

Descriptions

- General purpose application.
- Switching application.

Features

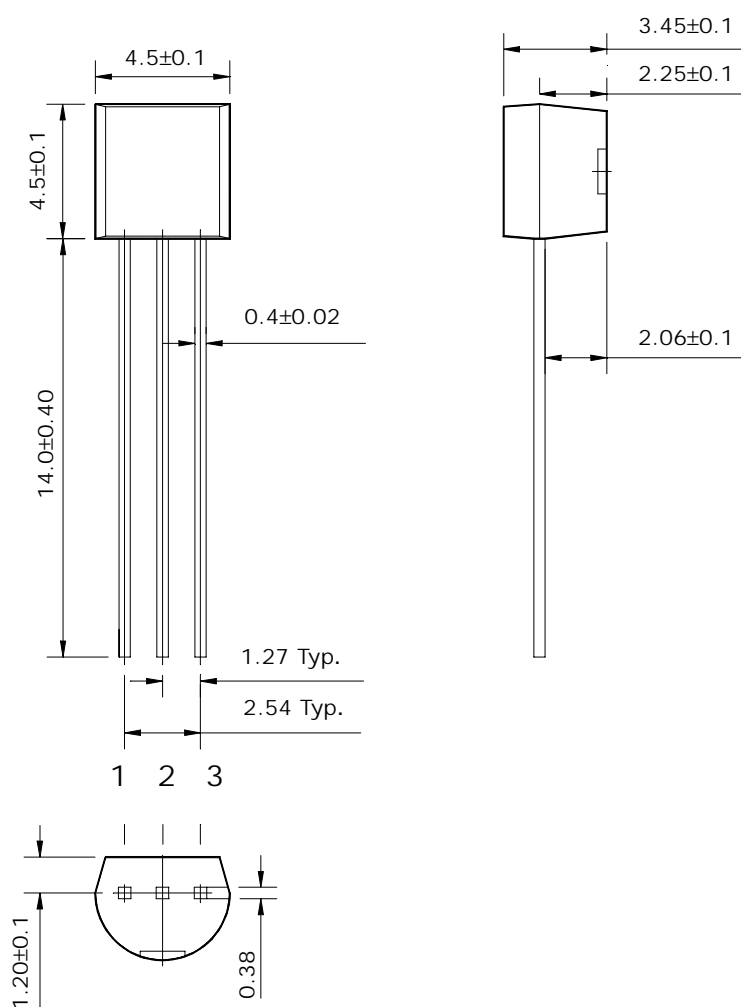
- Excellent h_{FE} linearity.
- Complementary pair with STS9012

Ordering Information

Type NO.	Marking	Package Code
STS9013	STS9013	TO-92

Outline Dimensions

unit : mm



PIN Connections

1. Emitter
2. Base
3. Collector

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}	$V_{CB}=35, I_E=0$	-	-	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}	$I_C=100mA, V_{CE}=1V$	-	0.8	1	V
Transition frequency	f_T	$V_{CE}=6V, I_C=20mA$	140	-	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=6V, I_E=0, f=1MHz$	-	7.0	-	pF

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

Electrical Characteristic Curves

Fig. 1 $P_c - T_a$

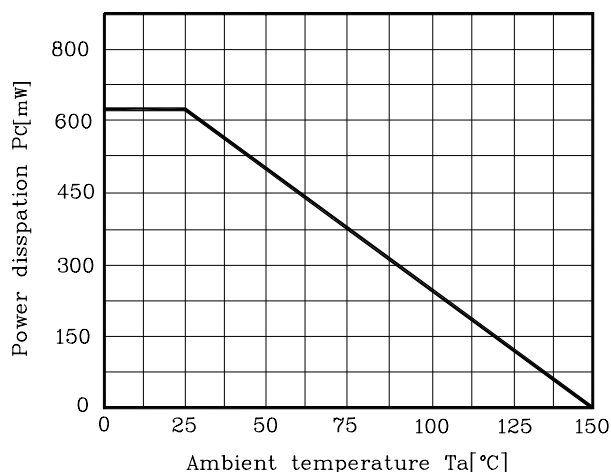


Fig. 2 $I_c - V_{BE}$

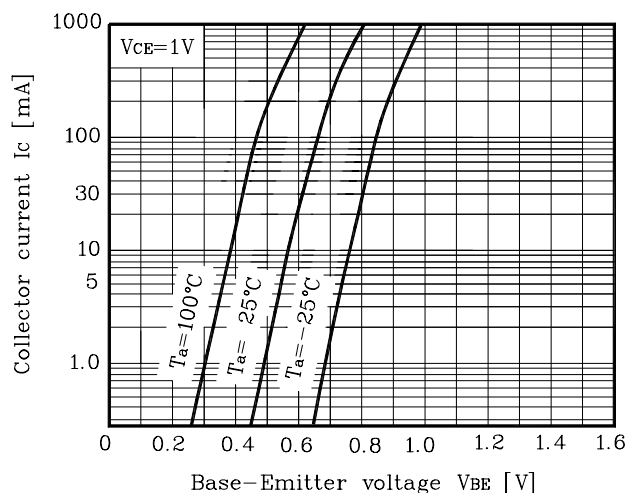


Fig. 3 $I_c - V_{CE}$

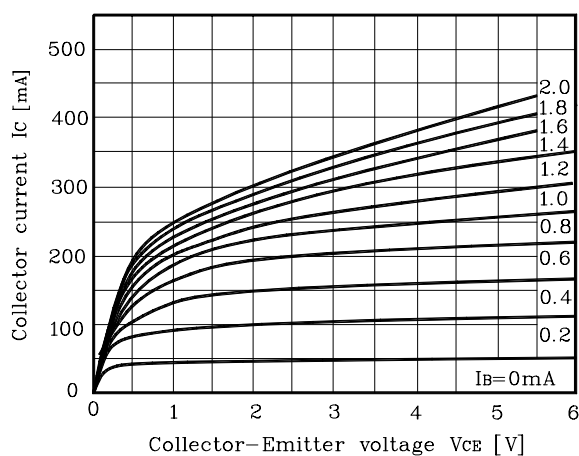


Fig. 4 $V_{CE(SAT)} - I_c$

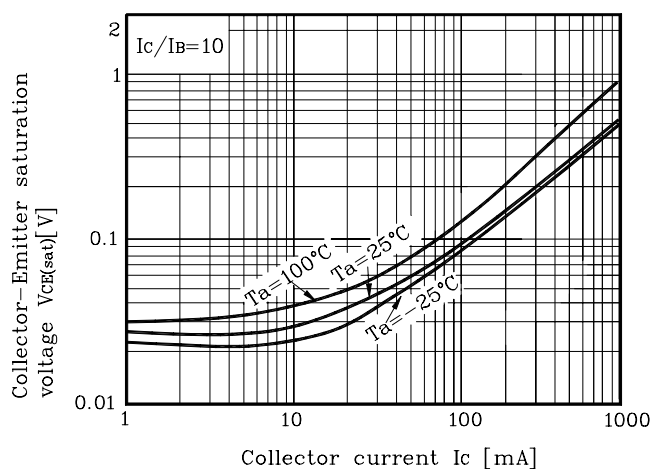


Fig. 5 $h_{FE} - I_c$

