

## Description

- General purpose application
- Switching application

## Features

- Excellent  $h_{FE}$  linearity :  $h_{FE}(I_C=0.1 \text{ mA}) / h_{FE}(I_C=2 \text{ mA}) = 0.95(\text{Typ.})$
- Complementary pair with STA9015SF

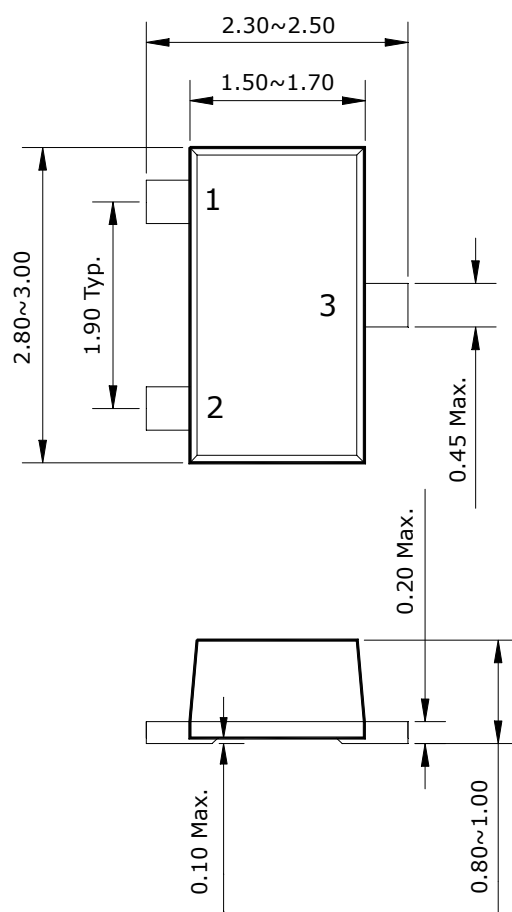
## Ordering Information

Type NO.	Marking	Package Code
STC9014SF	9C□	SOT-23F

□ :  $h_{FE}$  rank

## Outline Dimensions

unit : mm



### PIN Connections

1. Base
2. Emitter
3. Collector

**STC9014SF****Absolute Maximum Ratings**

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	60	V
Collector-emitter voltage	$V_{CEO}$	50	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	150	mA
Collector power dissipation	$P_C^*$	350	mW
Junction temperature	$T_J$	150	°C
Storage temperature range	$T_{stg}$	-55~150	°C

\* : Package mounted on 99.5% Alumina 10×8×0.6mm

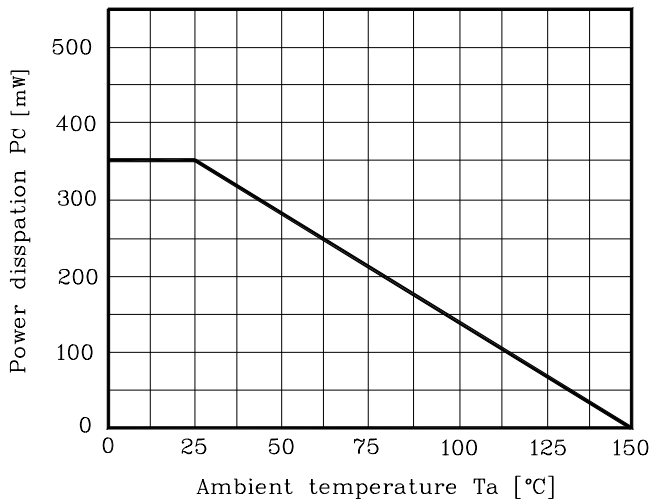
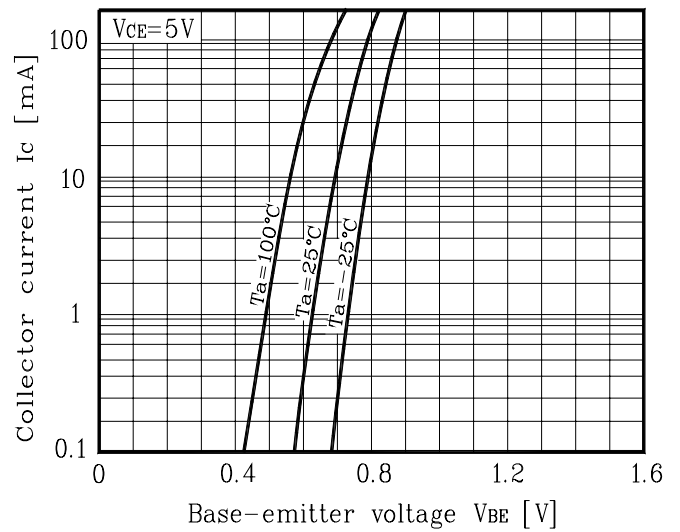
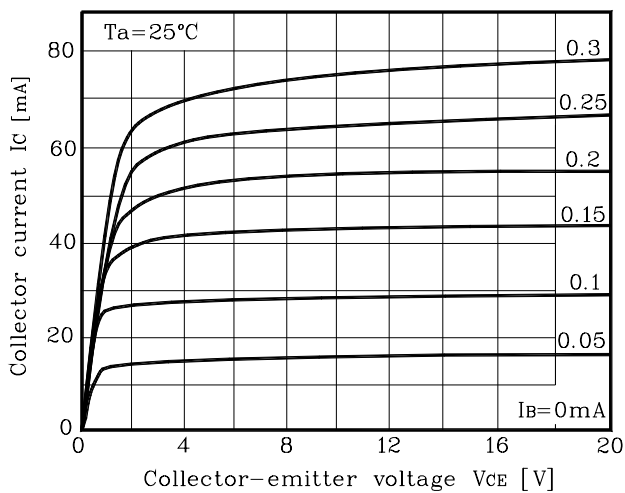
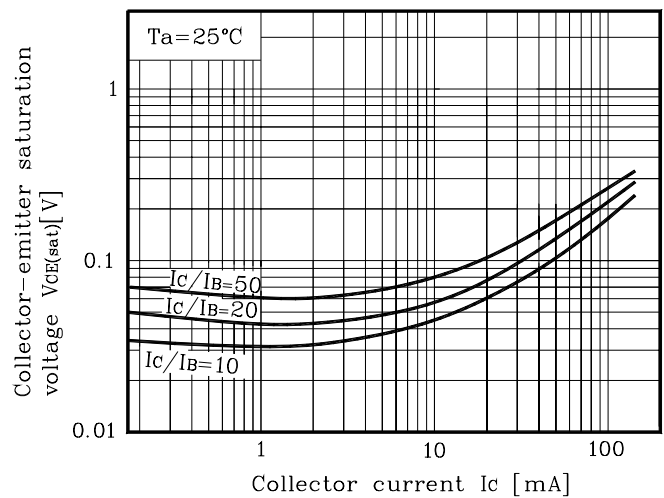
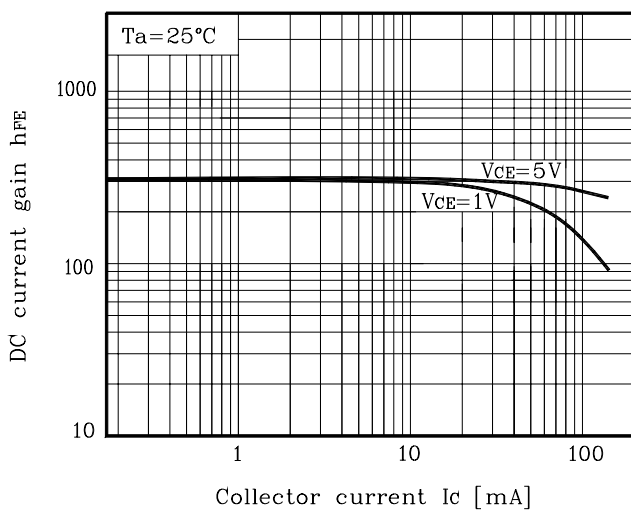
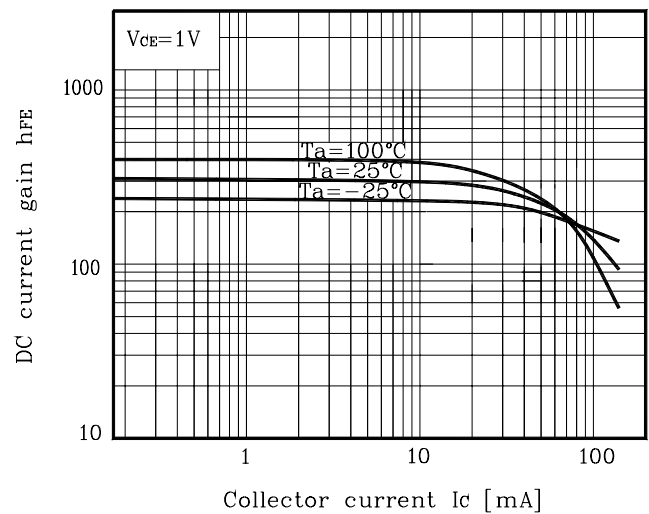
**Electrical Characteristics**

(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	$I_{CBO}$	$V_{CB}=60V, I_E=0$	-	-	50	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_C=0$	-	-	100	nA
DC current gain	$h_{FE}^*$	$V_{CE}=5V, I_C=1mA$	100	-	1000	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$	-	0.1	0.25	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=5V, I_C=1mA$	-	0.65	0.85	V
Transition frequency	$f_T$	$V_{CE}=10V, I_C=10mA$	-	200	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$	-	2	-	pF

\* :  $h_{FE}$  rank / B : 100 ~ 300, C : 200 ~ 600, D : 400 ~ 1000.

## Electrical Characteristic Curves

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

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