

Applications

- Power amplifier application
- High current switching application

Features

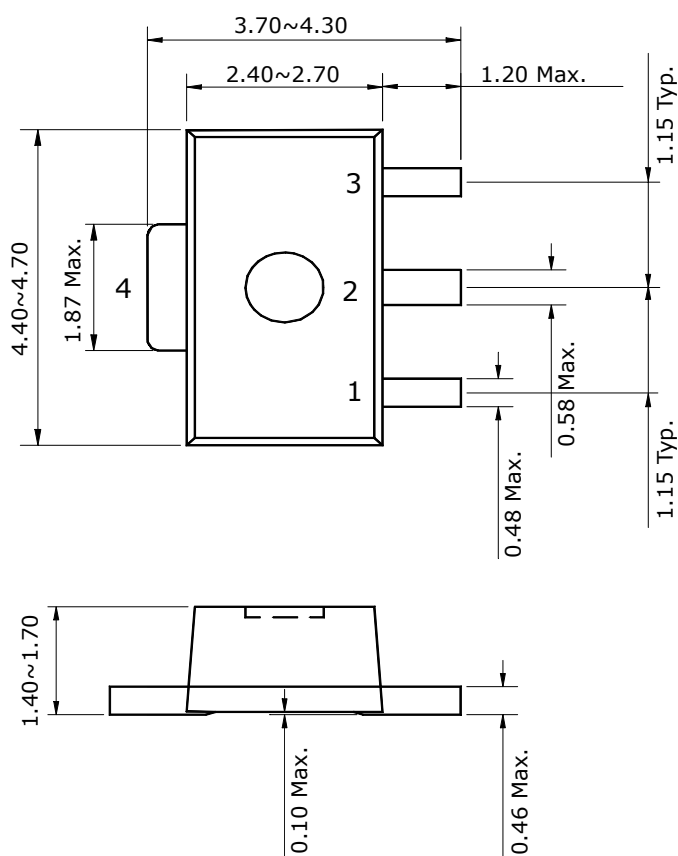
- Low saturation voltage: $V_{CE(sat)}=0.15V$ Typ. @ $I_C=1A$, $I_B=50mA$
- Large collector current capacity: $I_C=3A$
- Small and compact SMD type package
- Complementary pair with STA3350F

Ordering Information

Type NO.	Marking	Package Code
STC4350F	HW8	SOT-89

Outline Dimensions

unit : mm



Absolute Maximum Ratings

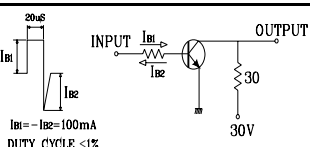
[Ta=25℃]

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	3	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)

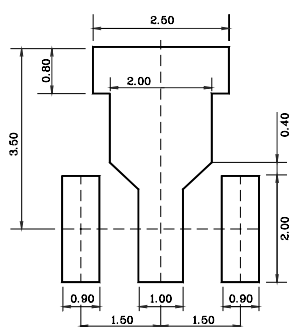
Electrical Characteristics

[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}	$V_{CB}=60V, I_E=0$	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=6V, I_C=0$	-	-	0.1	μA
DC current gain	h_{FE}	$V_{CE}=2V, I_C=0.1A^*$	120	-	240	
	h_{FE}	$V_{CE}=2V, I_C=2A^*$	40	-	-	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2A, I_B=0.1A^*$	-	-	0.35	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=2A, I_B=0.1A^*$	-	-	1.2	V
Transition frequency	f_T	$V_{CE}=10V, I_C=0.05A$	-	210	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	-	18	-	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 $P_C - T_a$

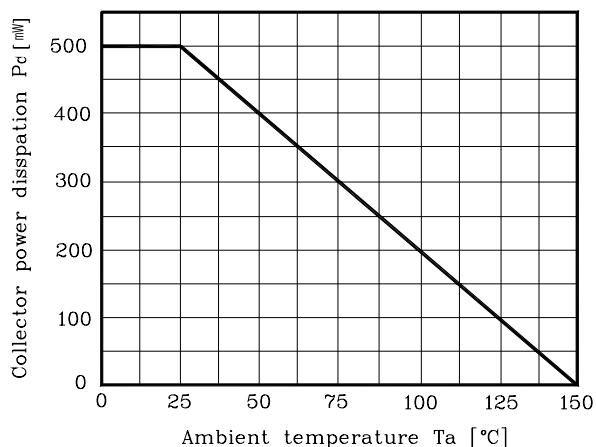


Fig. 2 $I_C - V_{BE}$

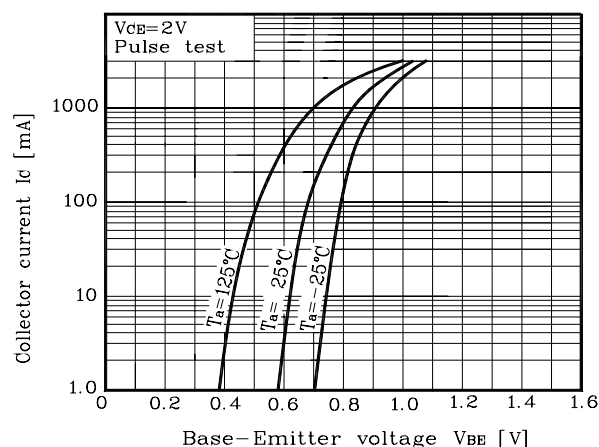


Fig. 3 $I_C - V_{CE}$

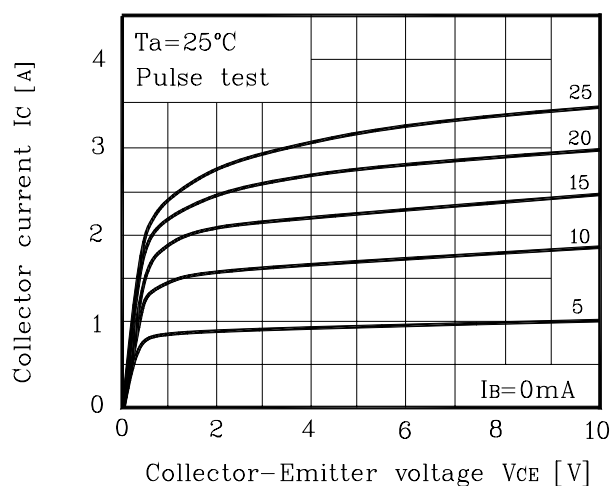


Fig. 4 $h_{FE} - I_C$

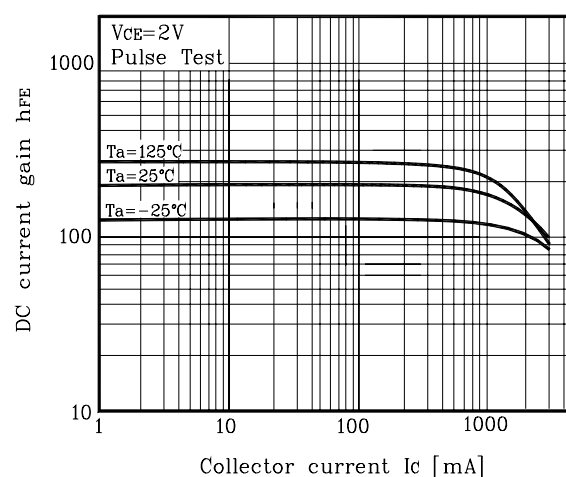


Fig. 5 $V_{CE(sat)} - I_C$

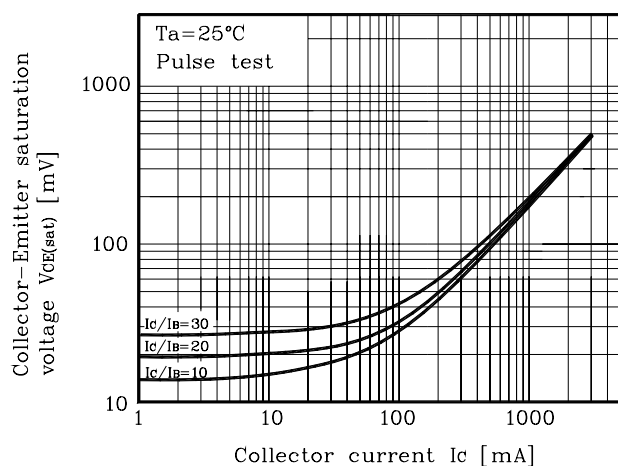
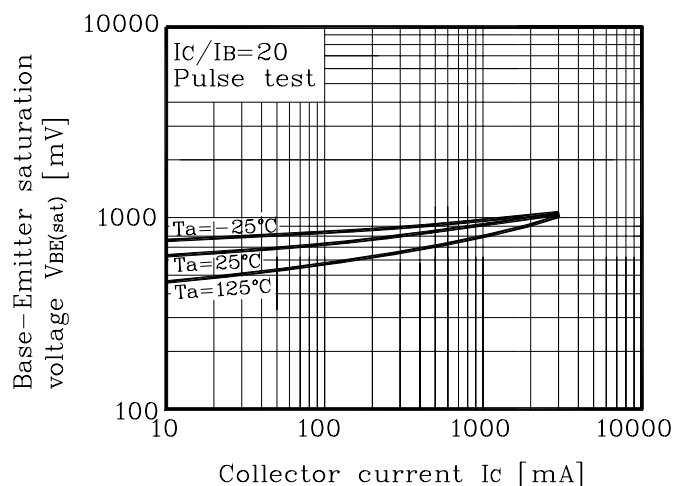


Fig. 6 $V_{BE(sat)} - I_C$



Electrical Characteristic Curves

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

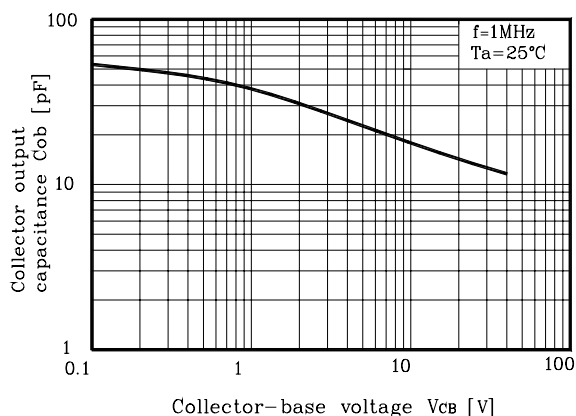
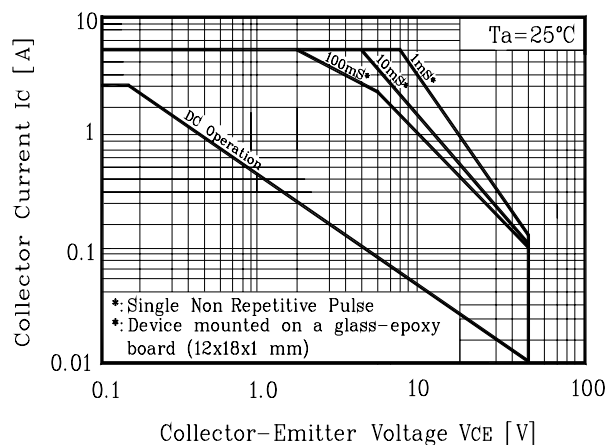


Fig. 8 Safe Operating Area



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