

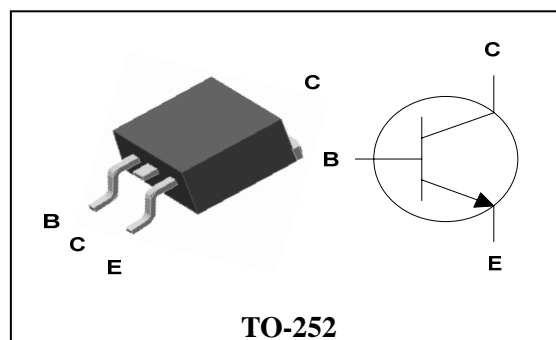
Descriptions

- General purpose amplifier
- High voltage application

Features

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

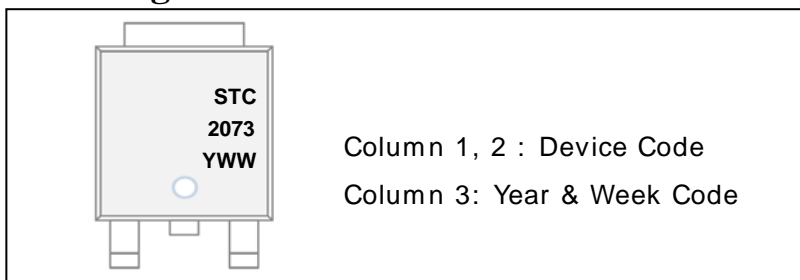
PIN Connection



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

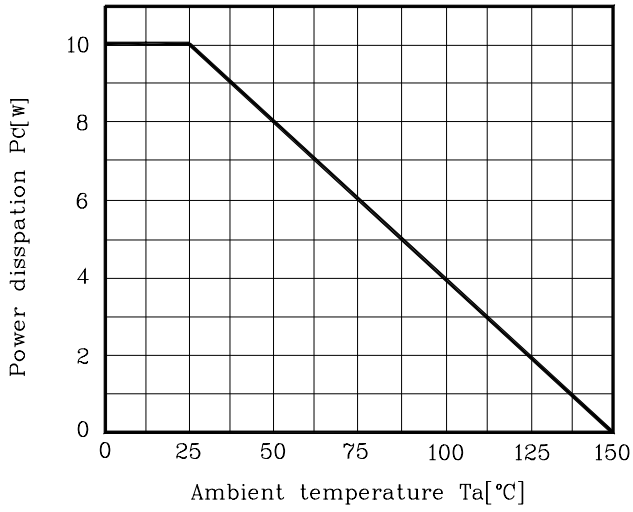


Fig. 2 $I_C - V_{BE}$

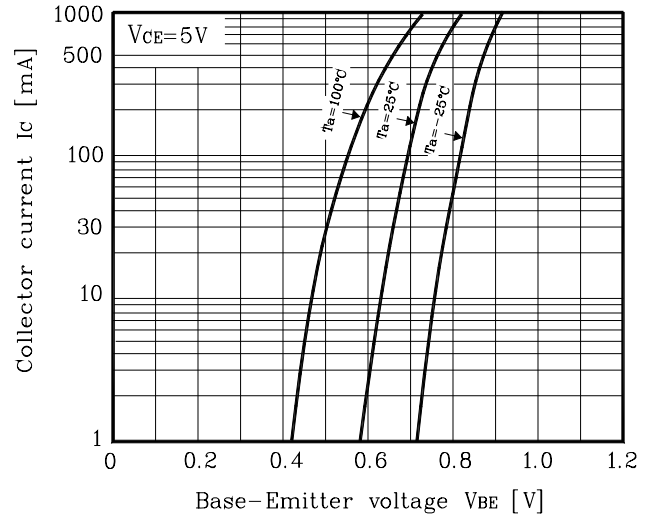


Fig. 3 $V_{CE(sat)} - I_C$

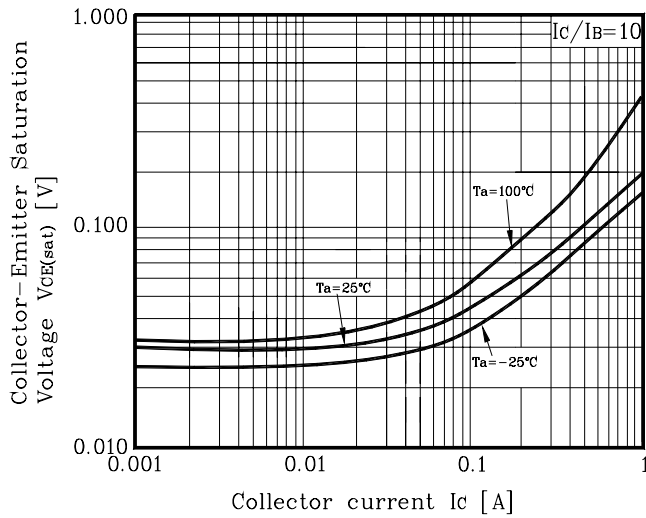


Fig. 4 $I_C - V_{CE}$

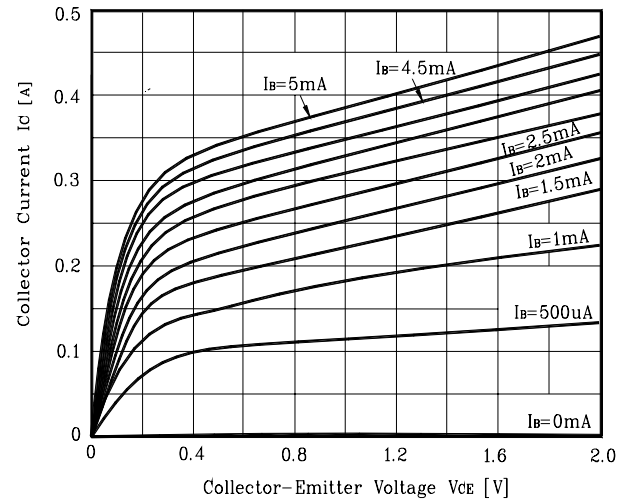


Fig. 5 $I_C - V_{CE}$

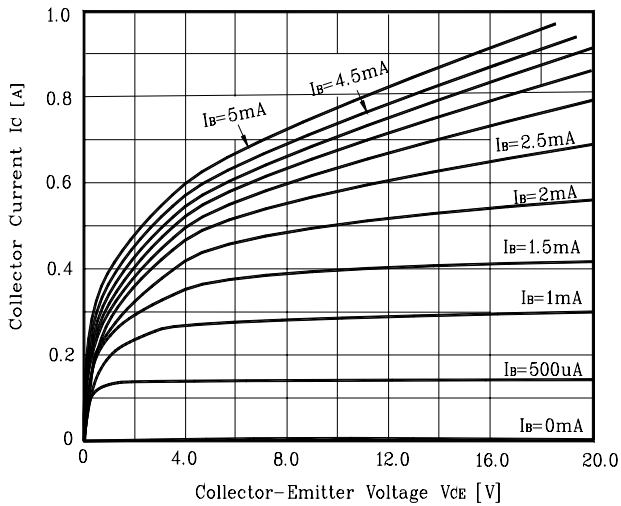
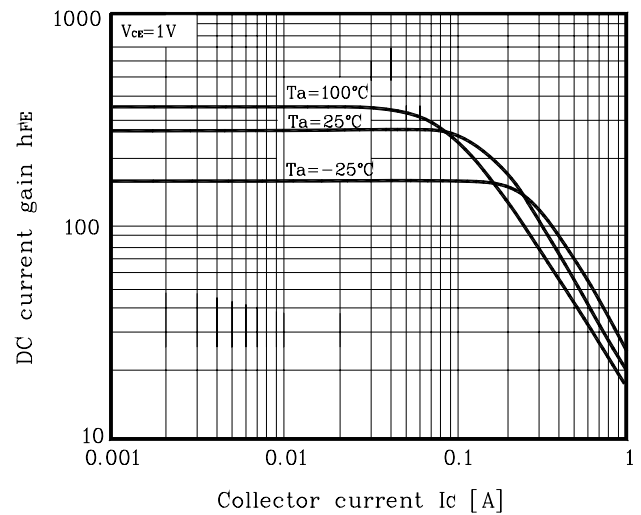


Fig. 6 $h_{FE} - I_C$



Electrical Characteristic Curves

Fig. 7 $h_{FE}-I_C$

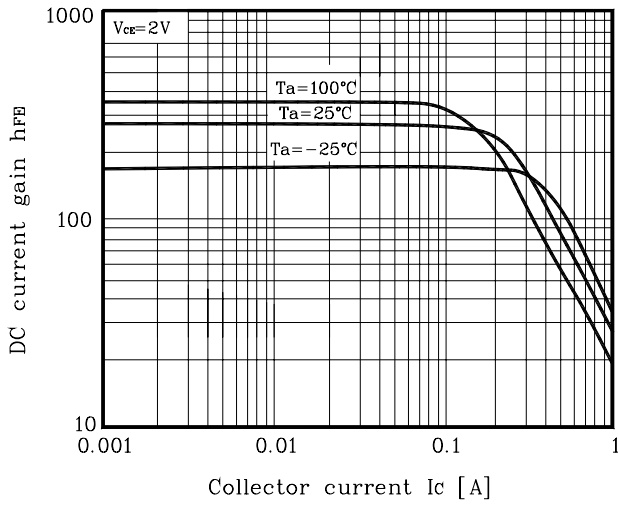


Fig. 8 $h_{FE}-I_C$

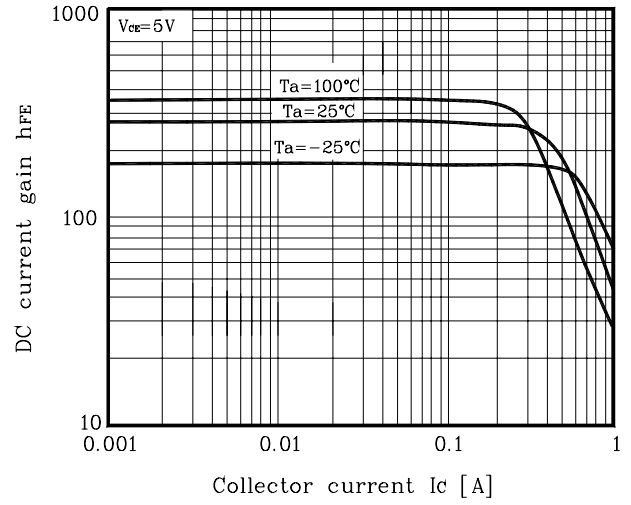


Fig. 9 $h_{FE}-I_C$

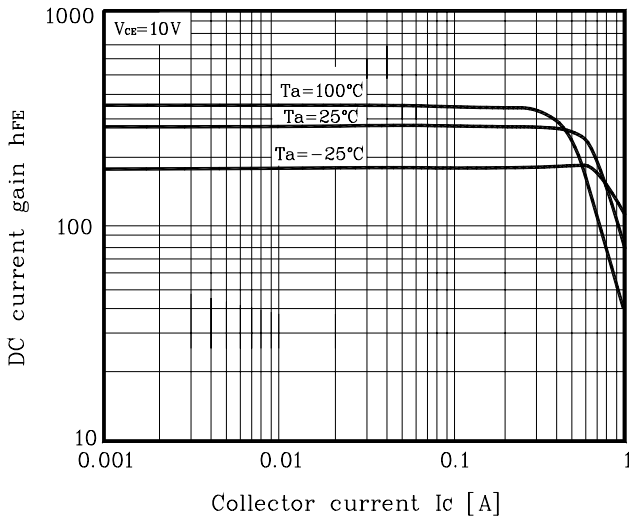


Fig. 10 $C_{ob} - V_{CB}$

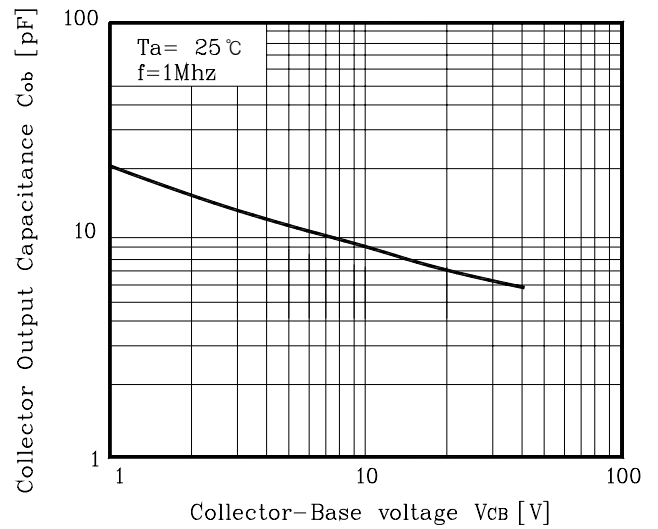
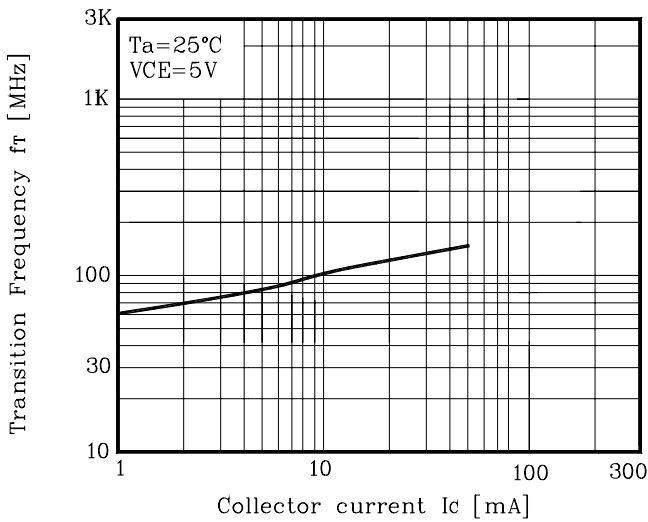
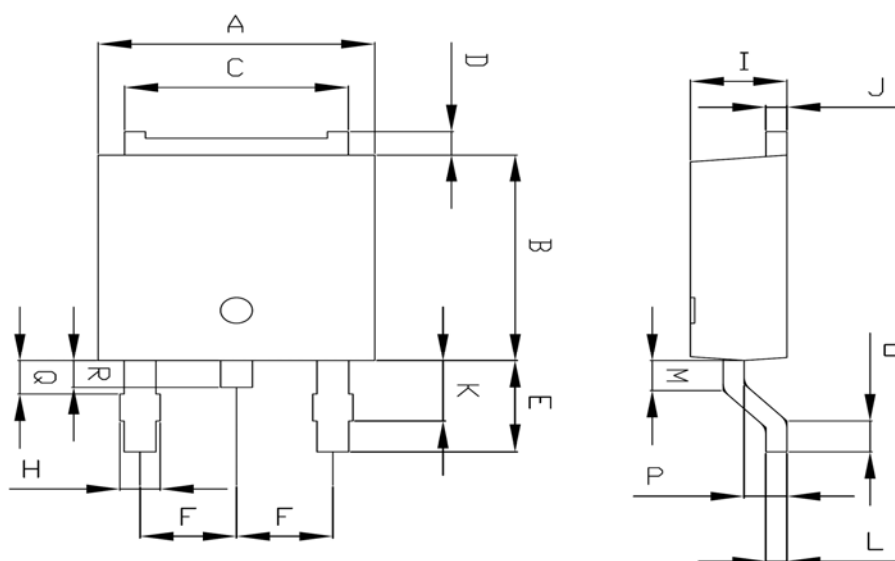


Fig. 11 $f_T - I_C$

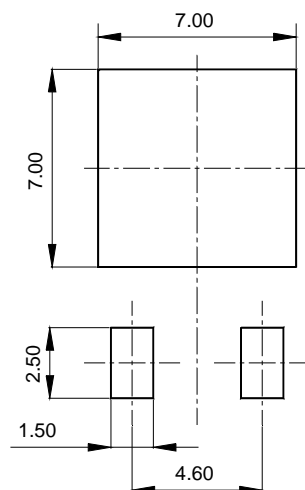


Outline Dimension



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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