

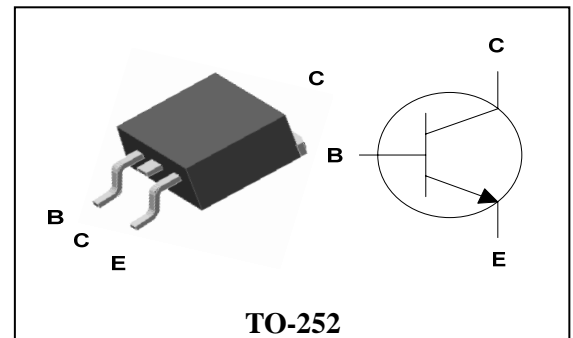
## Descriptions

- General purpose amplifier
- High voltage application

## Features

- High collector breakdown voltage  
:  $V_{CEO} = 160V$
- Low collector saturation voltage  
:  $V_{CE(sat)} = 0.5V(\text{MAX.})$

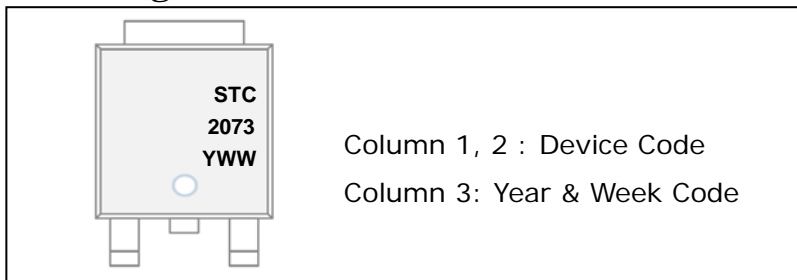
## PIN Connection



## Ordering Information

Type No.	Marking	Package Code
STC2073D	STC2073	TO-252

## Marking Information



## Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	$V_{CBO}$	160	V
Collector-Emitter voltage	$V_{CEO}$	160	V
Emitter-Base voltage	$V_{EBO}$	6	V
Collector current	$I_C$	1	A(DC)
	$I_{CP}^*$	2	A(Pulse)
Collector power dissipation	$P_C(T_a = 25^\circ\text{C})$	1	W
	$P_C(T_C = 25^\circ\text{C})$	10	
Junction temperature	$T_J$	150	°C
Storage temperature	$T_{stg}$	-55 ~ 150	°C

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

Characteristic	Symbol	Typ.	Max	Unit	
Thermal resistance	Junction-ambient	$R_{th(J-A)}$	-	125.0	°C/W
	Junction-case	$R_{th(J-C)}$	-	12.5	°C/W

## Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	$BV_{CBO}$	$I_C=100\mu A, I_E=0$	160	-	-	V
Collector-Emitter breakdown voltage	$BV_{CEO}$	$I_C=1mA, I_B=0$	160	-	-	V
Emitter-Base breakdown voltage	$BV_{EBO}$	$I_E=100\mu A, I_C=0$	6	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB}=160V, I_E=0$	-	-	0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=160V, I_B=0$	-	-	0.6	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4V, I_C=0$	-	-	0.1	$\mu A$
DC current gain	$h_{FE}^{1)}$	$V_{CE}=5V, I_C=30mA$	200	-	400	-
Collector-Emitter saturation voltage	$V_{CE(sat)}^{2)}$	$I_C=500mA, I_B=50mA$	-	-	0.5	V
Base-Emitter saturation voltage	$V_{BE(sat)}^{2)}$	$I_C=500mA, I_B=50mA$	-	-	1.2	V
Transition frequency	$f_T$	$V_{CE}=5V, I_C=50mA$	-	150	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$	-	10	-	pF

\* Note 1) hFE Rank : 200~400 only

\* Note 2) Pulse Tester : Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2.0\%$

## Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

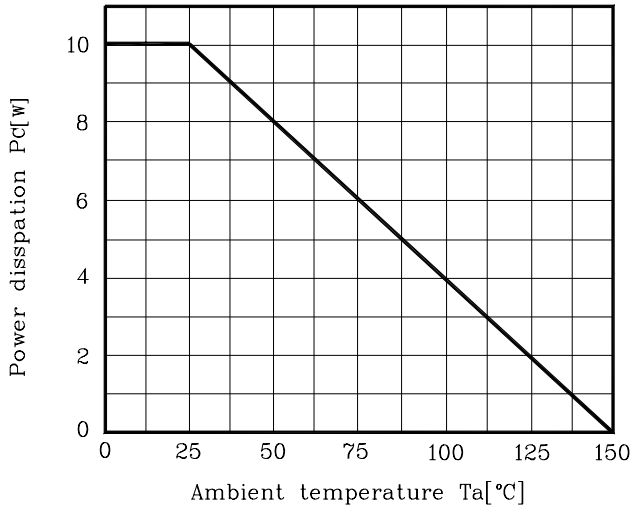


Fig. 2  $I_C - V_{BE}$

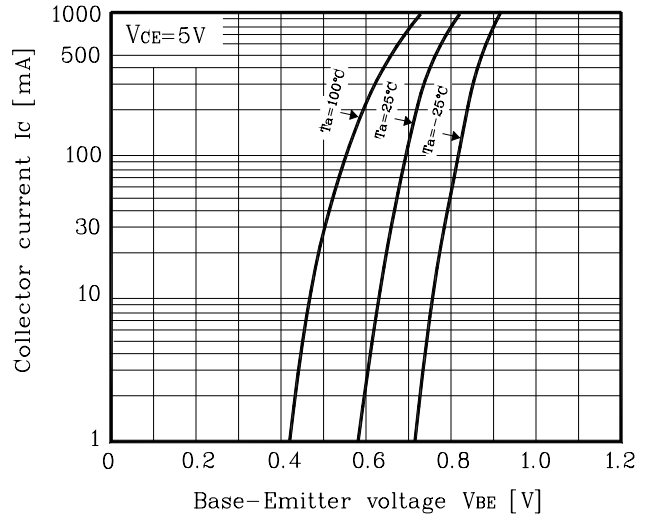


Fig. 3  $V_{CE(sat)} - I_C$

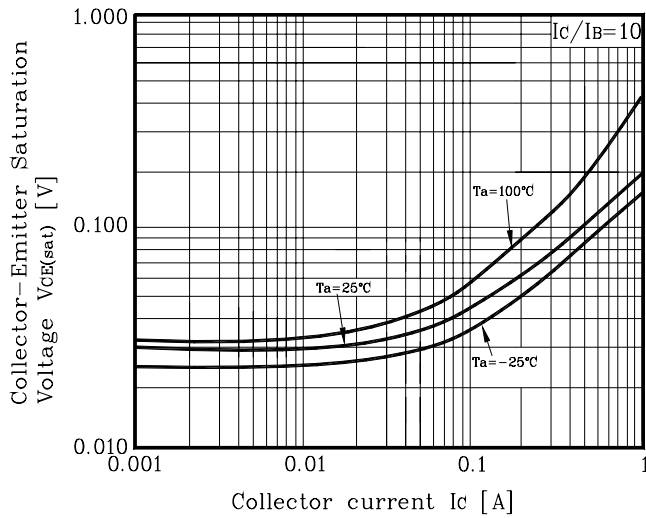


Fig. 4  $I_C - V_{CE}$

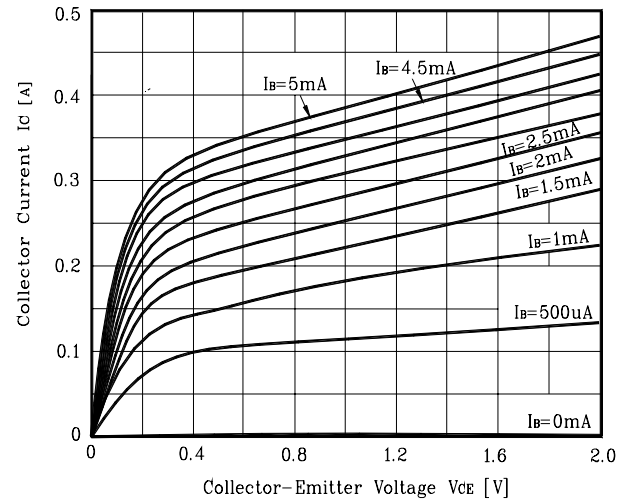


Fig. 5  $I_C - V_{CE}$

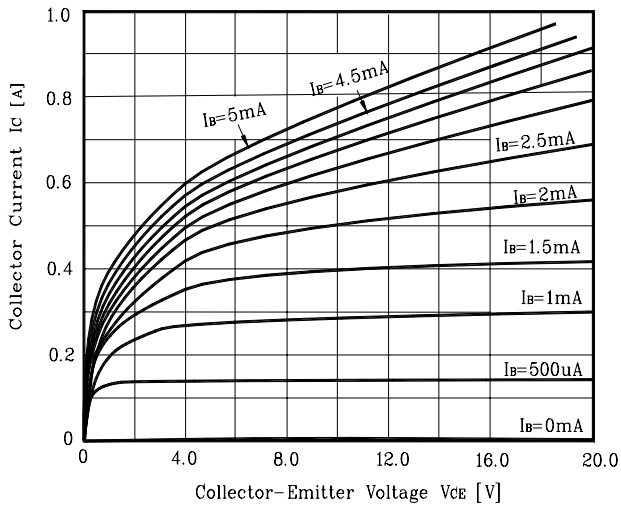
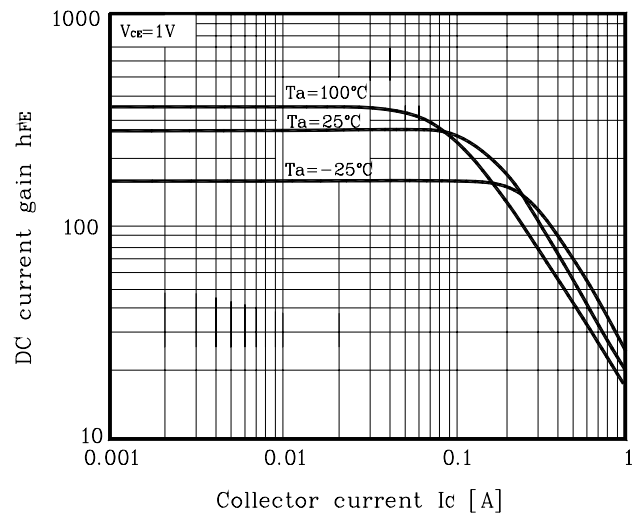


Fig. 6  $h_{FE} - I_C$



Electrical Characteristic Curves

Fig. 7  $h_{FE}-I_C$

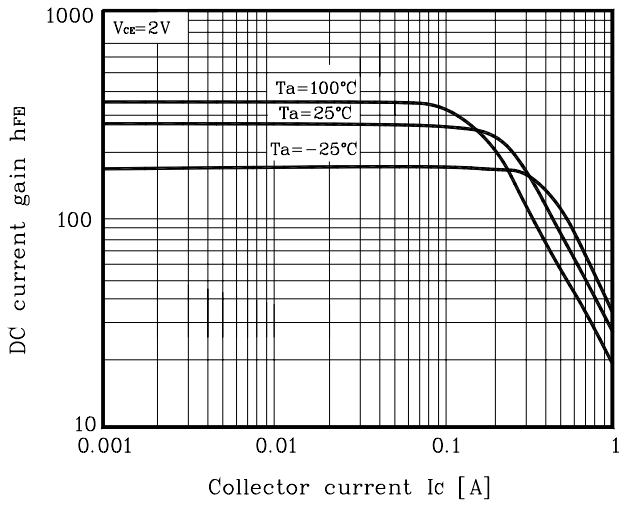


Fig. 8  $h_{FE}-I_C$

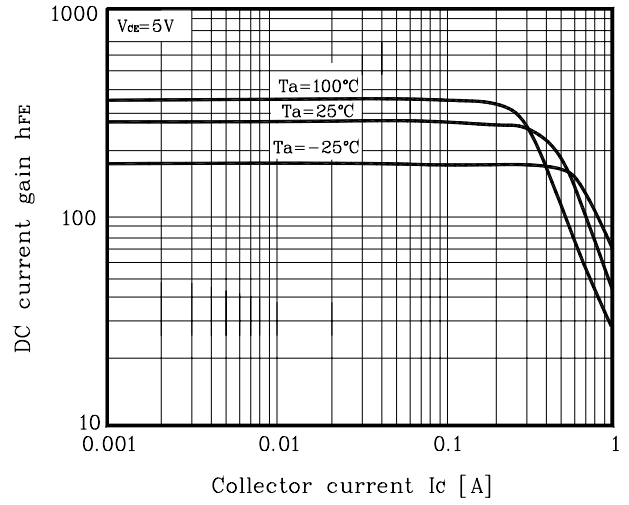


Fig. 9  $h_{FE}-I_C$

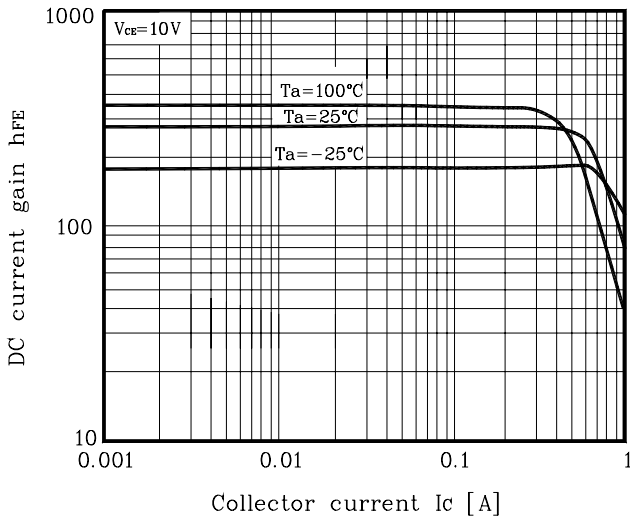


Fig. 10  $C_{ob} - V_{CB}$

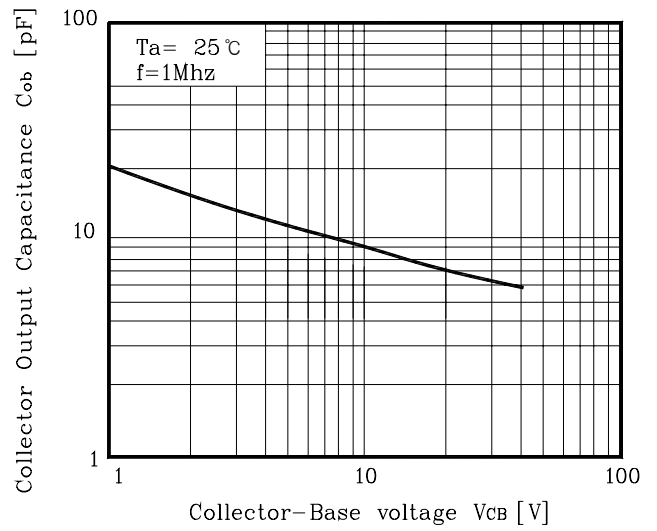
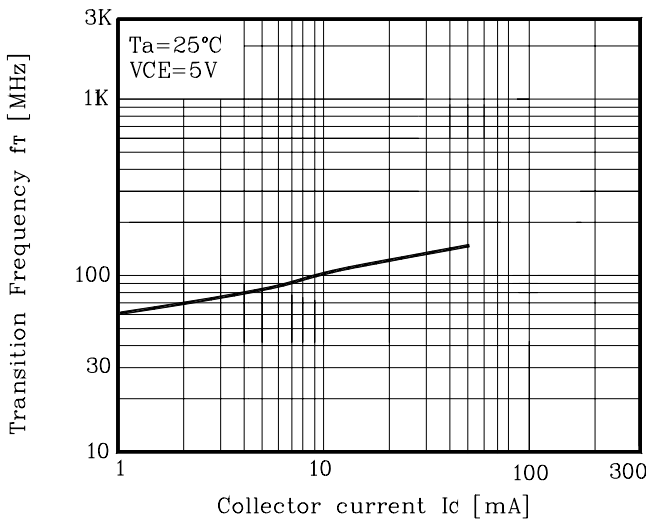
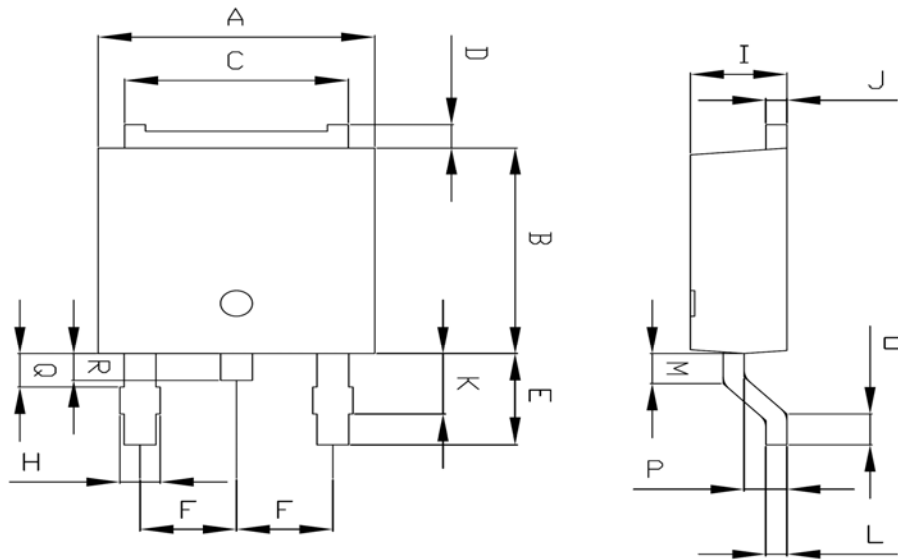


Fig. 11  $f_T - I_C$

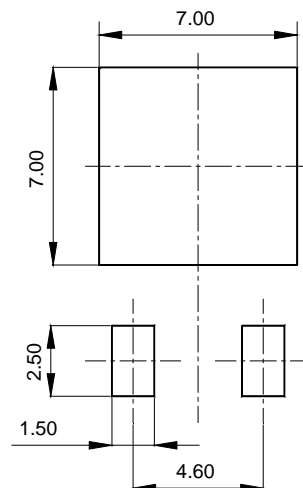


Outline Dimension



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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