

## Applications

- Power amplifier application
- High current switching application

## Features

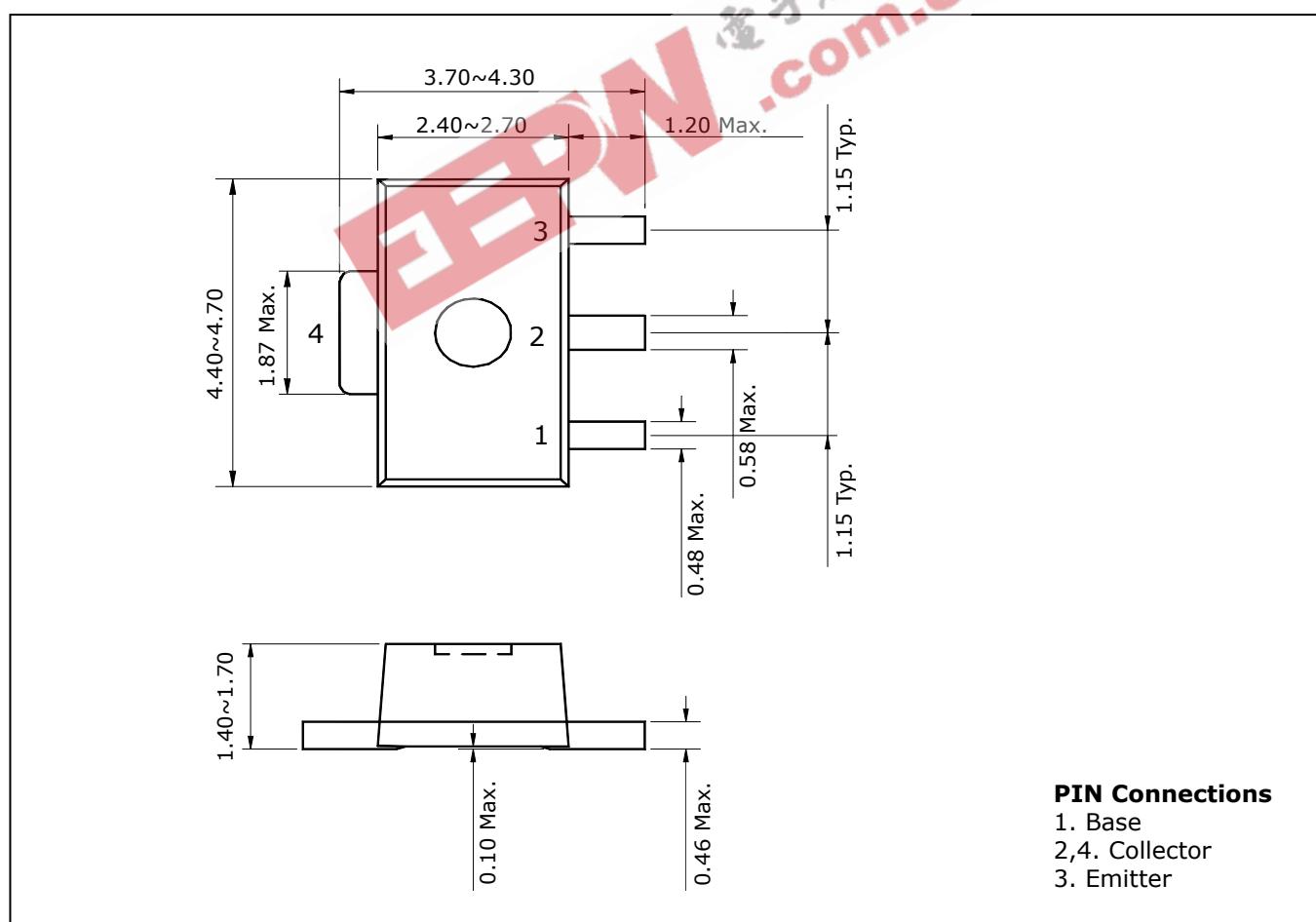
- Low saturation voltage:  $V_{CE(sat)} = -0.15V$  Typ. @  $I_C = -1A$ ,  $I_B = -50mA$
- Large collector current capacity:  $I_C = -3A$
- Small and compact SMD type package
- Complementary pair with STC4350F

## Ordering Information

Type NO.	Marking	Package Code
STA3350F	HW7	SOT-89

## Outline Dimensions

unit : mm



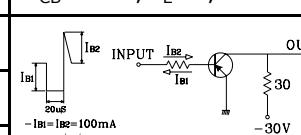
**Absolute Maximum Ratings**

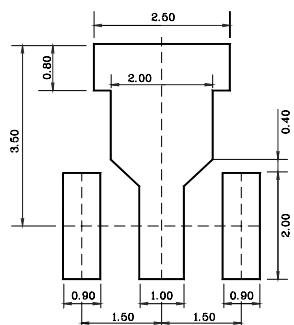
[Ta=25°C]

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V <sub>CBO</sub>	-50	V
Collector-emitter voltage	V <sub>CEO</sub>	-50	V
Emitter-base voltage	V <sub>EBO</sub>	-6	V
Collector current	I <sub>C</sub>	-3	A
Collector Power dissipation	P <sub>C</sub>	0.5	W
	P <sub>C</sub> *	1	W
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-55~150	°C

※ Device mounted on ceramic substrate (250mm<sup>2</sup> x 0.8t)**Electrical Characteristics**

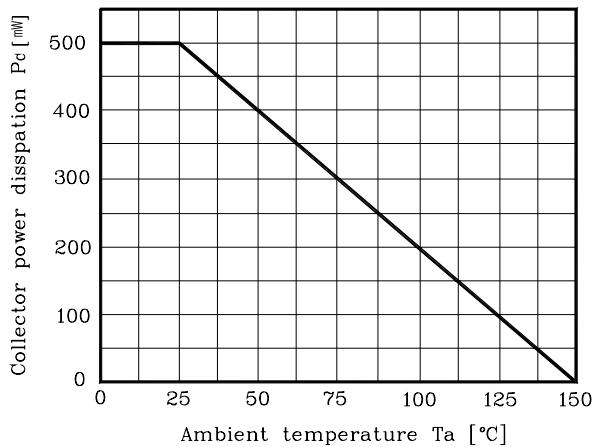
[Ta=25°C]

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	I <sub>C</sub> =-1mA, I <sub>B</sub> =0	-50	-	-	V	
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =-50V, I <sub>E</sub> =0	-	-	-1	μA	
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-6V, I <sub>C</sub> =0	-	-	-1	μA	
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-0.5A*	120	-	240	μA	
	h <sub>FE</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-2A*	40	-	-		
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-1A, I <sub>B</sub> =-0.05A*	-	-	-0.35	V	
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-2A, I <sub>B</sub> =-0.1A*	-	-0.97	-1.2	V	
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-0.05A	-	250	-	MHz	
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1MHz	-	28	-	pF	
Switching Time	Turn-on Time	t <sub>on</sub>	 - Ib1 = Ib2 = 100mA DUTY CYCLE ≤ 1%	-	100	-	ns
	Storage Time	t <sub>stg</sub>		-	300	-	
	Fall Time	t <sub>f</sub>		-	50	-	

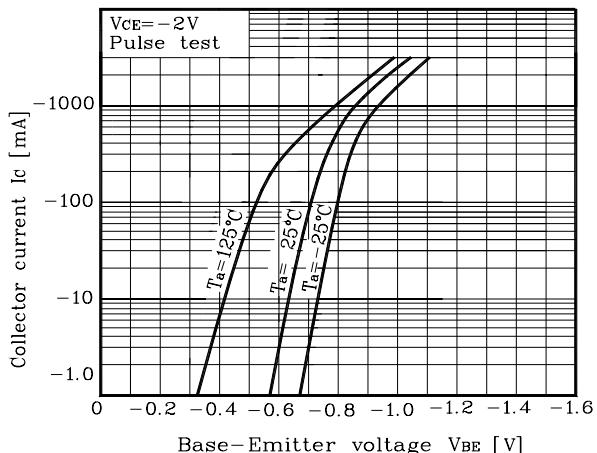
\*: Pulse test : t<sub>p</sub>≤300μs, Duty cycle≤2%**\* Recommend PCB solder land [Unit: mm]**

## Electrical Characteristic Curves

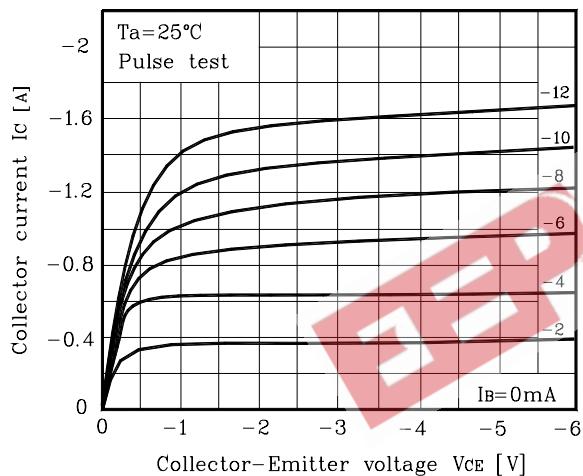
**Fig. 1  $P_C - T_a$**



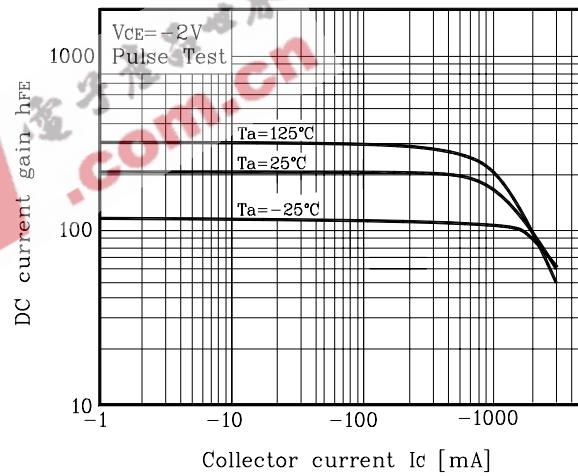
**Fig. 2  $I_C - V_{BE}$**



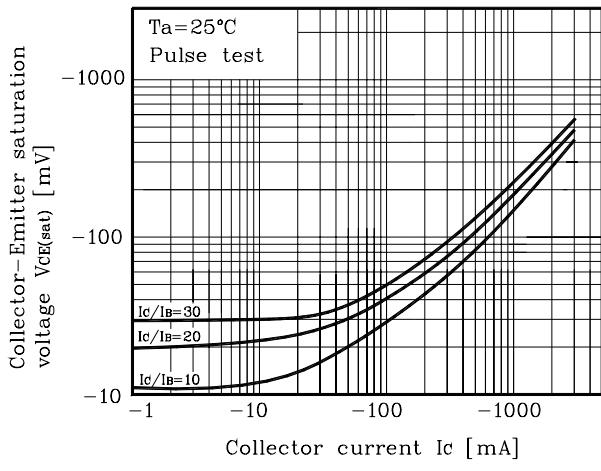
**Fig. 3  $I_C - V_{CE}$**



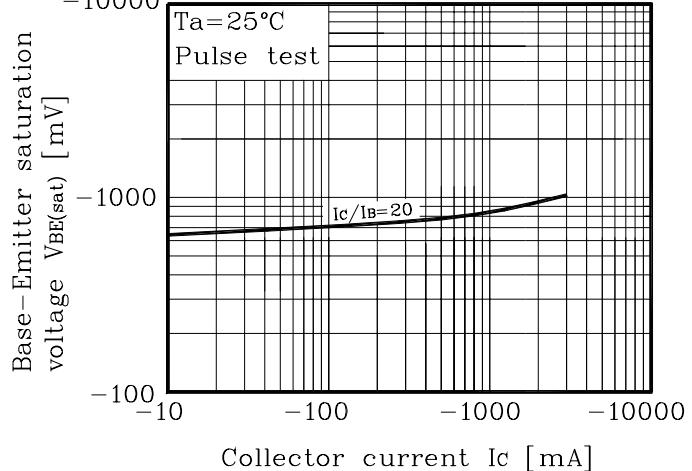
**Fig. 4  $h_{FE} - I_C$**



**Fig. 5  $V_{CE(sat)} - I_C$**

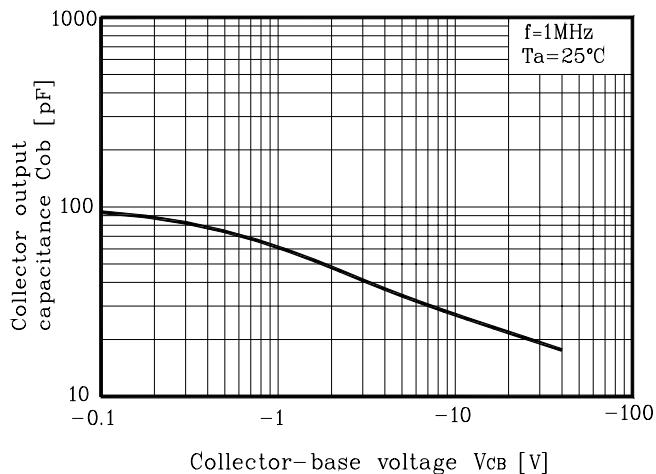


**Fig. 6  $V_{BE(sat)} - I_C$**

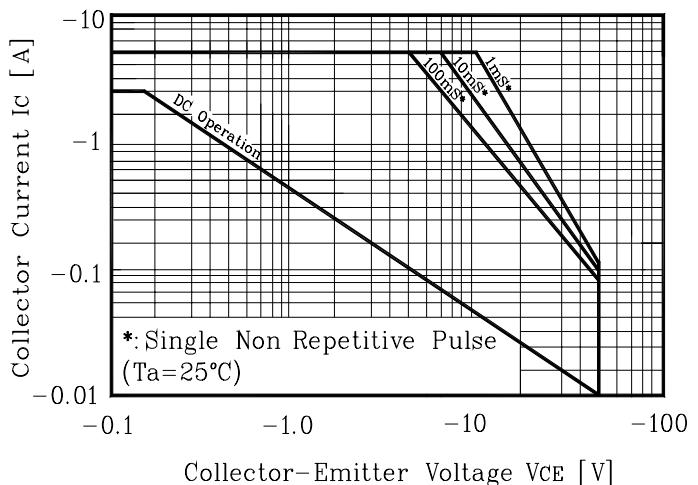


## Electrical Characteristic Curves

**Fig. 7**  $C_{ob}$  -  $V_{CB}$



**Fig. 8 Safe Operating Area**



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