

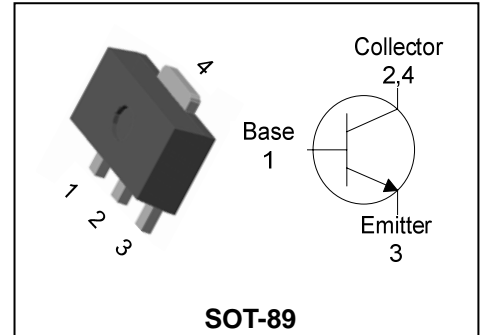
## Applications

- 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
STC403F	C403 YWW	SOT-89

C403: DEVICE CODE, YWW(Y : Year code, WW : Weekly code)

## Absolute Maximum Ratings

[ $T_a = 25^\circ C$ ]

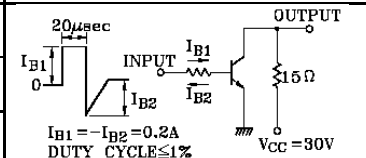
Characteristic	Symbol	Rating	Unit
Collector-Base voltage	$V_{CBO}$	80	V
Collector-Emitter voltage	$V_{CEO}$	60	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	3	A(DC)
	$I_{CP}^*$	6	A(Pulse)
Collector Power dissipation	$P_C$	0.5	W
	$P_C^{**}$	1	
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 ~ 150	$^\circ C$

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

\*\* : When mounted on ceramic substrate( $250 \text{ mm}^2 \times 0.8 \text{ t}$ )

## 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  $P_C - T_a$

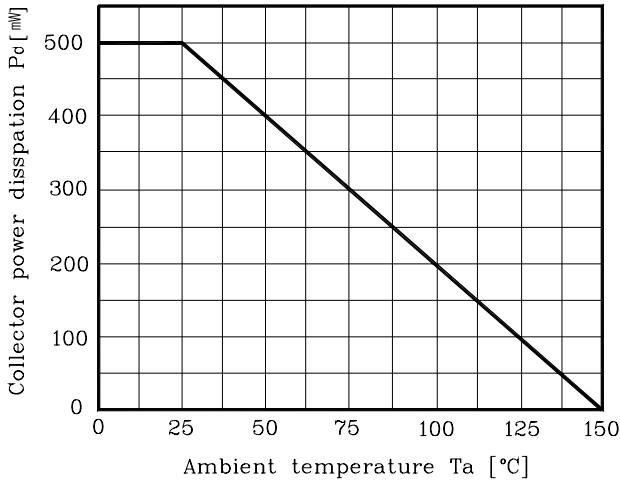


Fig. 2  $V_{CE} - I_C$

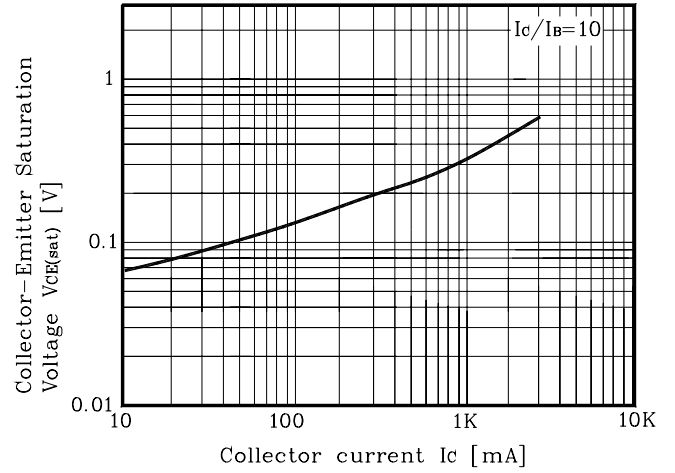


Fig. 3  $h_{FE} - I_C$

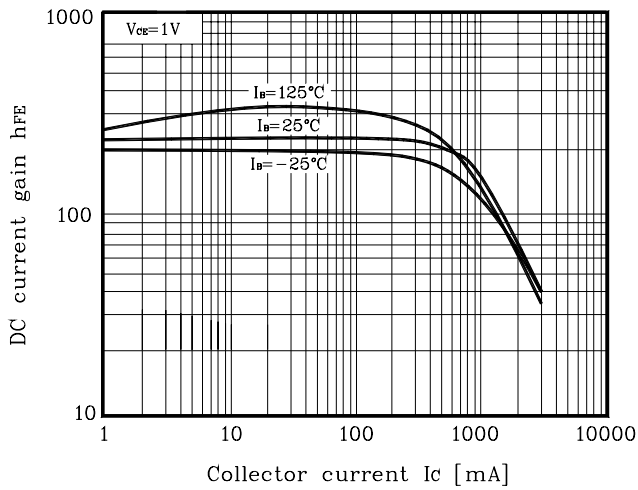


Fig. 4  $h_{FE} - I_C$

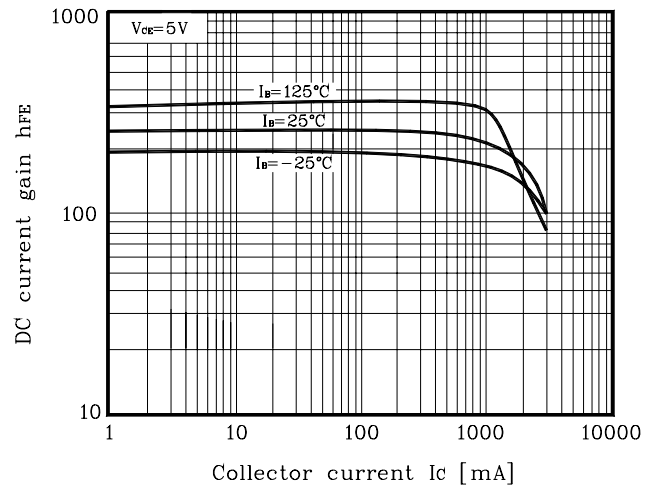


Fig. 5  $I_C - V_{CE}$

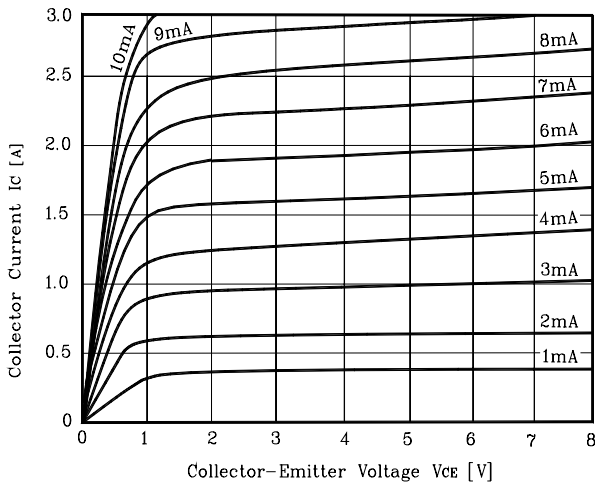
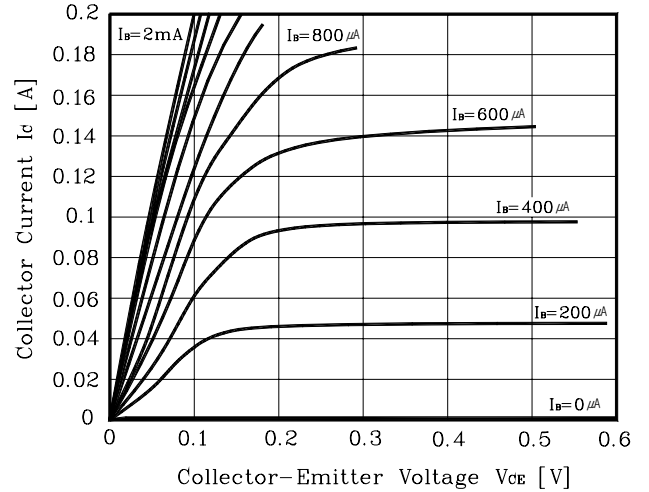
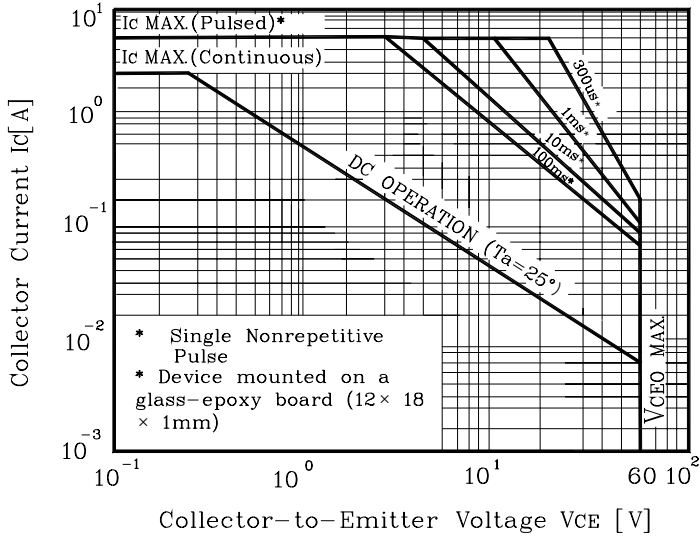


Fig. 6  $I_C - V_{CE}$

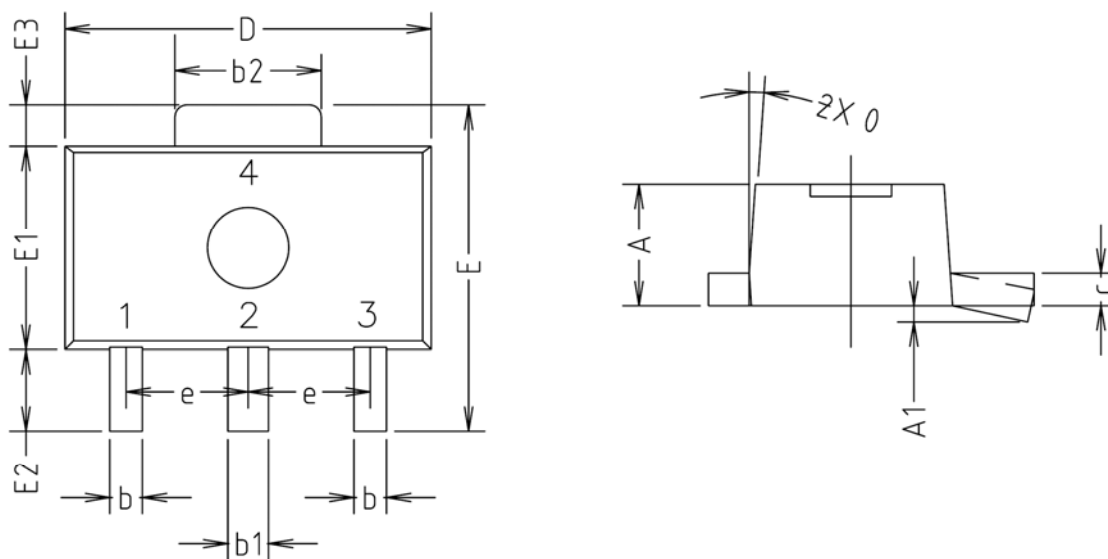


Electrical Characteristic Curves

Fig. 7 Safe operating Area

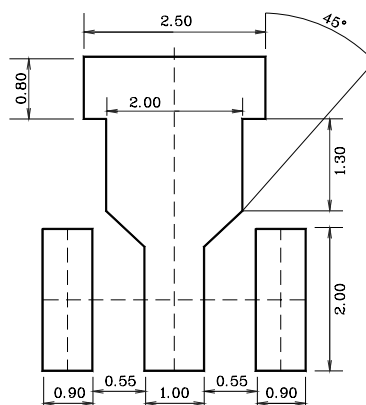


Outline Dimension(mm)



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	1.40	1.50	1.60	
A1	0.00	—	0.10	
b	0.38	0.42	0.48	
b1	0.48	0.52	0.58	
b2	1.79	1.82	1.87	
c	0.40	0.42	0.46	
D	4.40	4.50	4.70	
E	3.70	4.00	4.30	
E1	2.40	2.50	2.70	
E2	0.80	1.00	1.20	
E3	0.40	0.50	0.60	
e	1.50 TYP.			
θ	4° TYP.			

※Recommend PCB solder land [Unit: mm]



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