

Features

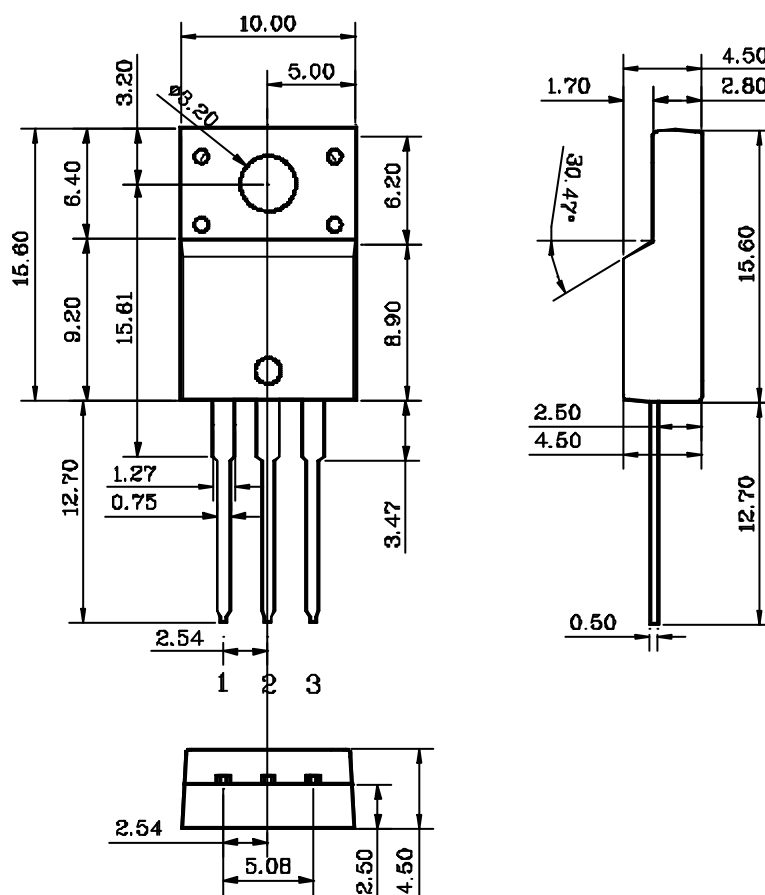
- Low saturation switching application
- Voltage regulator application
- High Voltage : $V_{CEO} = 60V$ Min.

Ordering Information

Type NO.	Marking	Package Code
STC405	STC405	TO-220F

Outline Dimensions

unit : mm



PIN Connections

1. Base
2. Collector
3. Emitter

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	5	A
Collector dissipation ($T_c=25^\circ\text{C}$)	P_C	25	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55~150	$^\circ\text{C}$

Electrical Characteristics

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector cut-off current	I_{CBO}	$V_{CB}=80\text{V}, I_E=0$	-	-	10	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$	-	-	10	μA
Collector-Emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	60	-	-	V
DC current gain	h_{FE}	$V_{CE}=5\text{V}, I_C=1\text{A}$	200	-	400	-
		$V_{CE}=5\text{V}, I_C=3\text{A}$	80	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=3\text{A}, I_B=300\text{mA}$	-	-	1	V
Base-Emitter saturation voltage	$V_{BE(sat)}$	$I_C=3\text{A}, I_B=300\text{mA}$	-	-	1.5	V
Transition frequency	f_T	$V_{CB}=5\text{V}, I_C=50\text{mA}$	-	8	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	-	25	-	pF

* HFE rank : 200~400 Only

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

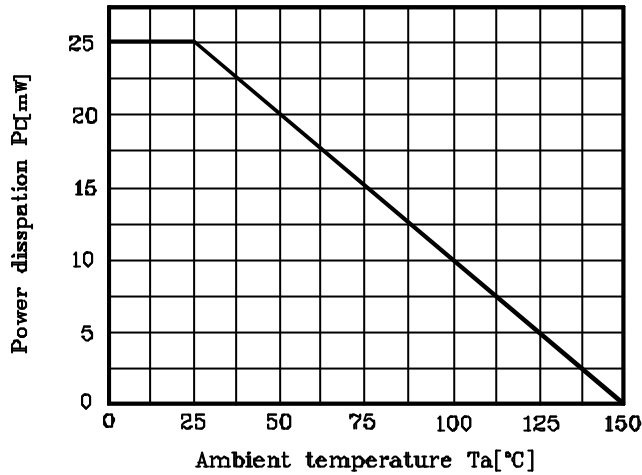


Fig. 2 $V_{CE(sat)} - I_C$

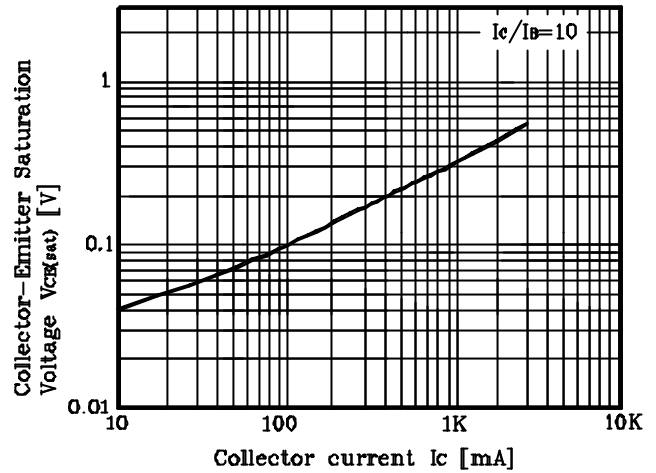


Fig. 3 $h_{FE} - I_C$

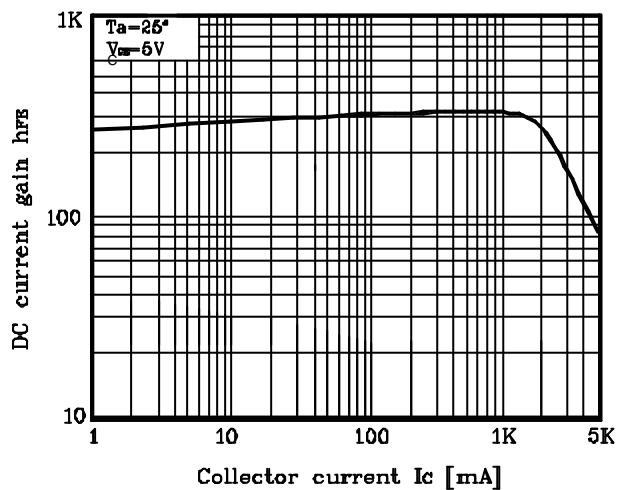


Fig. 4 $I_C - V_{CE}$

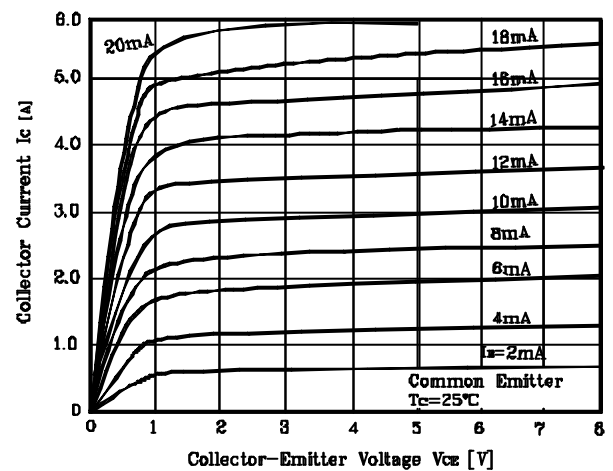


Fig. 5 Safe operating Area

