

**Description**

- General purpose application.
- Switching application.

**Features**

- Excellent  $h_{FE}$  linearity :  $h_{FE}(I_C=0.1mA) / h_{FE}(I_C=2mA) = 0.95(Typ.)$
- Complementary pair with STC9014SF

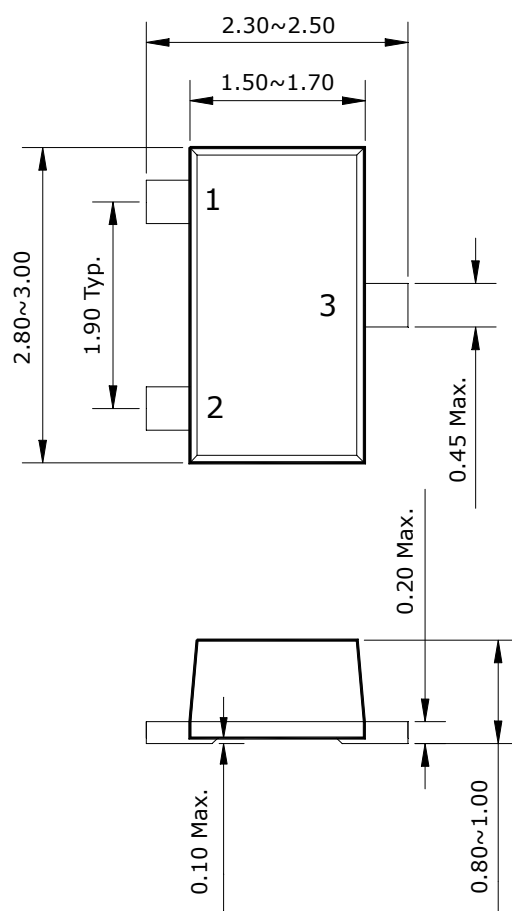
**Ordering Information**

Type NO.	Marking	Package Code
STA9015SF	9D□	SOT-23F

 □:  $h_{FE}$  rank

**Outline Dimensions**

unit : mm


**PIN Connections**

1. Base
2. Emitter
3. Collector

**STA9015SF****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	$V_{EBO}$	-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	$I_{CBO}$	$V_{CB} = -50V, I_E = 0$	-	-	-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	-0.3	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = -5V, I_C = -1mA$	-	-0.63	-0.8	V
Transition frequency	$f_T$	$V_{CE} = -10V, I_C = -1mA$	-	130	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	4	-	pF

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

## Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

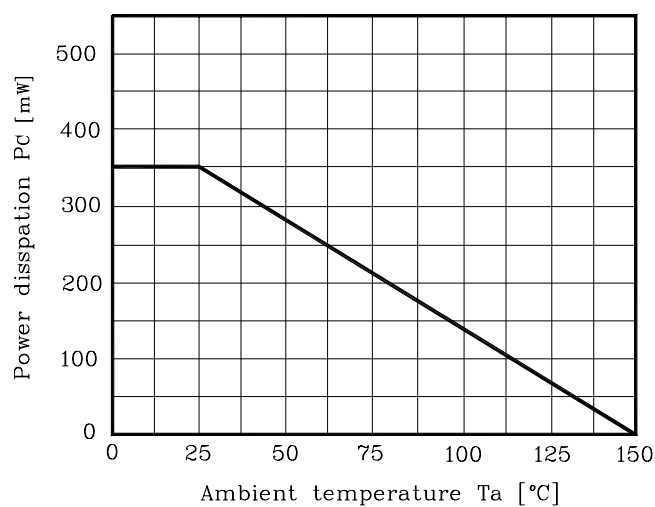


Fig. 2  $I_C - V_{BE}$

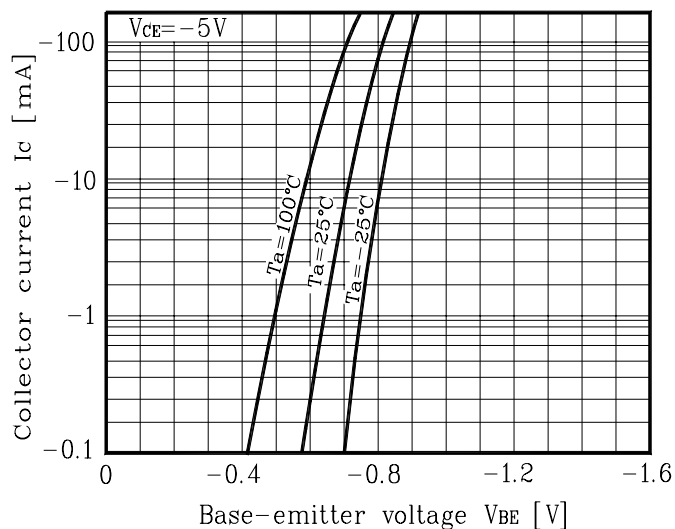


Fig. 3  $I_C - V_{CE}$

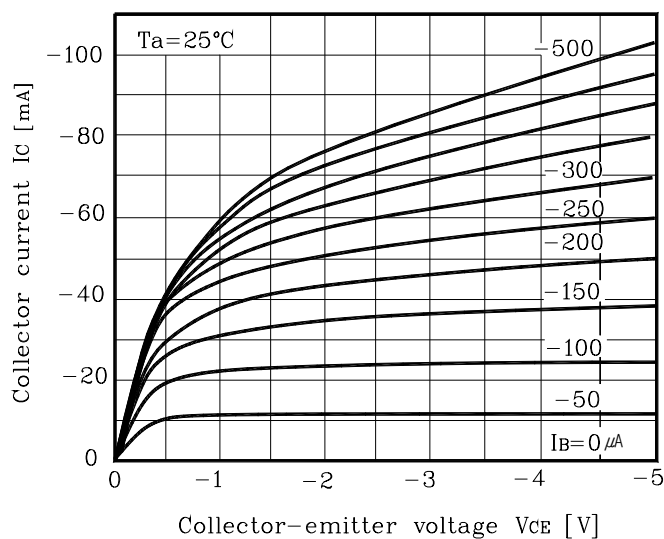


Fig. 4  $h_{FE} - I_C$

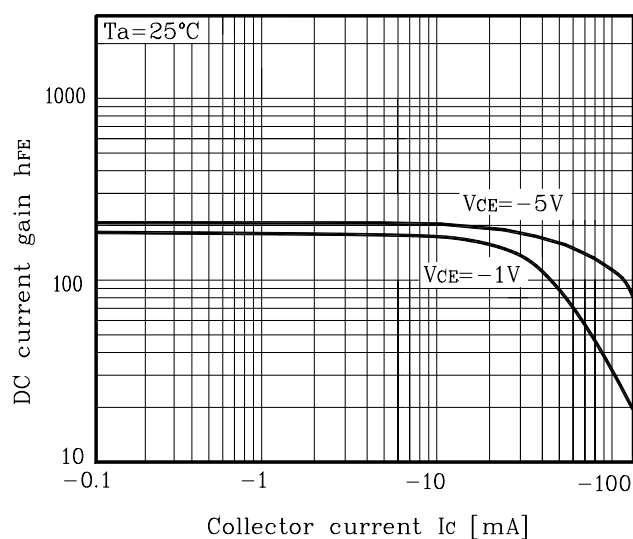
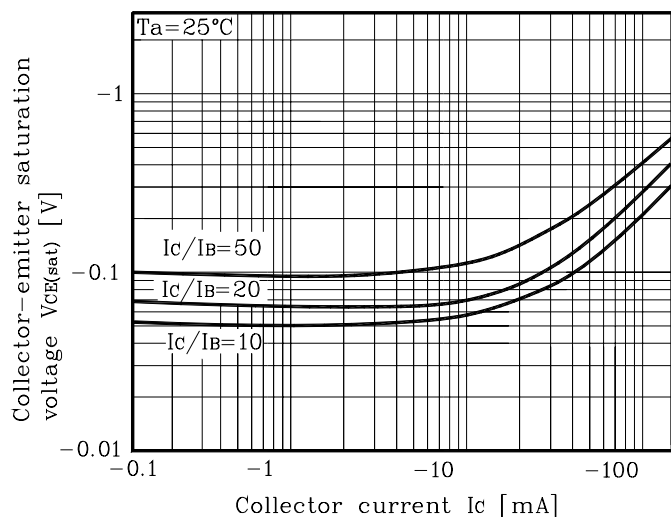


Fig. 5  $V_{CE(sat)} - I_C$



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