AUK Semiconductor

STC401

NPN Silicon Transistor

Features

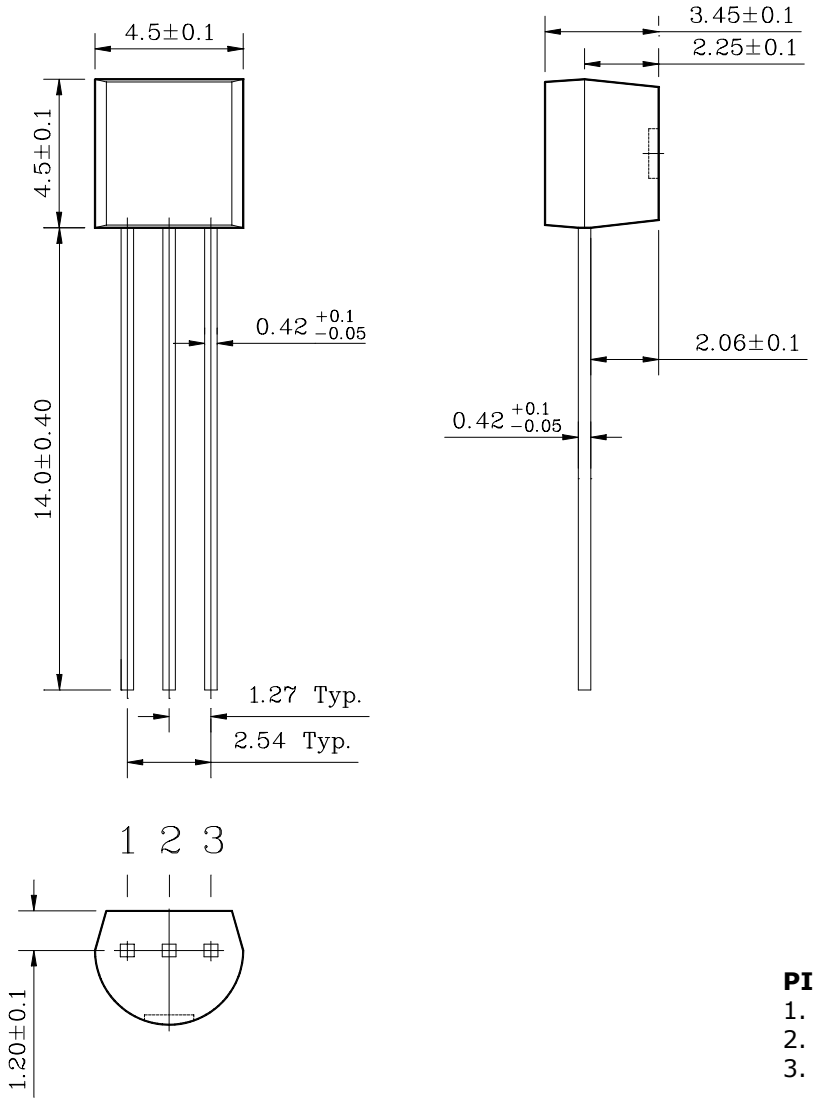
- Low saturation switching application
- Voltage regulator application
- Low saturation : $V_{CE(SAT)}$=0.4V Max.
- High Voltage : V_{CEO}=60V Min.

Ordering Information

Type NO.	Marking	Package Code
STC401	STC401	TO-92

Outline Dimensions

unit : mm



PIN Connections
1. Emitter
2. Collector
3. Base

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
Collector dissipation	P_C	625	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55~150	°C

Electrical Characteristics

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Emitter breakdown voltage	BV_{CEO}	I_C=1mA, I_B=0	60	-	-	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

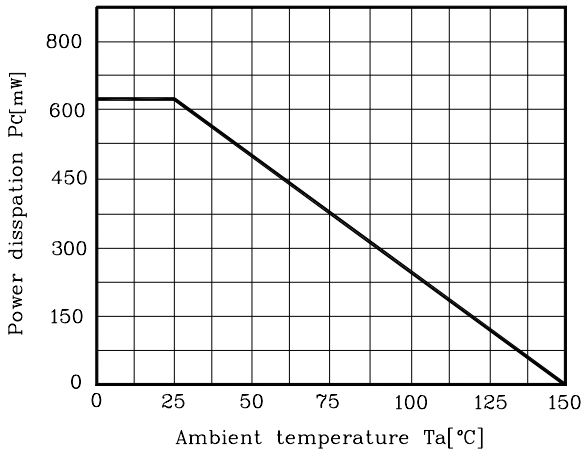


Fig. 2 V_{CE} - I_C

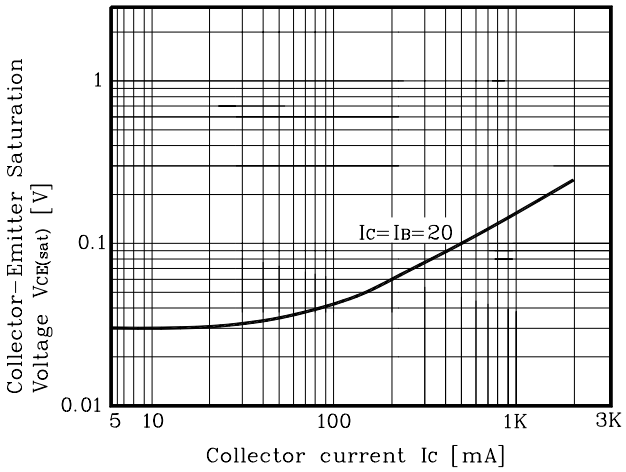


Fig. 3 h_{FE}-I_C

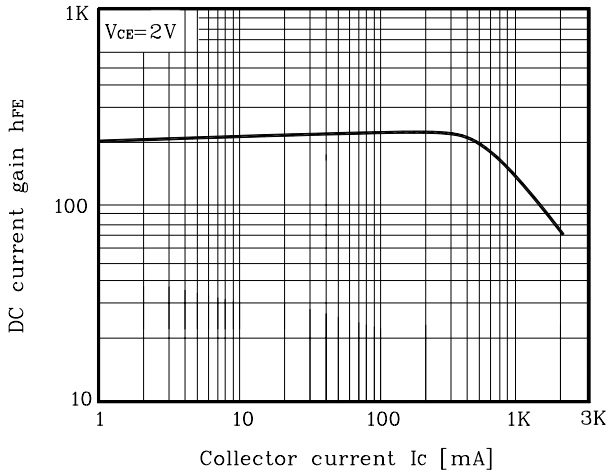


Fig. 4 Cob - V_{CB}

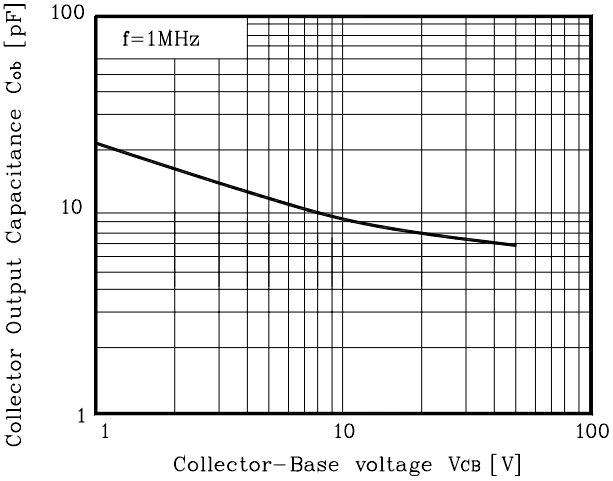


Fig. 5 I_C - V_{CE}

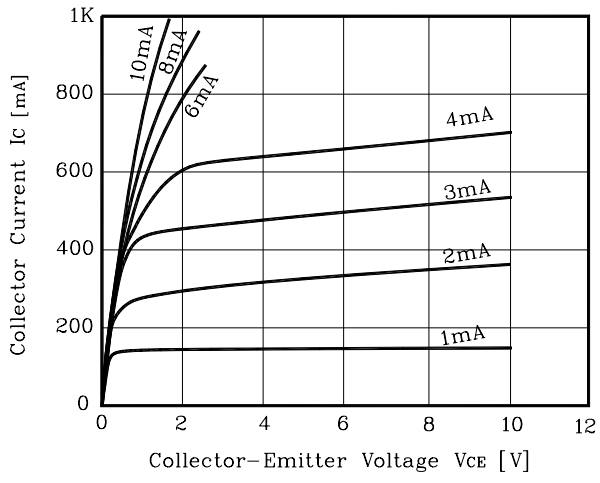
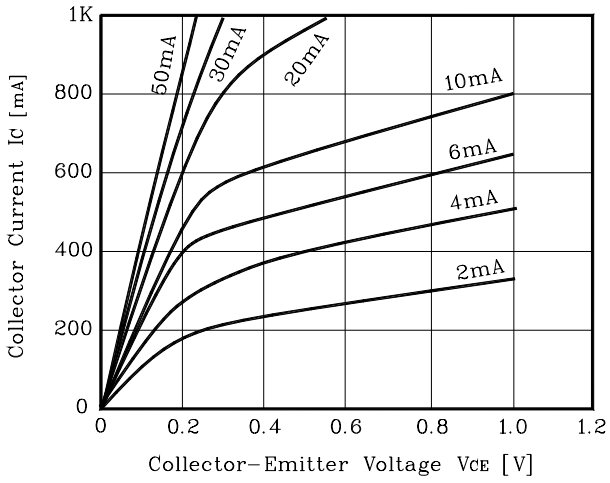


Fig. 6 I_C - V_{CE}



Electrical Characteristic Curves

Fig. 7 f_T - I_C