KODENSHI AUK

STC2073Q

NPN Silicon Transistor

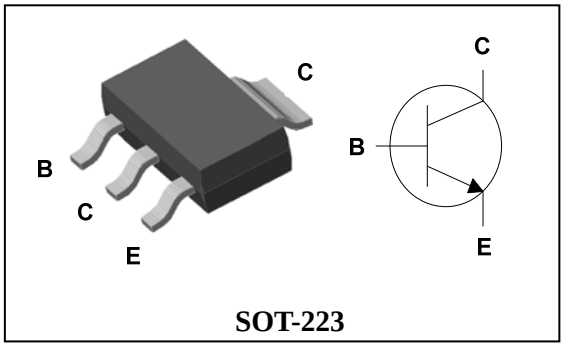
Descriptions

- 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



SOT-223

Ordering Information

Type No.	Marking	Package Code
STC2073Q	STC2073□	SOT-223

□ : Year & Week 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	P_C	1.1	W
	P_C**	1.5	
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55~150	°C

* : Single pulse, tp= 300 μs

** : When mounted on ceramic substrate(250 ㎟×0.8t)

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-base cut-off current	I_{CBO}	V_{CB}=160V, I_E=0	-	-	0.1	μA
Collector-emitter cut-off current	I_{CEO}	V_{CE}=160V, I_B=0	-	-	1	μA
Emitter-base 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 ㎃	200	-	400	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$ [2)]	I_C=500 ㎃, I_B=50 ㎃	-	-	0.5	V
Base-Emitter saturation voltage	$V_{BE(sat)}$ [2)]	I_C=500 ㎃, I_B=50 ㎃	-	-	1.2	V
Transition frequency	f_T	V_{CE}=5V, I_C= 50 ㎃	-	150	-	㎒
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1 ㎒	-	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

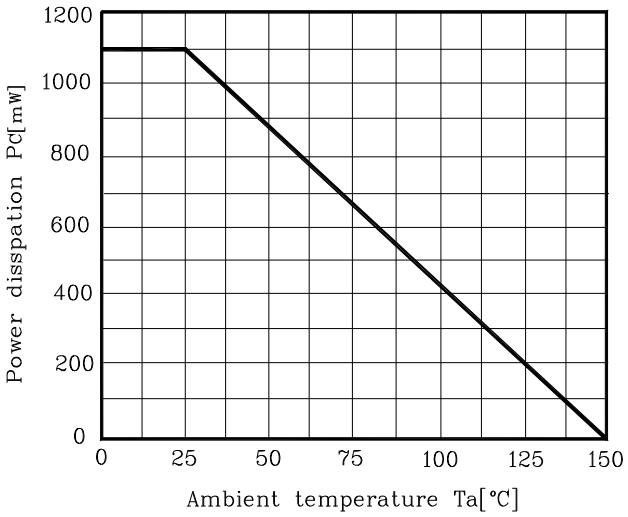


Fig. 2 I_C - V_{BE}

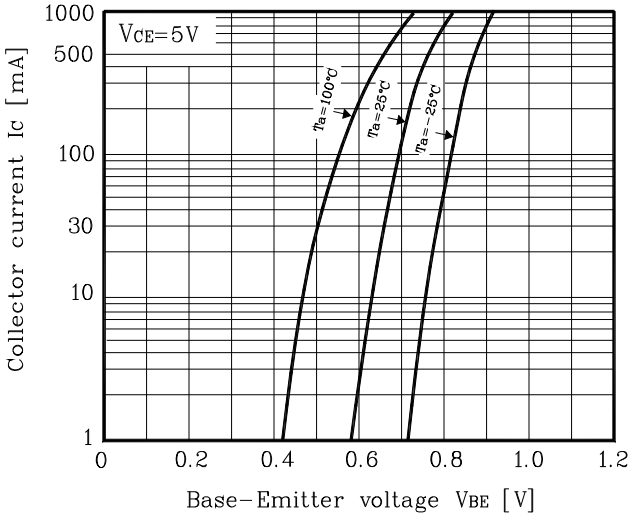


Fig. 3 $V_{CE(sat)}$ - I_C

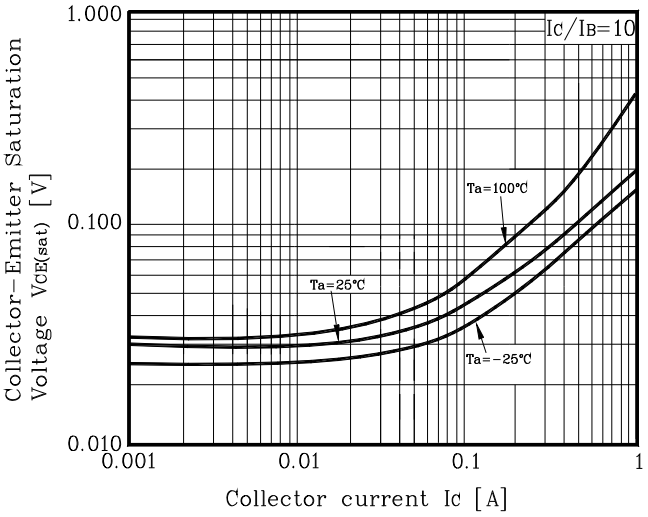


Fig. 4 I_C - V_{CE}

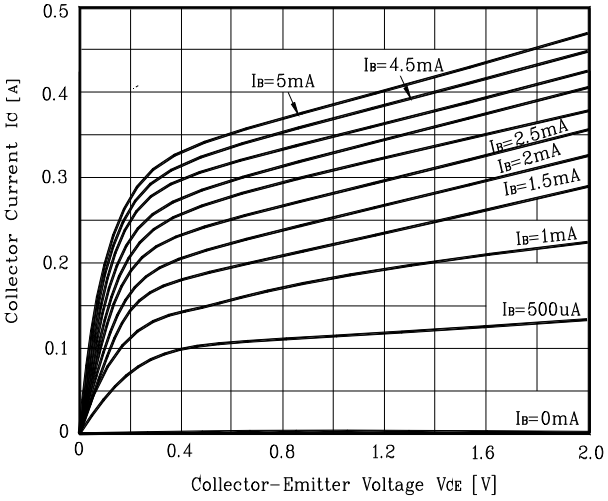


Fig. 5 I_C - V_{CE}

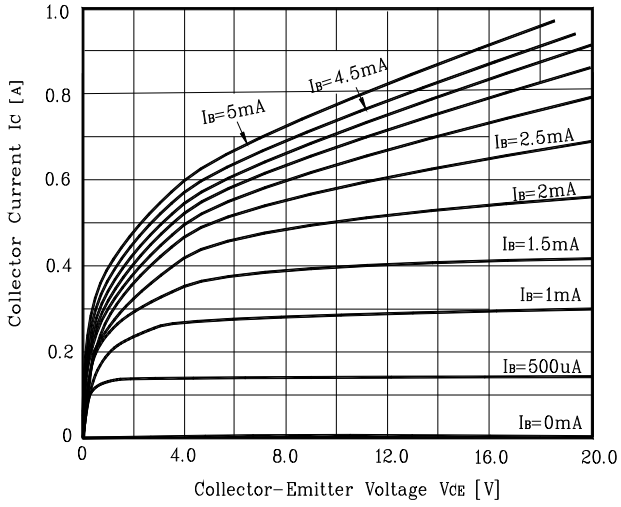
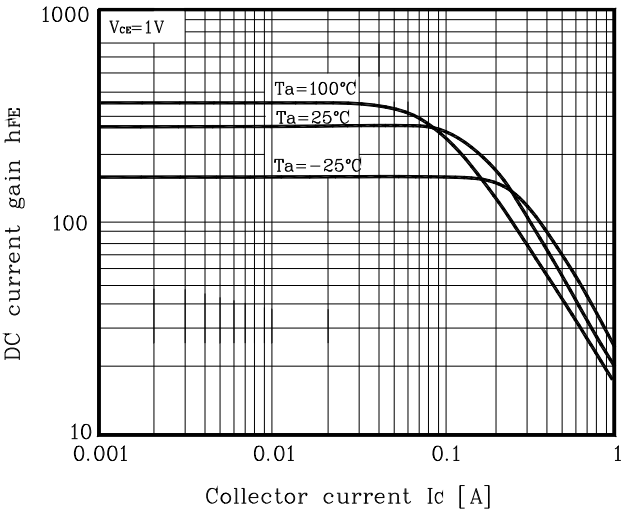


Fig. 6 h_{FE}-I_C



Electrical Characteristic Curves

Fig. 7 h_{FE}-I_C

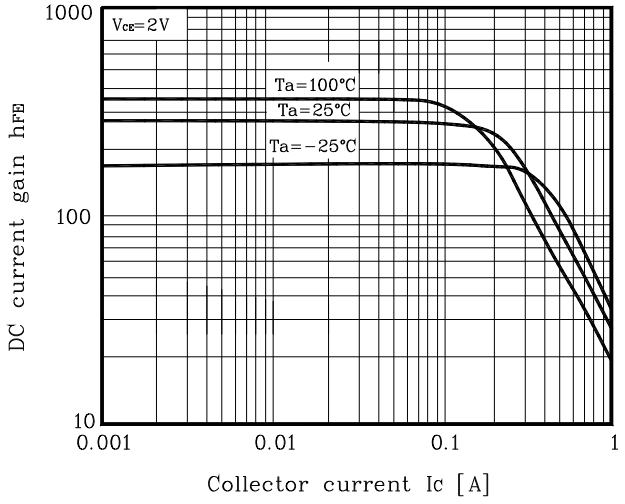


Fig. 8 h_{FE}-I_C

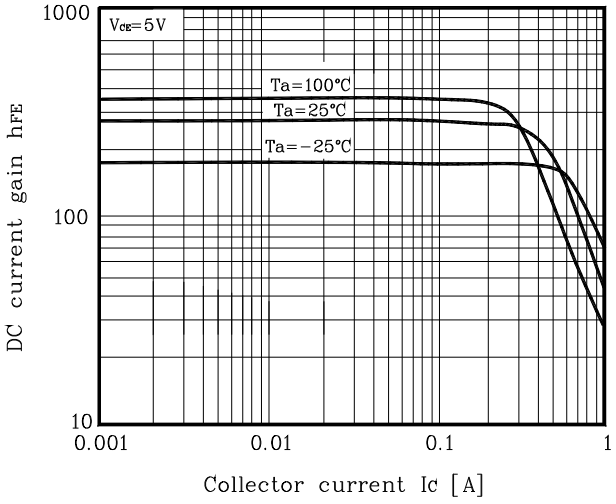


Fig. 9 h_{FE}-I_C

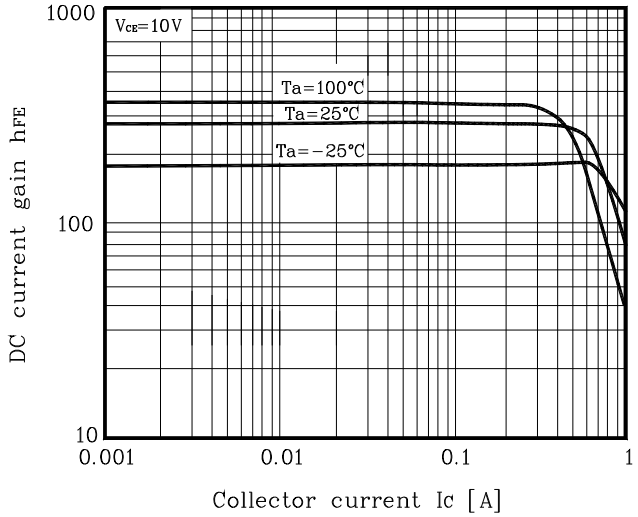


Fig. 10 Cob - V_{CB}

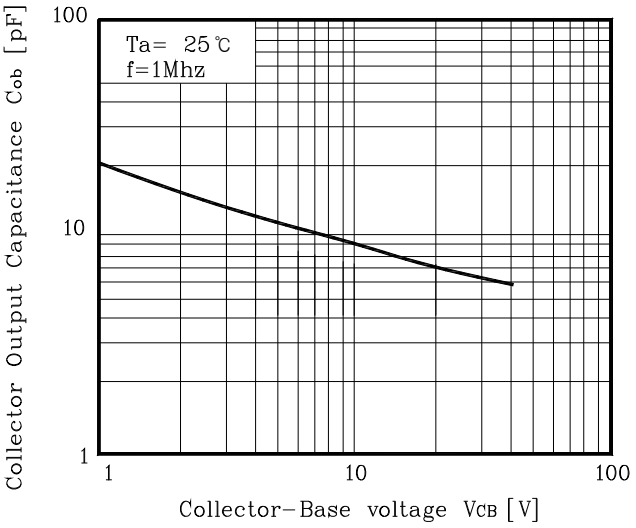


Fig. 11 f_T - I_C

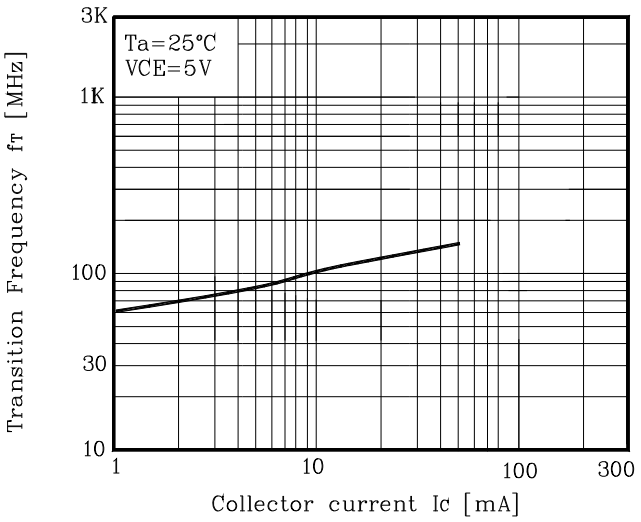
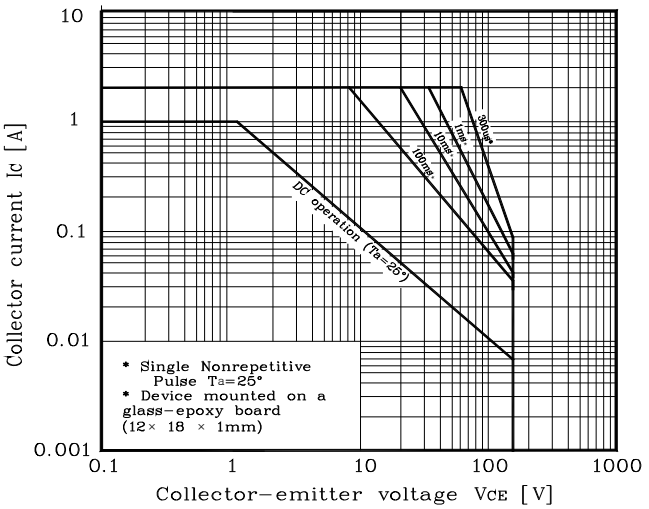
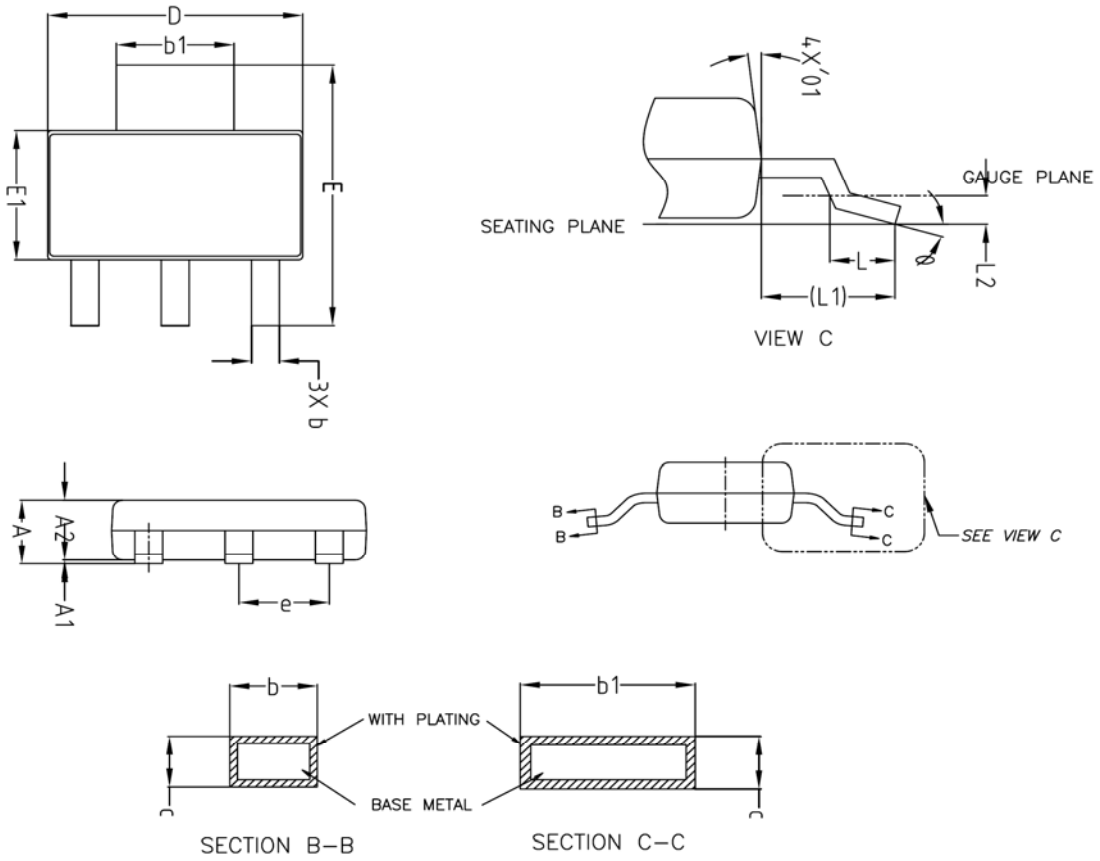


Fig. 12 Safe operating Area

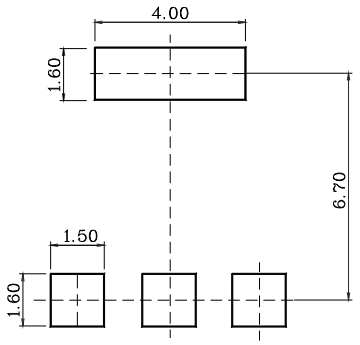


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	–	–	1.80	
A1	0.00	–	0.10	
A2	1.60	1.65	1.70	
b	0.68	–	0.76	
b1	2.95	–	3.07	
c	0.23	–	0.28	
D	6.40	6.50	6.60	
E	6.80	7.00	7.20	
E1	3.40	3.50	3.60	
e	2.30 BSC			
L	0.45	–	0.65	
L1	1.75 REF			
L2	0.10 BSC			
θ	0°	–	10°	
θ1	5°	–	10°	

※ Recommend PCB solder land [Unit: mm]



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