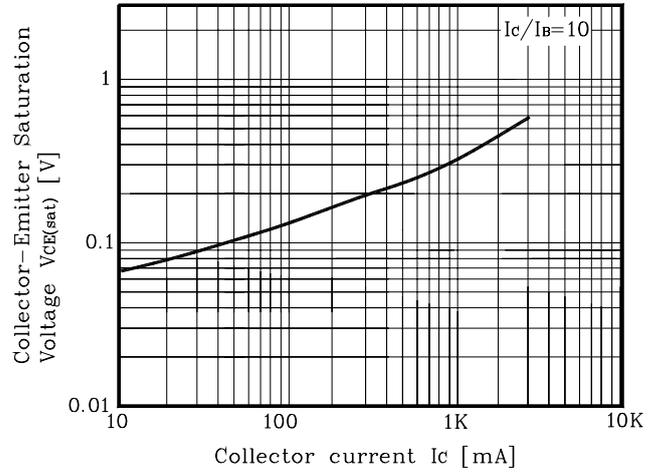


Fig. 3  $h_{FE} - I_C$

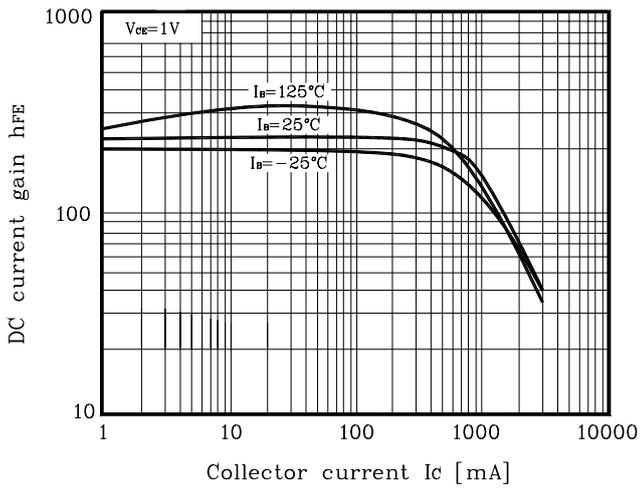


Fig. 4  $h_{FE} - I_C$

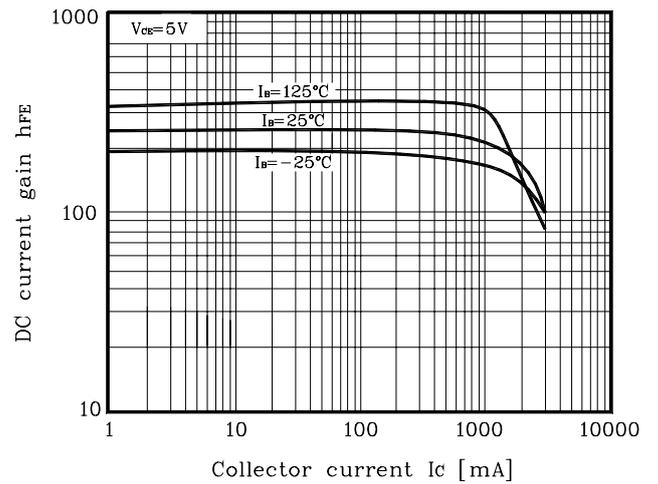


Fig. 5  $I_C - V_{CE}$

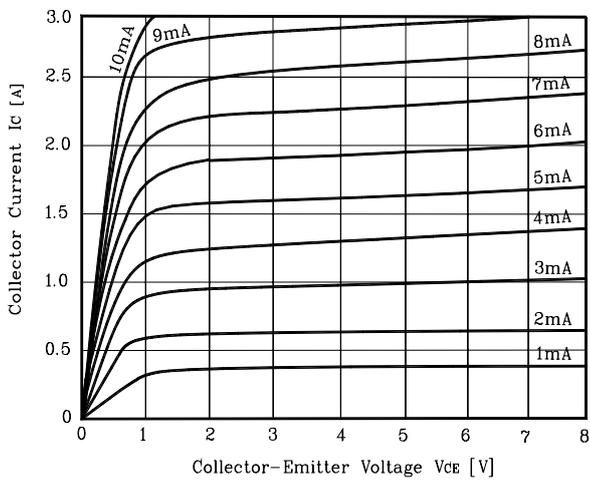
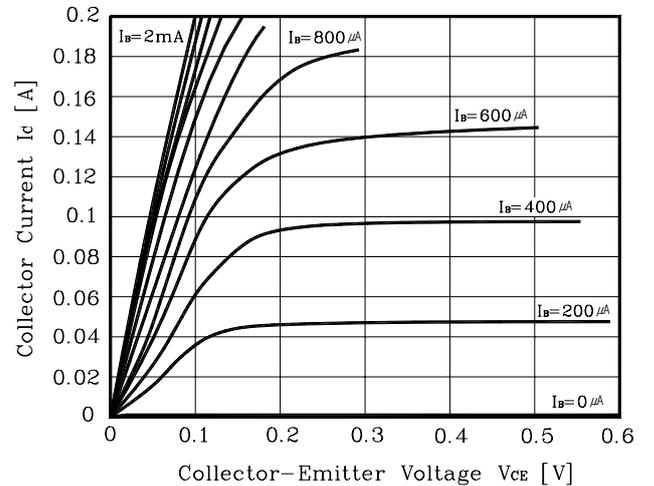
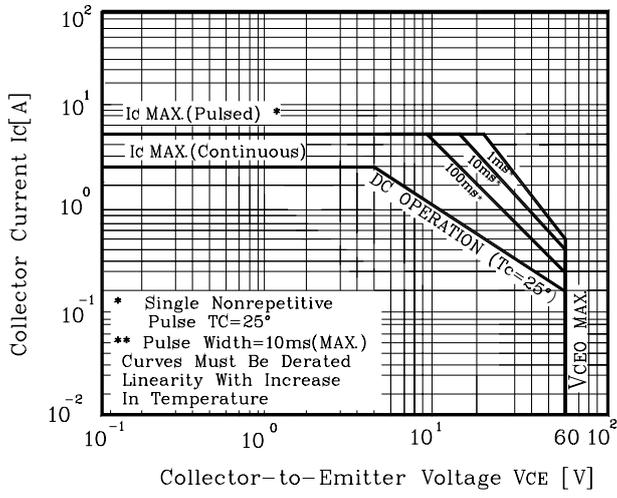


Fig. 6  $I_C - V_{CE}$

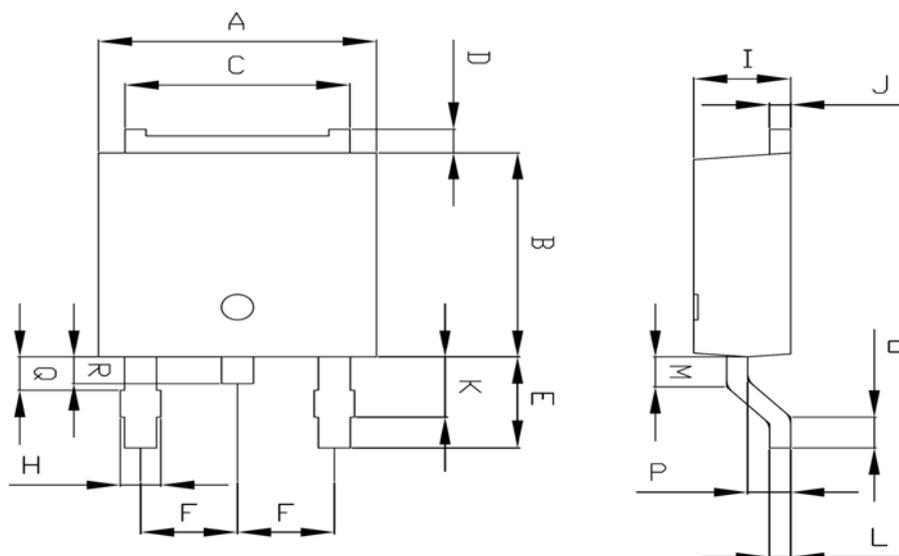


Electrical Characteristic Curves

Fig. 7 Safe operating Area

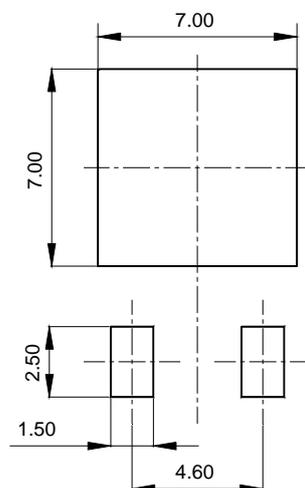


## Outline Dimension



SYMBOL	MILLIMETERS			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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