

**Description**

- General purpose application.
- Switching application.

**Features**

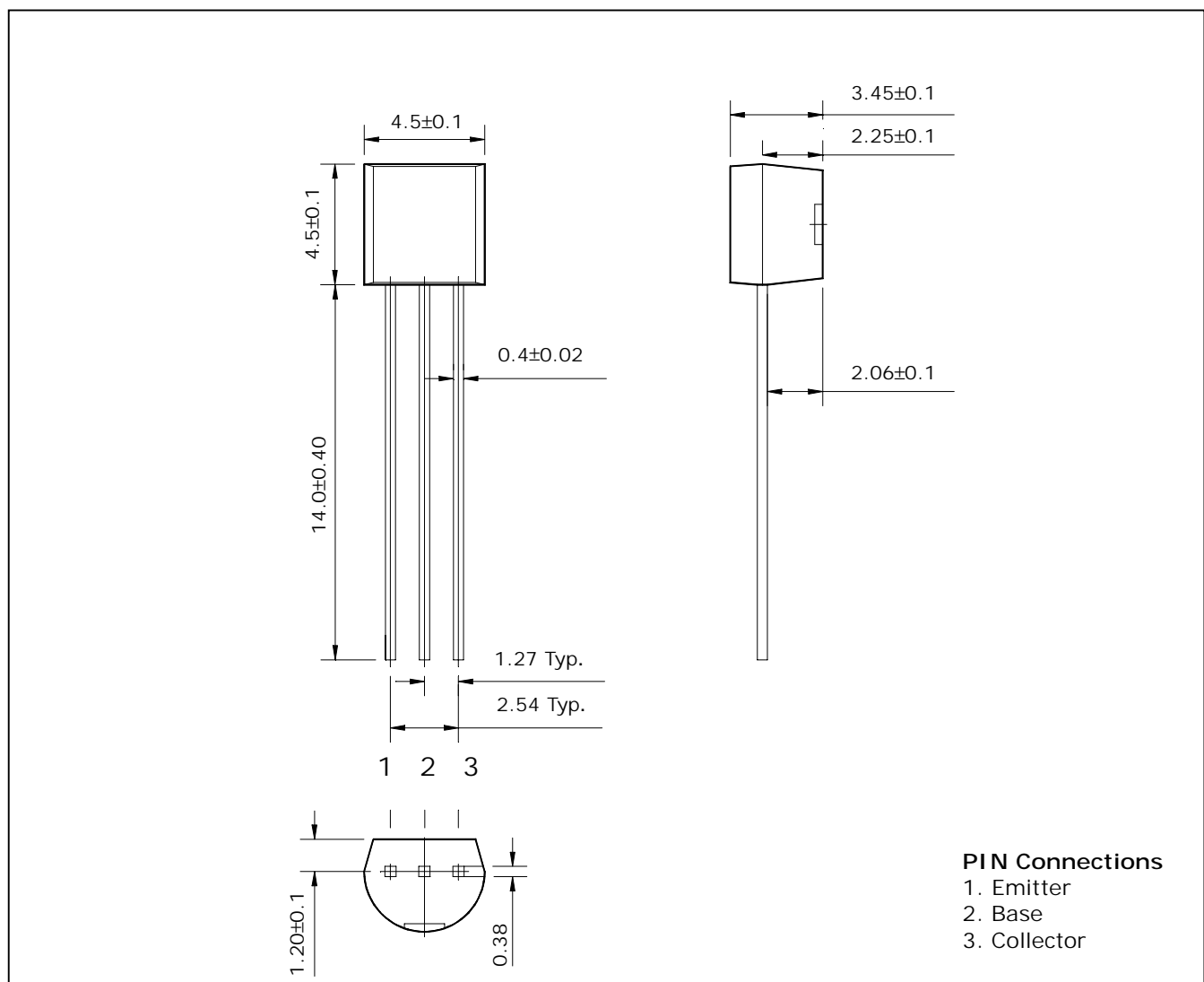
- Excellent  $h_{FE}$  linearity.
- Complementary pair with STS9013

**Ordering Information**

Type NO.	Marking	Package Code
STS9012	STS9012	TO-92

**Outline Dimensions**

unit : mm



## Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Ratings	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
Emitter current	$I_E$	500	mA
Collector dissipation	$P_C$	625	mW
Junction temperature	$T_J$	150	°C
Storage temperature	$T_{stg}$	-55 ~ 150	°C

## Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = -35V, I_E = 0$	-	-	-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	$V_{BE}$	$V_{CE} = -1V, I_C = -100mA$	-	-0.8	-1.0	V
Transistor frequency	$f_T$	$V_{CE} = -6V, I_C = -20mA$	150	-	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -6V, f = 1MHz$	-	7	-	pF

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

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

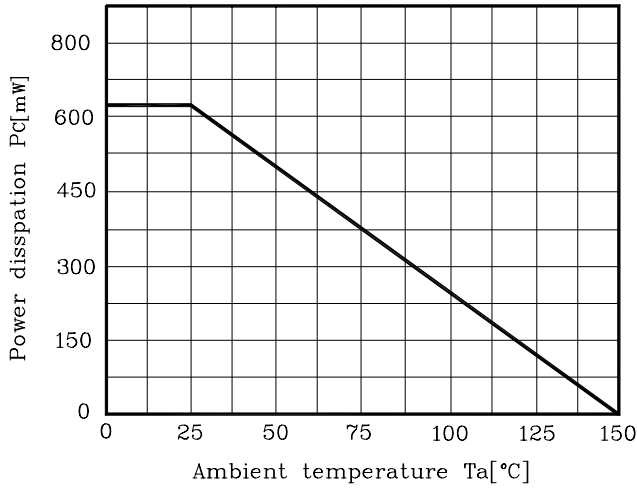


Fig. 2  $I_C - V_{BE}$

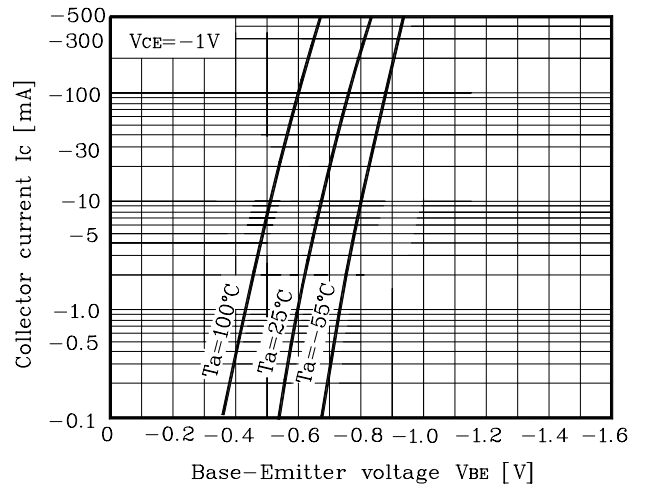


Fig. 3  $I_C - V_{CE}$

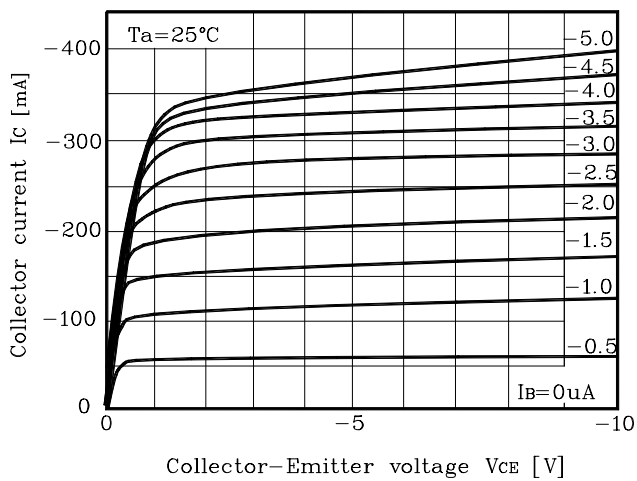


Fig. 4  $V_{CE(sat)} - I_C$

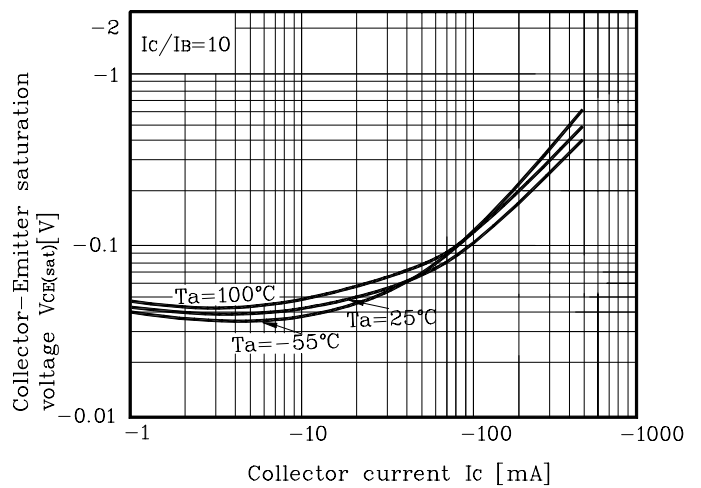


Fig. 5  $h_{FE} - I_C$

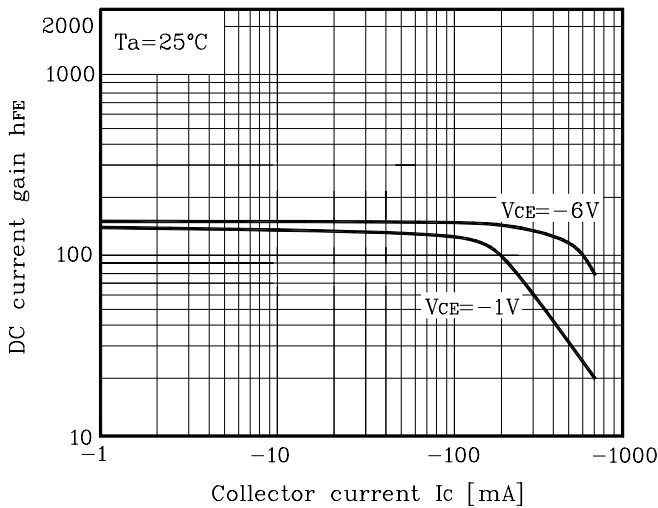


Fig. 6  $h_{FE} - I_C$

