KODENSHI AUK

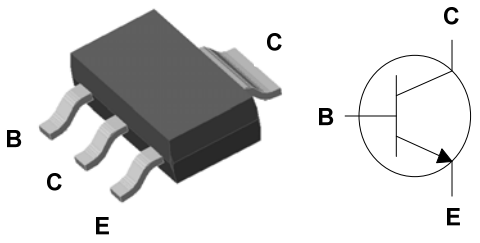
STC401Q

NPN Silicon Transistor

Features

- Low saturation switching application
- Voltage regulator application
- Low saturation : $V_{CE(SAT)}$=0.4V Max.
- High Voltage : V_{CEO}=60V Min.

PIN Connection



SOT-223

Ordering Information

Type NO.	Marking	Package Code
STC401Q	STC401 YWW	SOT-223

STC401: DEVICE CODE, YWW(Y : Year code, WW : Weekly code)

Absolute maximum ratings

Characteristic	Symbol	Ratings	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	1	A(DC)
	I_{CP}*	2	A(Pulse)
Collector 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

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	I_C=100 ㎂, I_E=0	80	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	I_C=1mA, I_B=0	60	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	I_E=10mA, I_C=0	5	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}=60V, I_E=0	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0	-	-	0.1	μA
DC current gain	h_{FE} *	V_{CE}=2V, I_C=100mA	200	-	400	-
		V_{CE}=2V, I_C=1A	80	-	-	
Base-Emitter on voltage	$V_{BE(ON)}$	V_{CE}=2V, I_C=500mA	-	-	1.2	V
Collector-Emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA, I_B=50mA	-	-	0.4	V
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	10	-	pF
Transition frequency	f_T	V_{CB}=10V, I_C=50mA	-	160	-	MHz

* h_{FE} rank : 200~400 Only

Electrical Characteristic Curves

Fig. 1 P_C - Ta

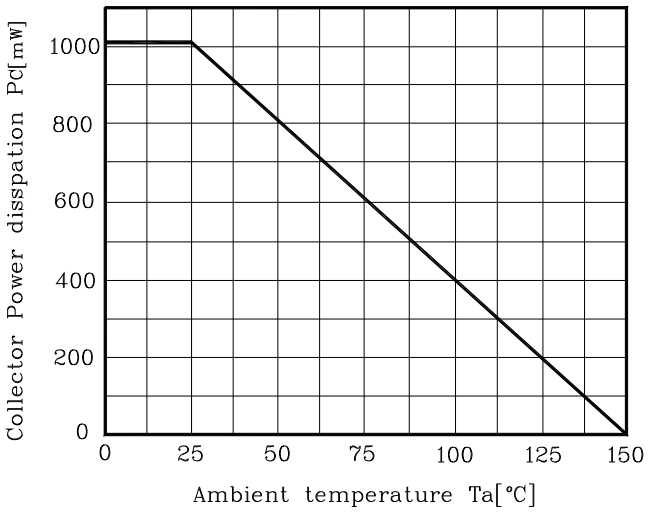


Fig. 2 V_{CE} - I_C

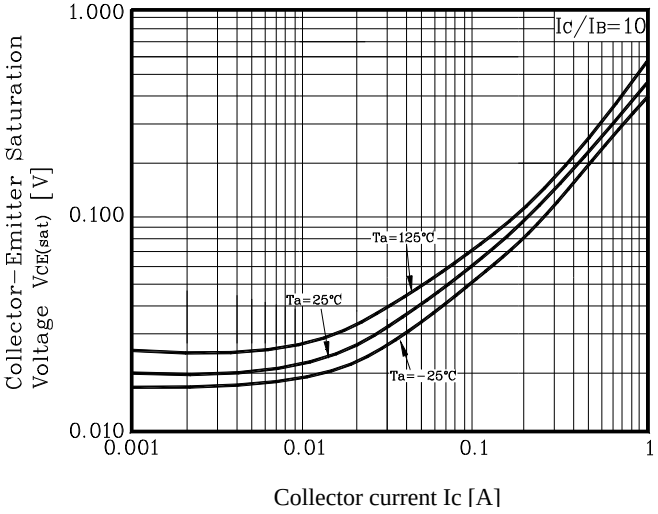


Fig. 3 h_{FE}-I_C

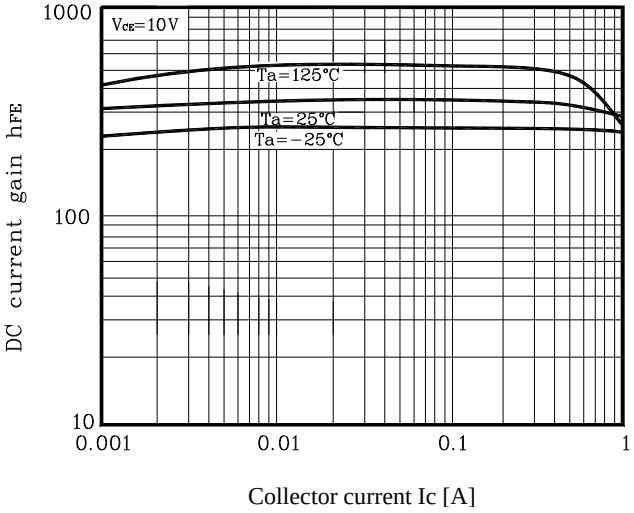


Fig. 4 h_{FE}-I_C

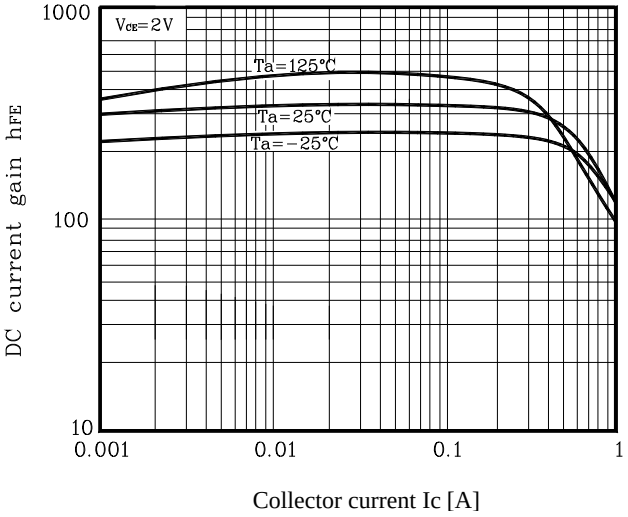


Fig. 5 h_{FE}-I_C

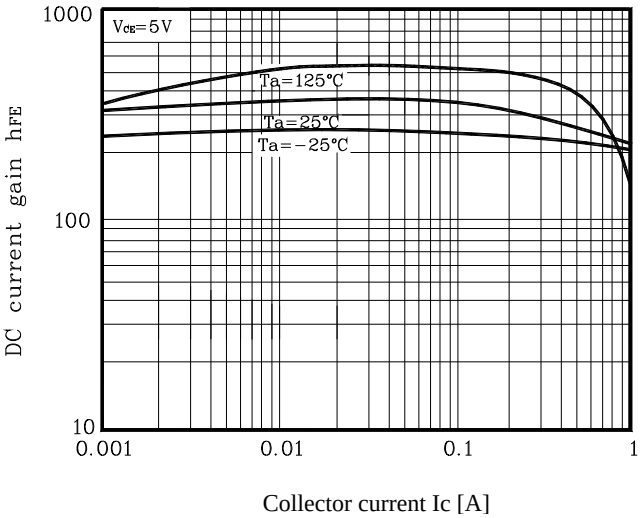
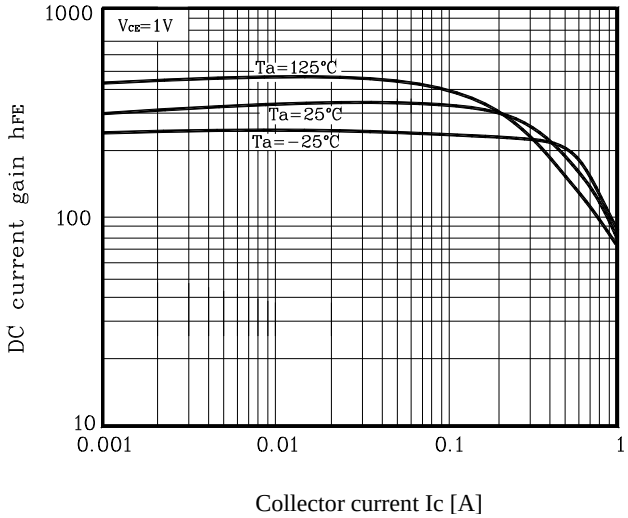


Fig. 6 h_{FE}-I_C



Electrical Characteristic Curves

Fig. 7 Cob - V_{CB}

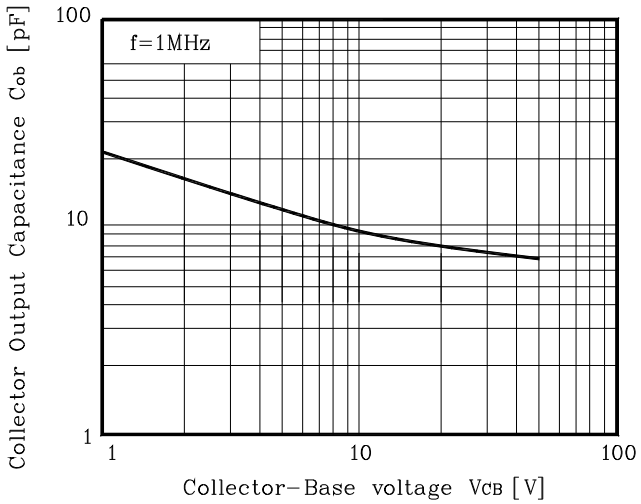


Fig. 8 I_C - V_{CE}

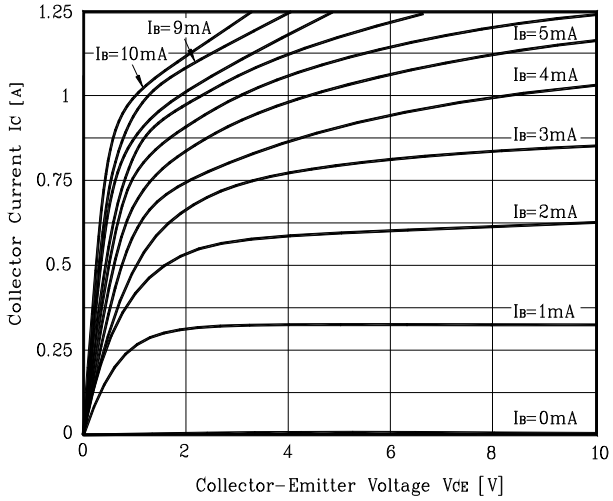


Fig. 9 f_T - I_C

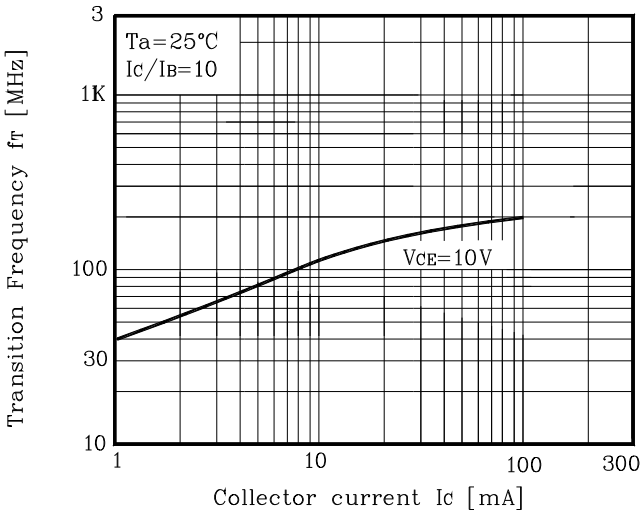
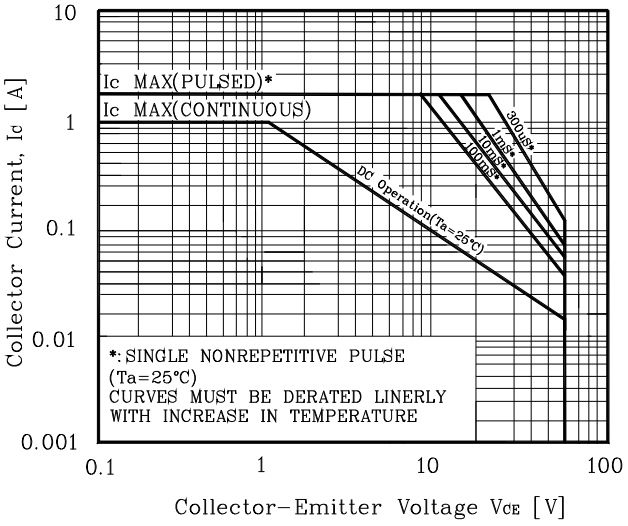
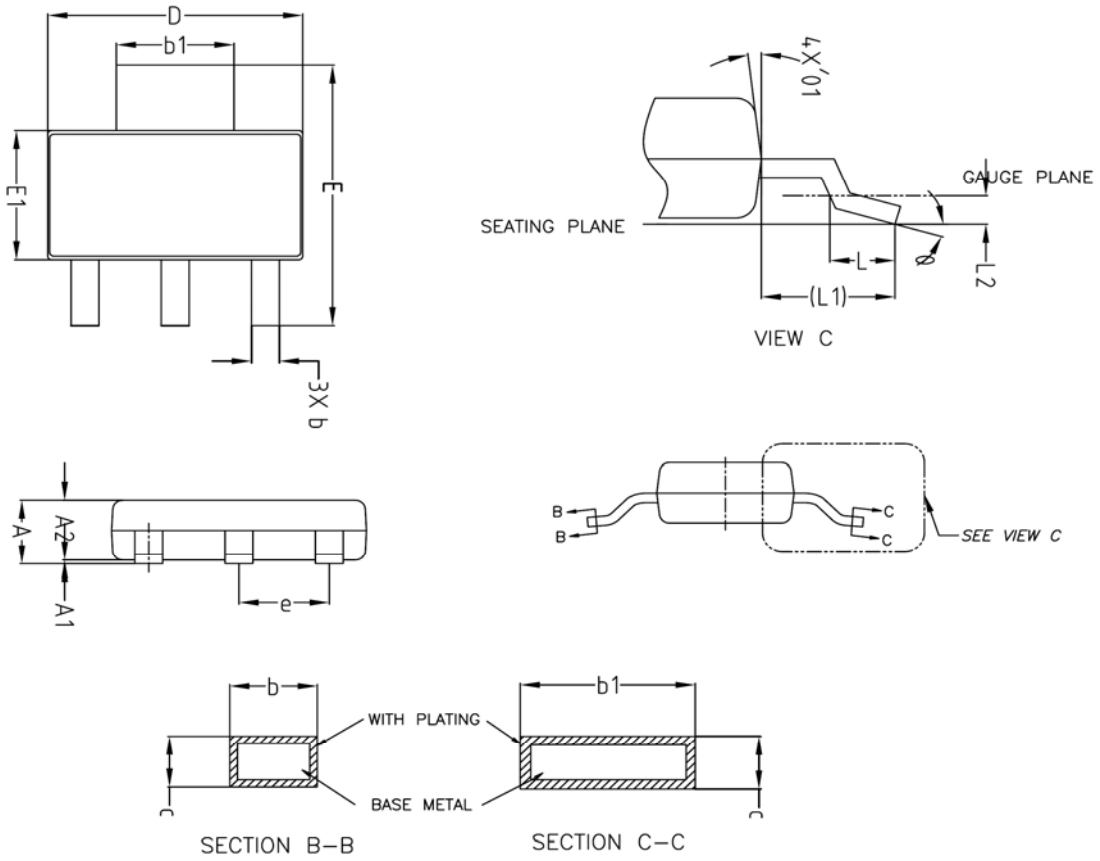


Fig. 10 Safe operating Area

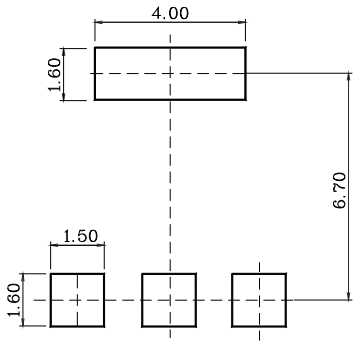


Outline Dimension



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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