

## Applications

- Power amplifier application
- High current switching application

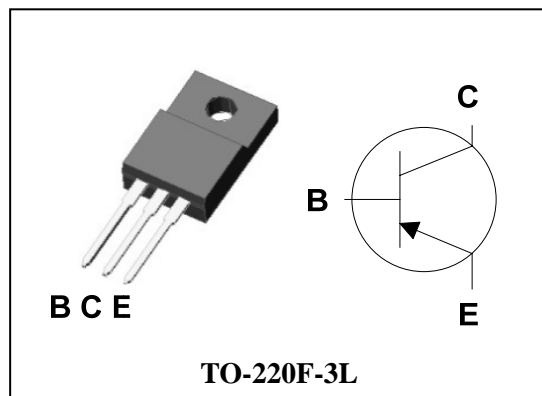
## Features

- Low saturation voltage  
:  $V_{CE(sat)} = -0.15V$  Typ. @  $I_C = -1A$ ,  $I_B = -50mA$
- Large collector current capacity:  $I_C = -3A$
- TO-220F-3L DIP type package

## Ordering Information

Type NO.	Marking	Package Code
STA3350PI	STA3350	TO-220F-3L

## PIN Connection



## Absolute Maximum Ratings

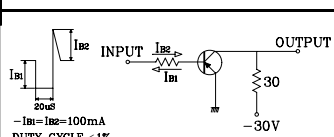
[Ta=25°C]

Characteristic	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-50	V
Collector-emitter voltage	$V_{CEO}$	-50	V
Emitter-base voltage	$V_{EBO}$	-6	V
Collector current	$I_C$	-3	A(DC)
	$I_{CP}^*$	-6	A(Pulse)
Collector Power dissipation ( $T_C = 25^\circ C$ )	$P_C$	10	W
Junction temperature	$T_J$	150	°C
Storage temperature range	$T_{stg}$	-55~150	°C

 \* : Single pulse,  $t_p = 300 \mu s$ 

## Electrical Characteristics

[Ta=25°C]

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C = -1mA$ , $I_B = 0$	-50	-	-	V	
Collector cut-off current	$I_{CBO}$	$V_{CB} = -50V$ , $I_E = 0$	-	-	-1	$\mu A$	
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -6V$ , $I_C = 0$	-	-	-1	$\mu A$	
DC current gain	$h_{FE}$	$V_{CE} = -2V$ , $I_C = -0.5A^*$	120	-	240		
	$h_{FE}$	$V_{CE} = -2V$ , $I_C = -2A^*$	40	-	-		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1A$ , $I_B = -0.05A^*$	-	-	-0.35	V	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -2A$ , $I_B = -0.1A^*$	-	-0.97	-1.2	V	
Transition frequency	$f_T$	$V_{CE} = -10V$ , $I_C = -0.05A$	-	250	-	MHz	
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V$ , $I_E = 0$ , $f = 1MHz$	-	28	-	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  $\leq 2\%$

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

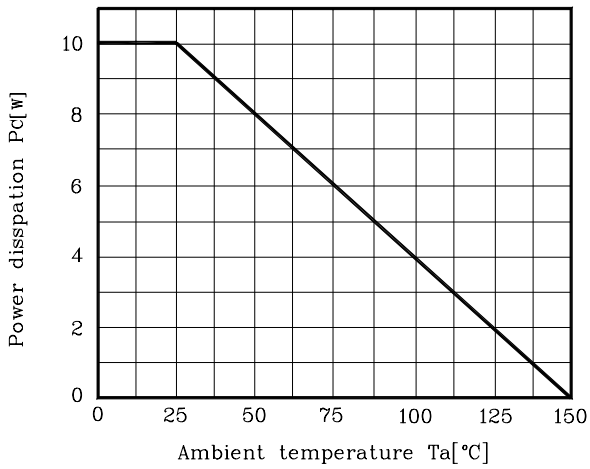


Fig. 2  $I_C - V_{BE}$

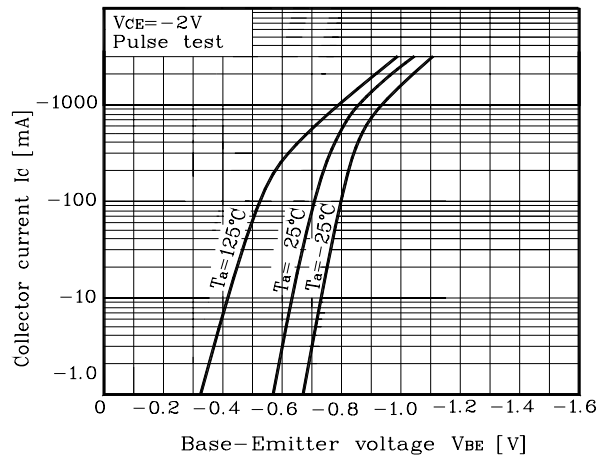


Fig. 3  $I_C - V_{CE}$

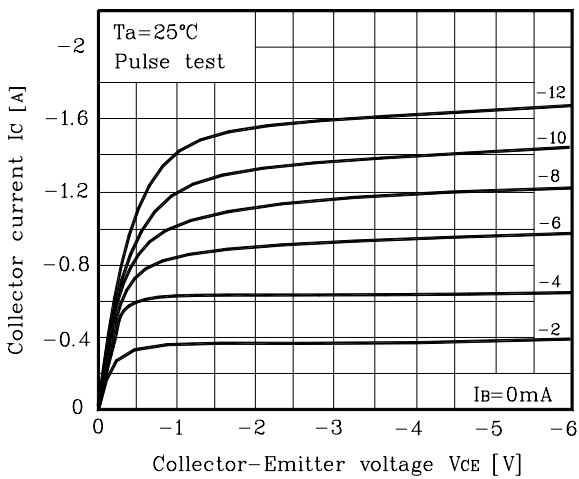


Fig. 4  $h_{FE} - I_C$

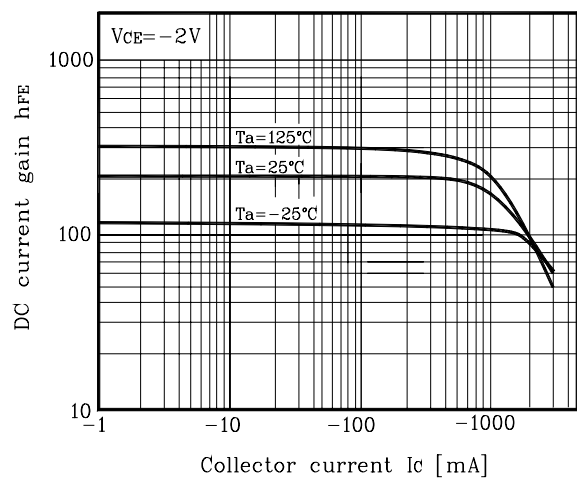


Fig. 5  $V_{CE(sat)} - I_C$

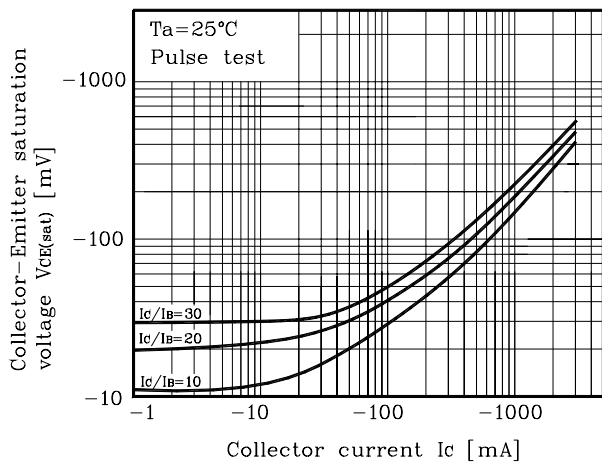
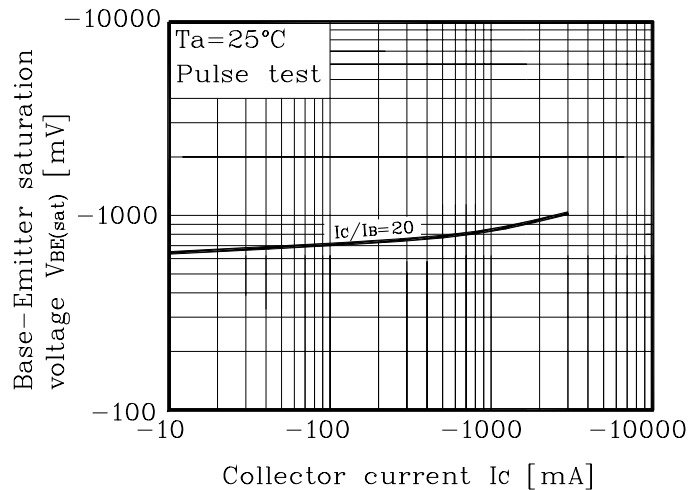


Fig. 6  $V_{BE(sat)} - I_C$



Electrical Characteristic Curves

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

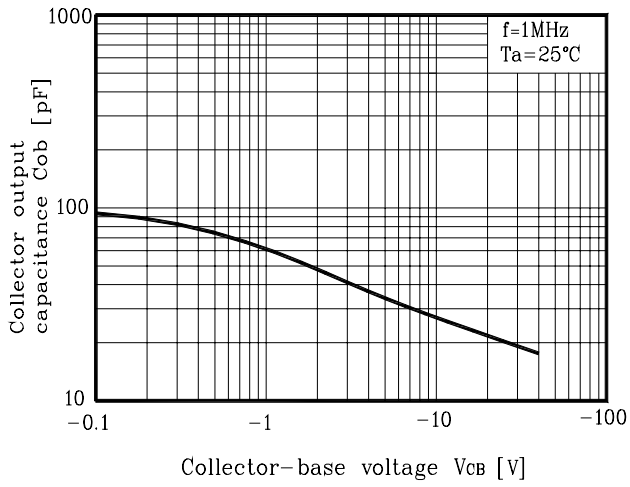
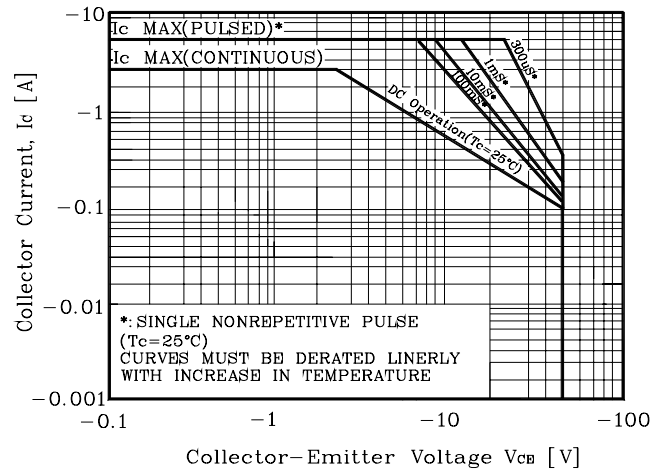
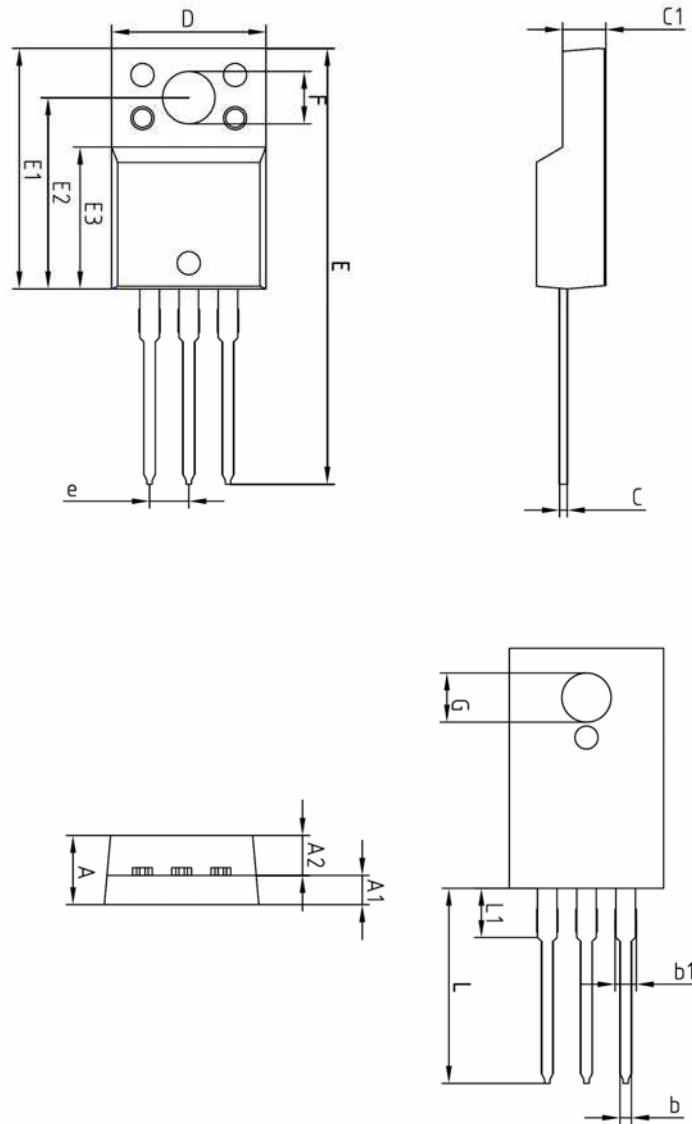


Fig. 8 Safe Operating Area



## Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	-	-	4.60	
A1	2.45	2.50	2.55	
A2	1.95	2.00	2.05	
b	0.65	0.75	0.85	
b1	1.07	1.27	1.47	
C	0.40	0.50	0.60	
C1	2.70	2.80	2.90	
D	9.90	10.00	10.10	
E	28.00	-	28.60	
E1	15.50	15.60	15.70	
E2	12.30	12.40	12.50	
E3	9.15	9.20	9.25	
F	3.30	3.40	3.50	
G	3.10	3.20	3.30	
e	2.54 BSC			
L	12.40	-	13.00	
L1	3.46 BSC			

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