

Description

- General purpose application
- Switching application

Features

- Excellent h_{FE} linearity
- Complementary pair with STC9013SF

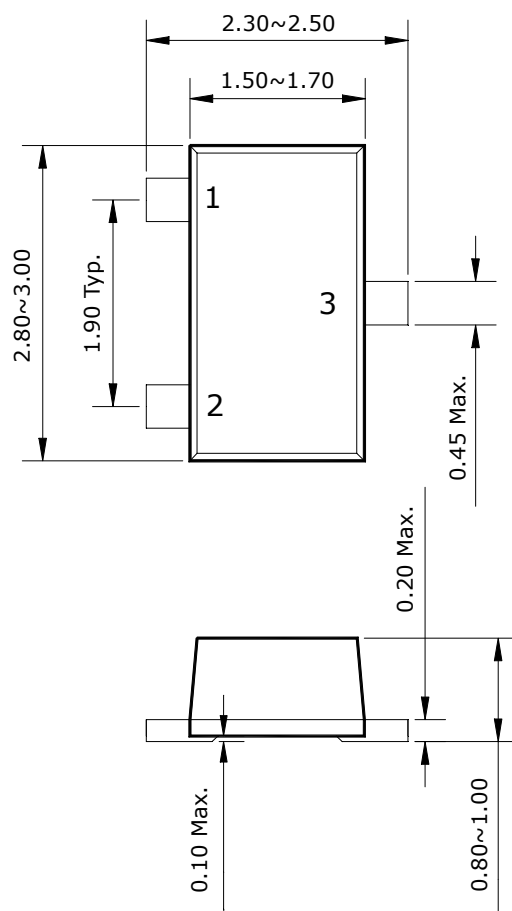
Ordering Information

Type NO.	Marking	Package Code
STA9012SF	9A□	SOT-23F

 □ : h_{FE} rank

Outline Dimensions

unit : mm



PIN Connections

1. Base
2. Emitter
3. Collector

Absolute Maximum Ratings

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-40	V
Collector-emitter voltage	V_{CEO}	-30	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-500	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}	$I_C = -1mA, I_B = 0$	-30	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = -40V, I_E = 0$	-	-	-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5V, I_C = 0$	-	-	-0.1	μA
DC current gain	h_{FE}^*	$V_{CE} = -1V, I_C = -50mA$	96	-	246	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -10mA$	-	-0.1	-0.25	V
Base-emitter voltage	V_{BE}	$V_{CE} = -1V, I_C = -100mA$	-	-0.75	-1.0	V
Transition frequency	f_T	$V_{CE} = -6V, I_C = -20mA$	-	200	-	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -6V, I_E = 0, f = 1MHz$	-	7	-	pF

* : h_{FE} rank / F : 96~135, G : 118~166, H : 144~202, I : 176~246.

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

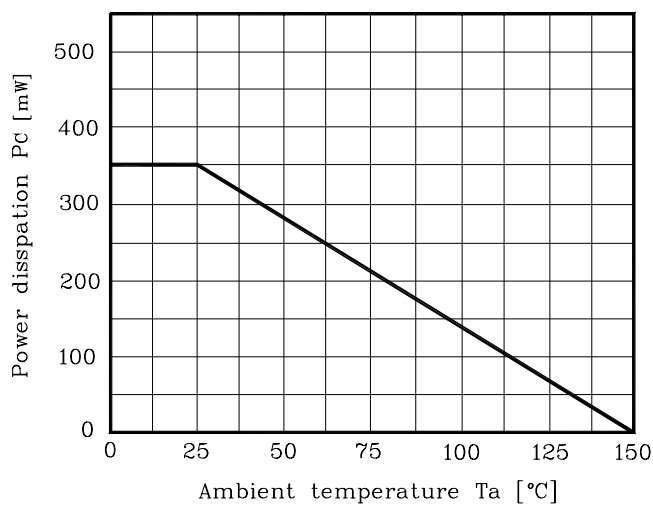


Fig. 2 $I_C - V_{BE}$

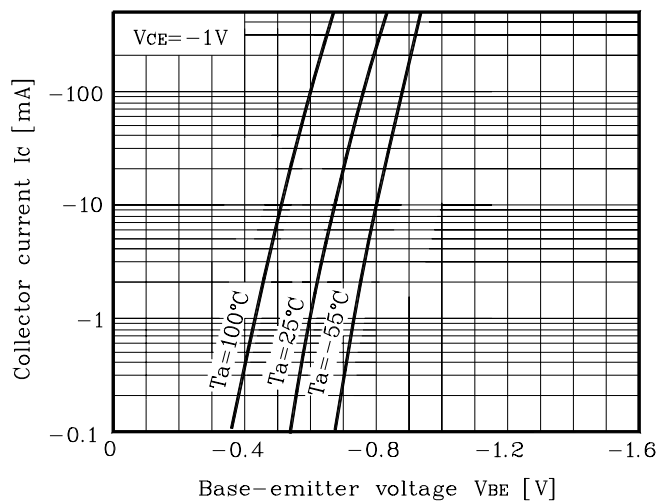


Fig. 3 $I_C - V_{CE}$

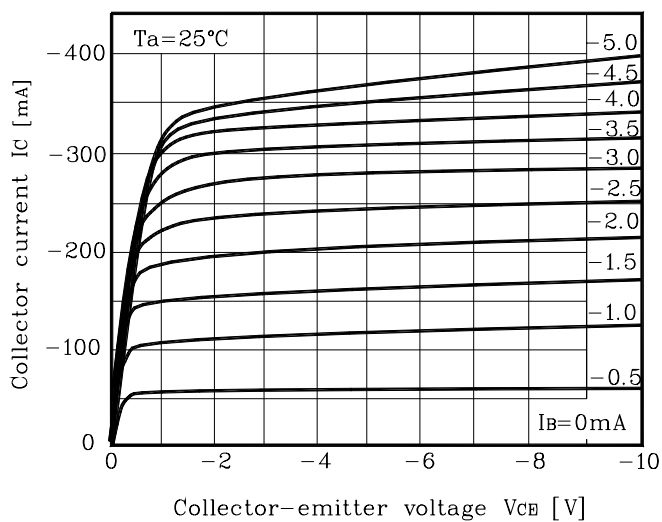


Fig. 4 $V_{CE(sat)} - I_C$

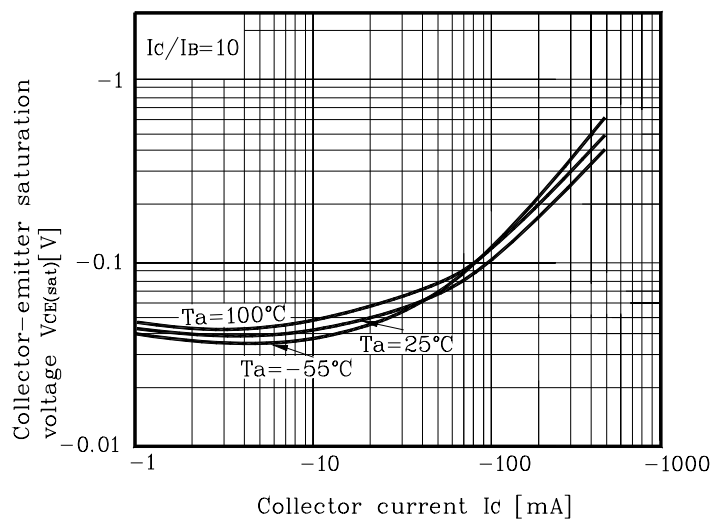


Fig. 5 $h_{FE} - I_C$

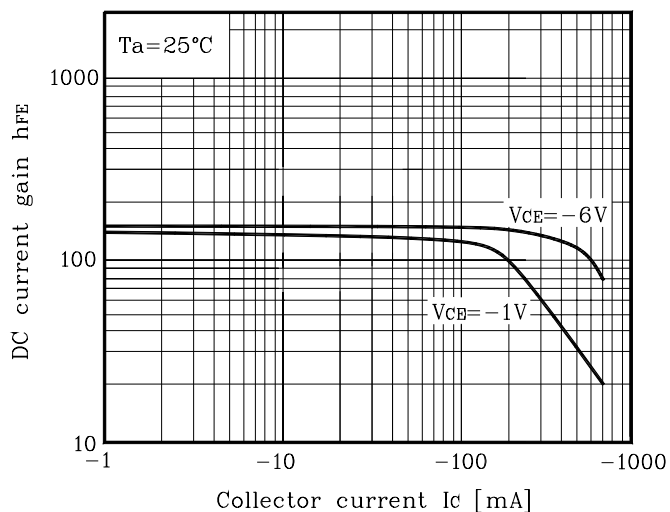
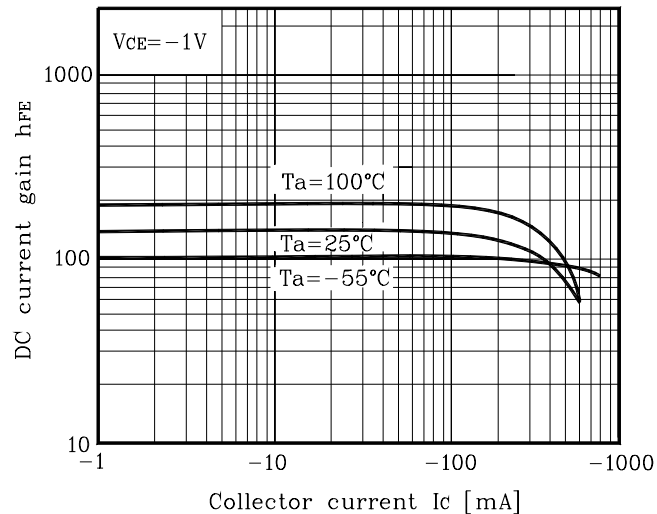


Fig. 6 $h_{FE} - I_C$



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