KODENSHI AUK

STC2073L

NPN Silicon Transistor

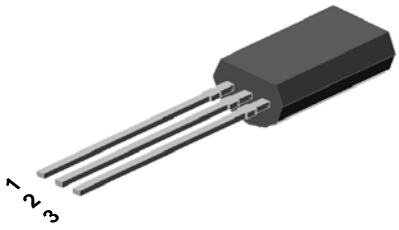
Descriptions

- General purpose amplifier
- High voltage application

Features

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

PIN Connection



1: Emitter 2 :Collector 3: Base

Ordering Information

Type No.	Marking	Package Code
STC2073L	STC 2073 YWW	TO-92L

STC2073: DEVICE CODE, YWW(Y : Year code, WW : Weekly code)

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(Ta=25°C)	P_C	1	W
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55~150	°C

* : Single pulse, tp= 300 μs

Electrical Characteristics

(Ta=25°C)

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

* Note 1) hFE Rank : 200~400 only

* Note 2) Pulse Tester : Pulse Width ≤300μs, Duty Cycle ≤2.0%

Electrical Characteristic Curves

Fig. 1 P_C - Ta

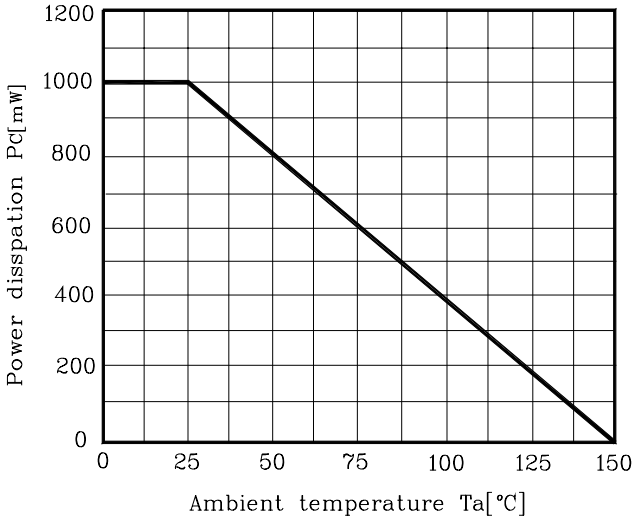


Fig. 2 I_C - V_{BE}

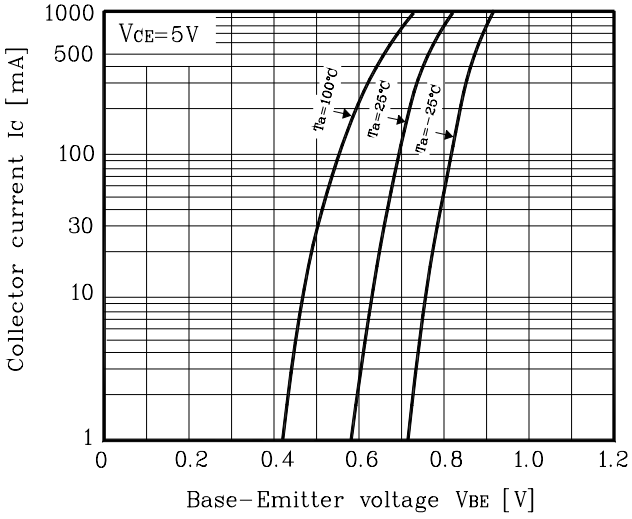


Fig. 3 $V_{CE(sat)}$ - I_C

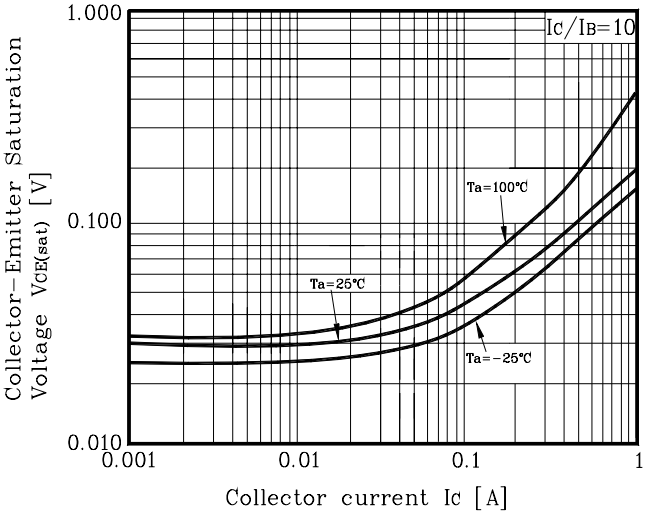


Fig. 4 I_C - V_{CE}

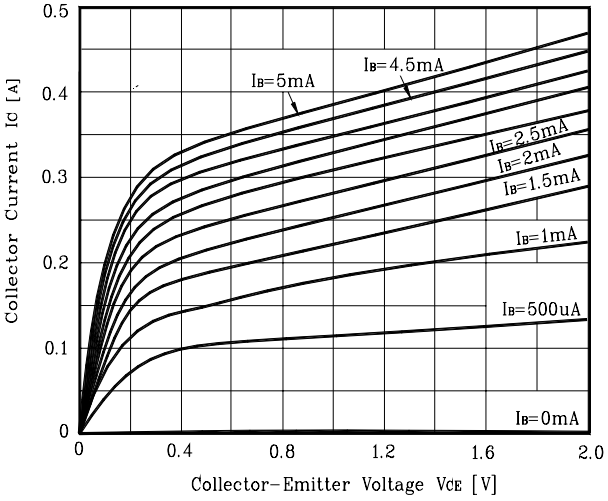


Fig. 5 I_C - V_{CE}

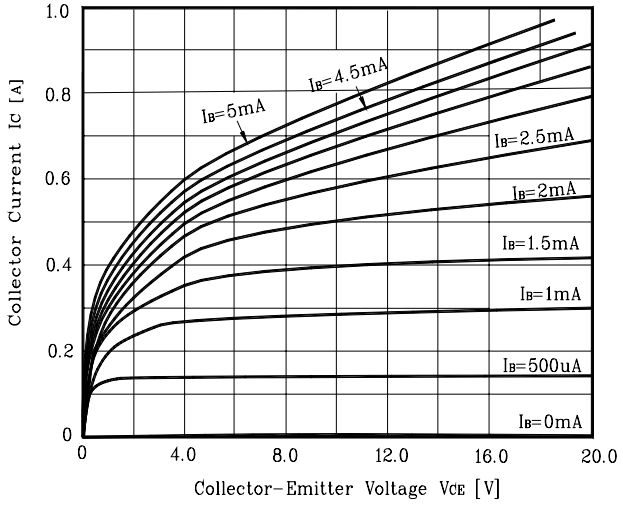
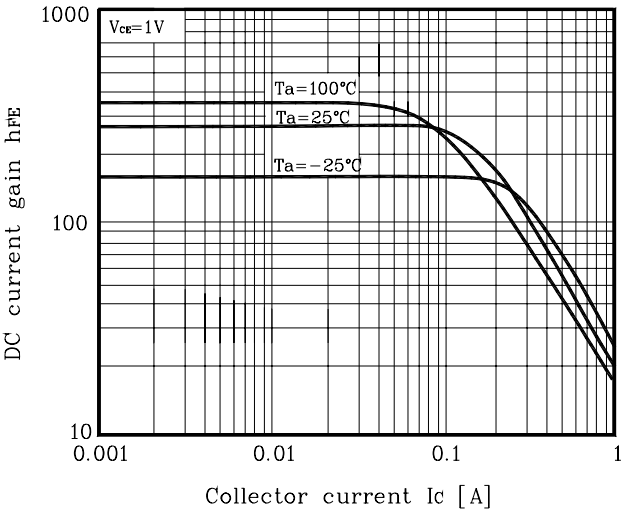


Fig. 6 h_{FE}-I_C



Electrical Characteristic Curves

Fig. 7 h_{FE}-I_C

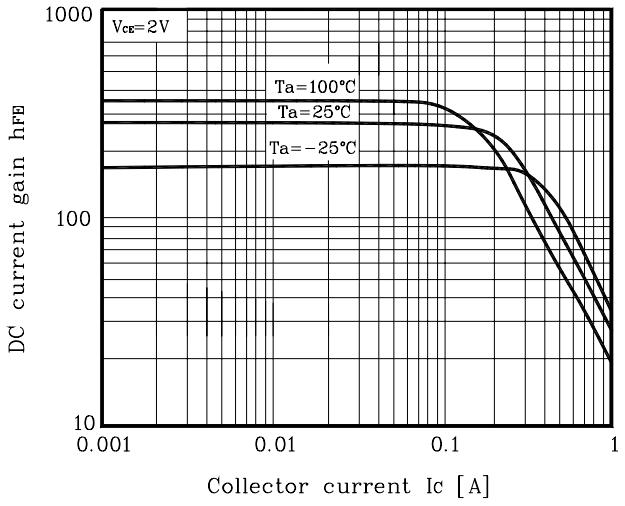


Fig. 8 h_{FE}-I_C

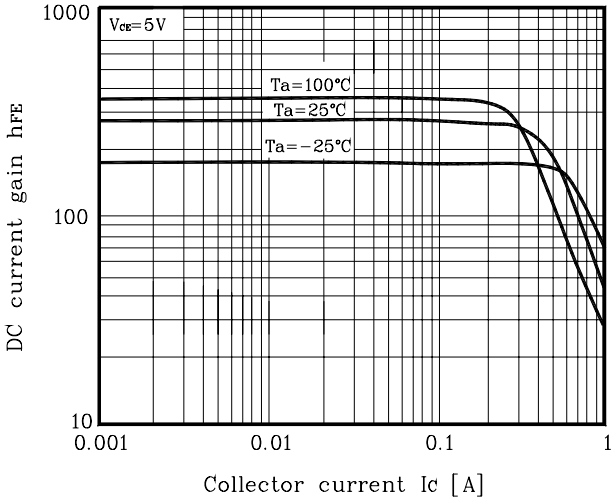


Fig. 9 h_{FE}-I_C

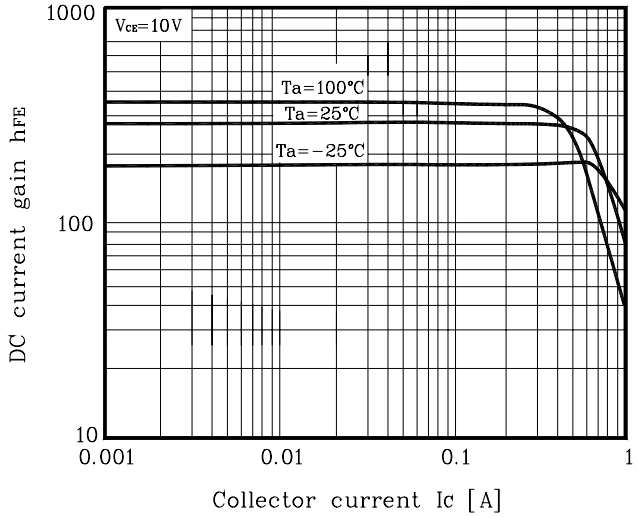


Fig. 10 Cob - V_{CB}

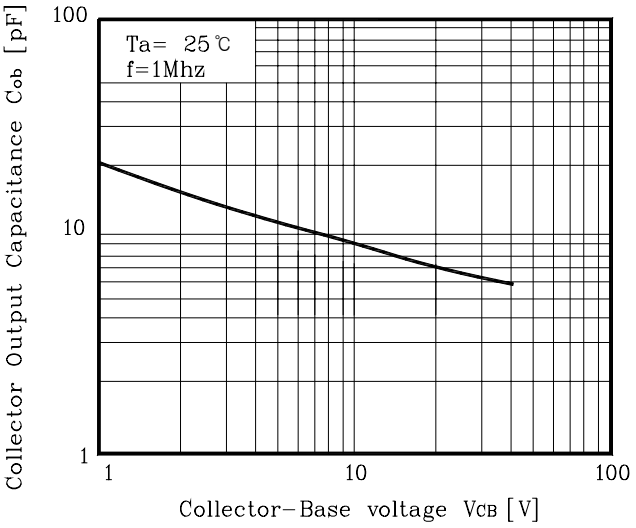


Fig. 11 f_T - I_C

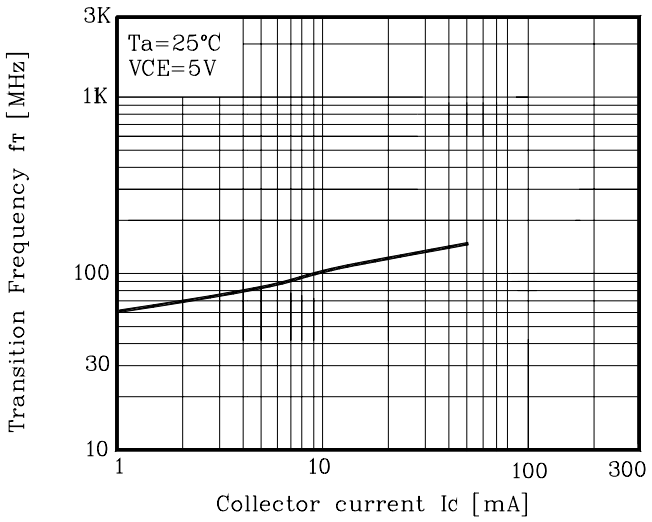
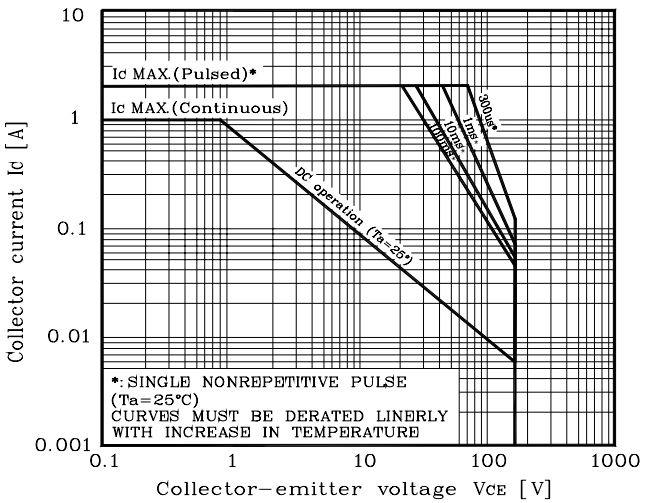
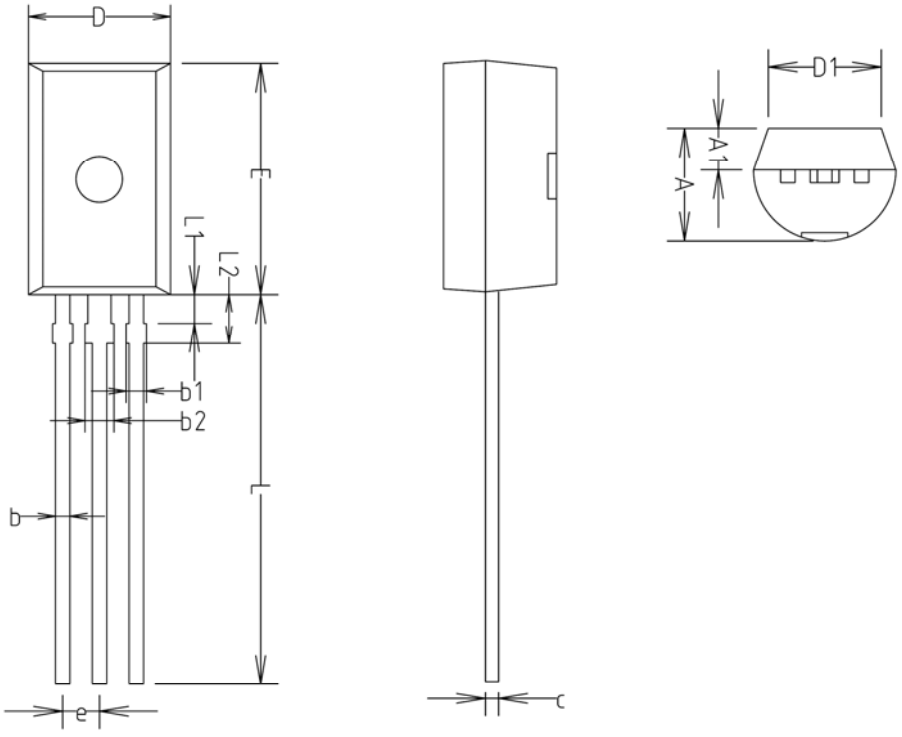


Fig. 12 Safe operating Area



Outline Dimension



SYMBOL	MILLMETERS(mm)			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	3.70	3.90	4.10	
A1	1.25	1.45	1.65	
b	0.40	0.50	0.60	
b1	–	–	0.70	
b2	–	–	1.00	
c	0.35	0.45	0.55	
D	4.70	4.90	5.10	
D1	3.70	3.90	4.10	
E	7.80	8.00	8.20	
e	1.27 TYP			
L	13.10	13.50	13.90	
L1	0.90	1.00	1.10	
L2	1.50	1.70	1.90	

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