

Applications

- Power amplifier application
- High current switching application

Features

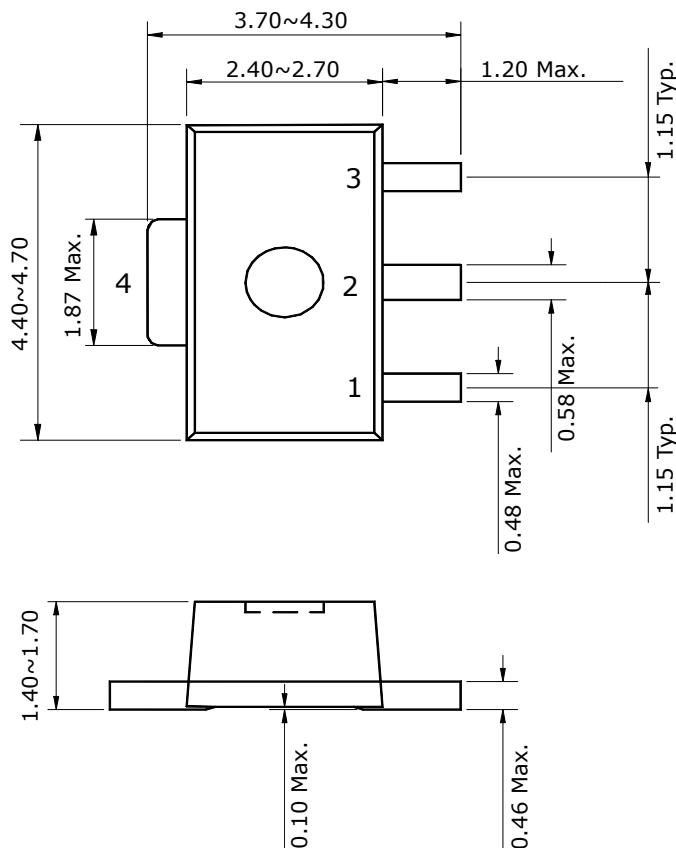
- Low saturation voltage: $V_{CE(sat)}=0.15V$ Typ. @ $I_C=1A$, $I_B=50mA$
- Large collector current capacity: $I_C=2A$
- Small and compact SMD type package
- Complementary pair with STA3250F

Ordering Information

Type NO.	Marking	Package Code
STC4250F	HW2	SOT-89

Outline Dimensions

unit : mm



PIN Connections

1. Base
- 2,4. Collector
3. Emitter

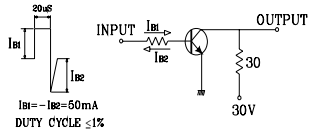
Absolute Maximum Ratings

[Ta=25℃]

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	2	A
Collector Power dissipation	P_C	0.5	W
	P_C^*	1	W
Junction temperature	T_J	150	℃
Storage temperature range	T_{stg}	-55~150	℃

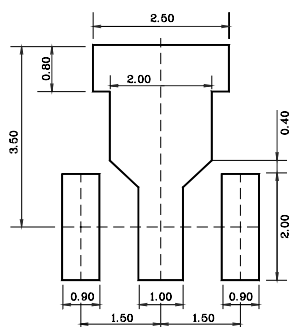
* Device mounted on ceramic substrate (250mm² × 0.8t)**Electrical Characteristics**

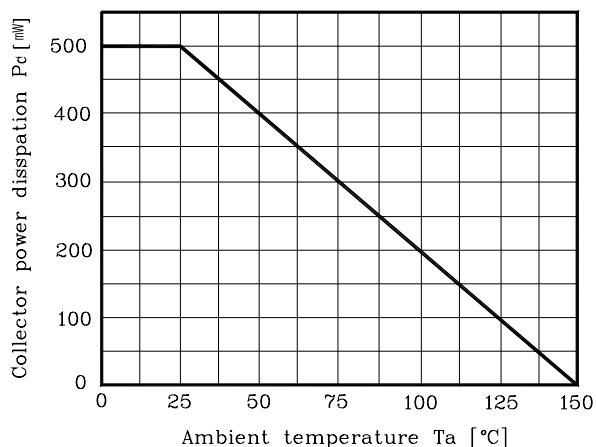
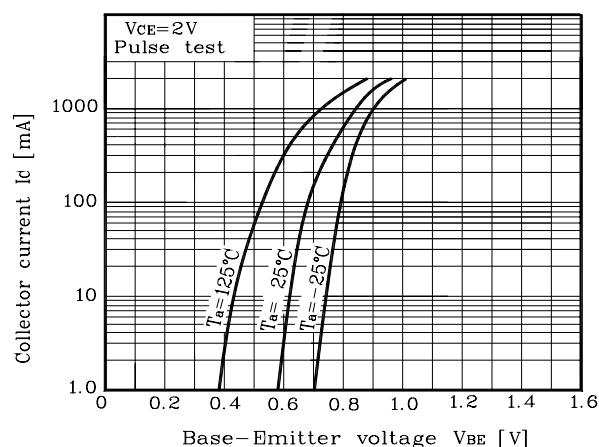
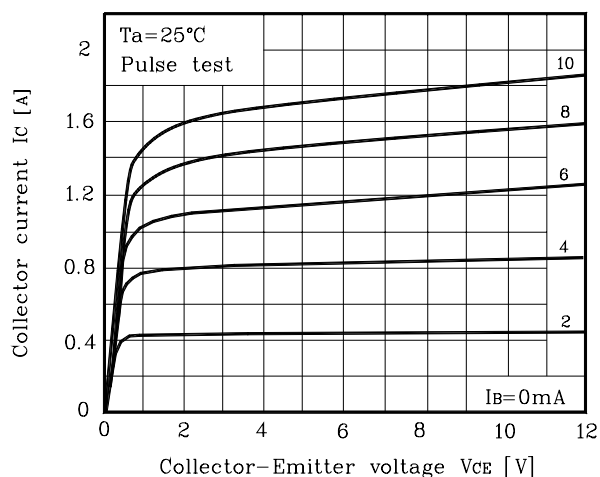
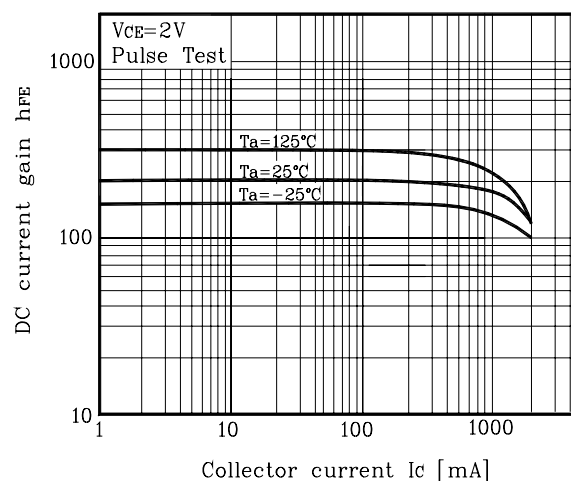
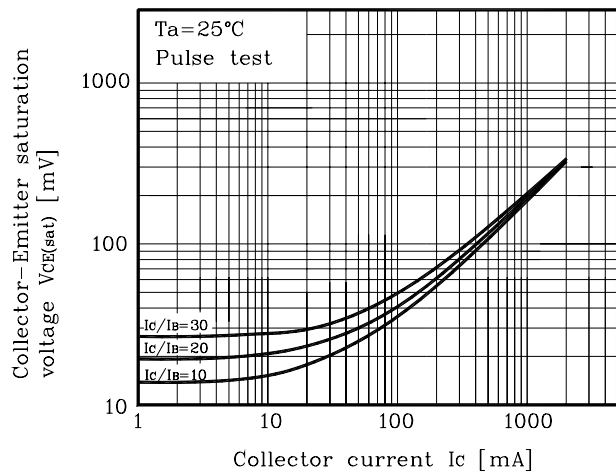
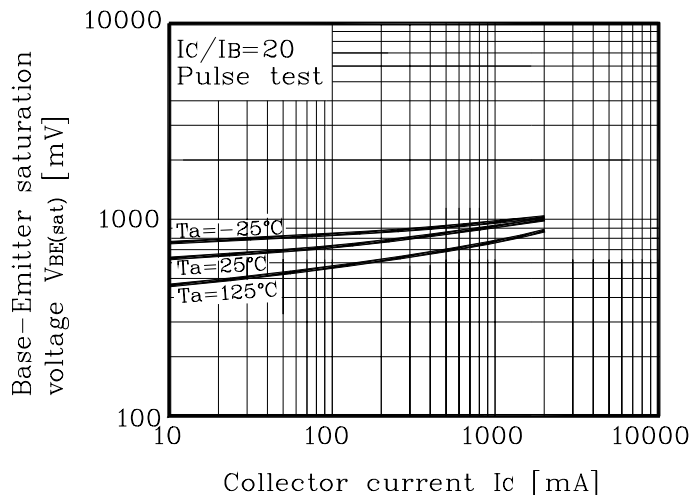
[Ta=25℃]

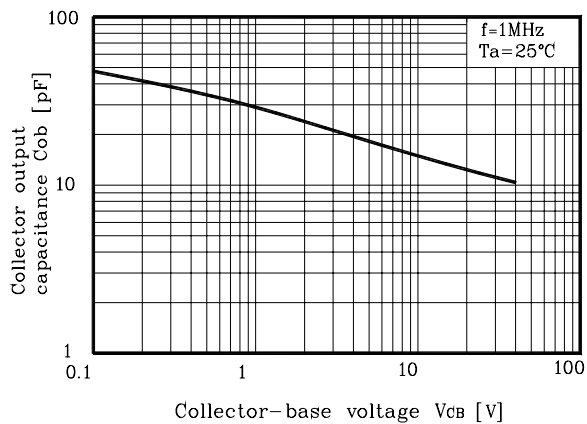
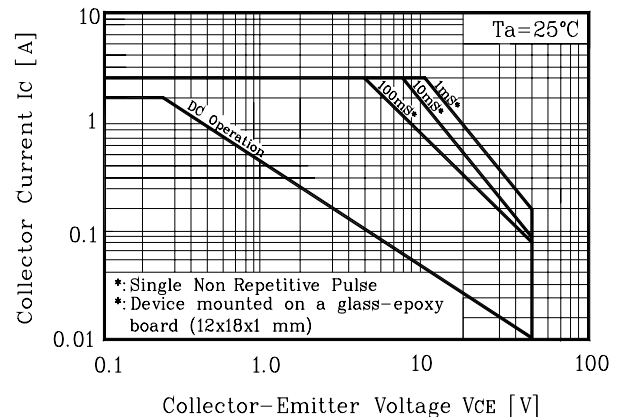
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	BV_{CEO}	$I_C=10mA, I_B=0$	50	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=50V, I_E=0$	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$	-	-	0.1	μA
DC current gain	h_{FE}	$V_{CE}=2V, I_C=0.5A^*$	120	-	240	
	h_{FE}	$V_{CE}=2V, I_C=1.5A^*$	40	-	-	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1A, I_B=0.05A^*$	-	-	0.35	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=1A, I_B=0.05A^*$	-	-	1.2	V
Transition frequency	f_T	$V_{CE}=2V, I_C=50mA$	-	240	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	-	15	-	pF
Switching Time	Turn-on Time	t_{on}		100	-	nS
	Storage Time	t_{stg}		300	-	
	Fall Time	t_f		50	-	

*: Pulse test: $t_p \leq 300\mu s$, Duty cycle $\leq 2\%$

* Recommend PCB solder land [Unit: mm]



Electrical Characteristic Curves**Fig. 1 $P_C - T_a$** **Fig. 2 $I_C - V_{BE}$** **Fig. 3 $I_C - V_{CE}$** **Fig. 4 $h_{FE} - I_C$** **Fig. 5 $V_{CE(sat)} - I_C$** **Fig. 6 $V_{BE(sat)} - I_C$** 

Electrical Characteristic Curves**Fig. 7 $C_{Ob} - V_{CB}$** **Fig. 8 Safe Operating Area**

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