



STS9014

NPN Silicon Transistor

Description

- General purpose application
- Switching application

Features

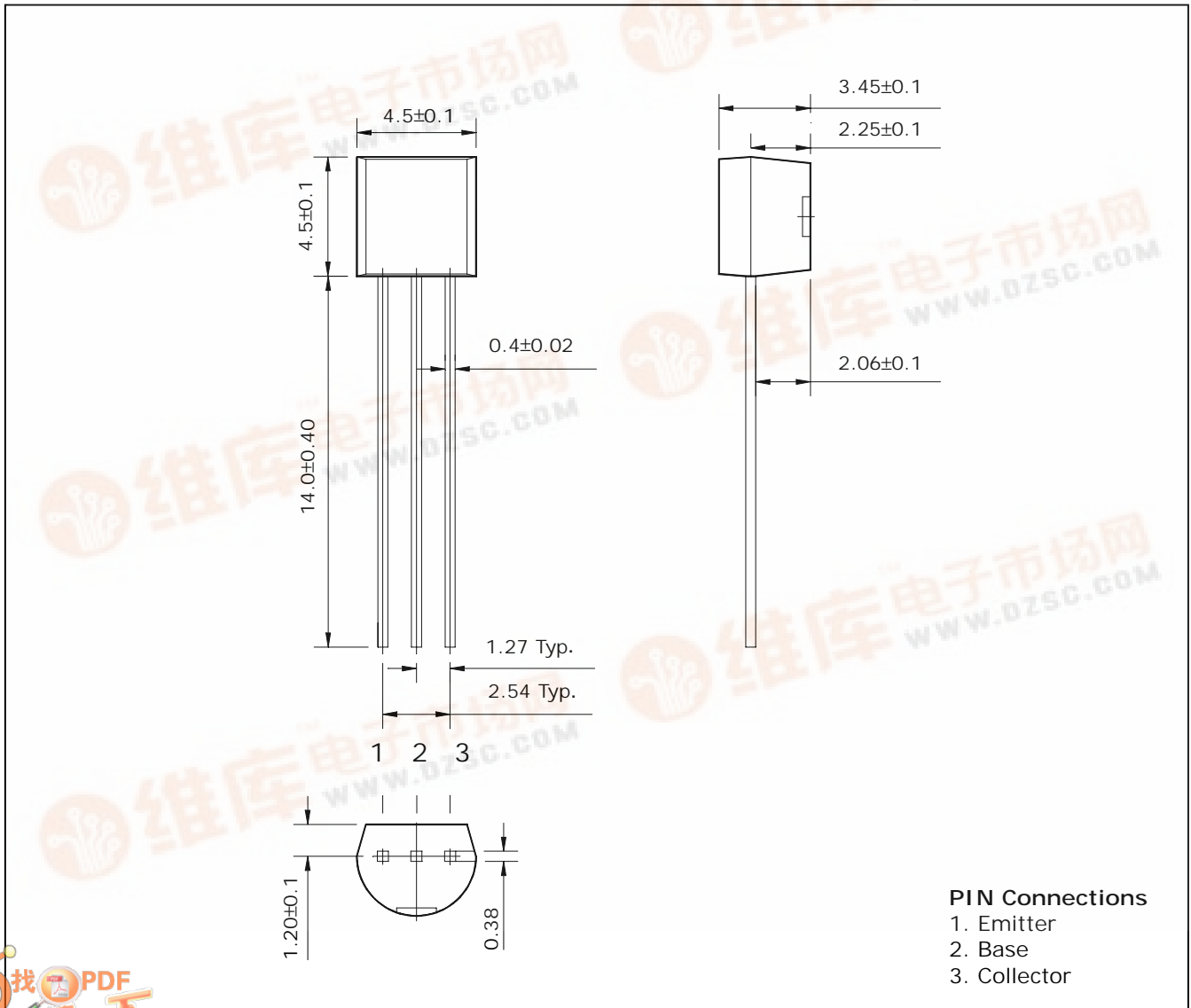
- Excellent h_{FE} linearity : $h_{FE}(I_C=0.1 \text{ mA}) / h_{FE}(I_C=2 \text{ mA}) = 0.95(\text{Typ.})$
- Low noise : $NF=10\text{dB}(\text{Max.})$ at $f=1\text{KHz}$
- Complementary pair with STS9015

Ordering Information

Type NO.	Marking	Package Code
STS9014	STS9014	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}	60	V
Collector-Emitter voltage	V_{CEO}	50	V
Emitter-Base voltage	V_{EBO}	5	V
Collector current	I_C	150	mA
Emitter current	I_E	-150	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}	$V_{CB}=50V, I_E=0$	-	-	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	0.25	V
Transistion frequency	f_T	$V_{CE}=10V, I_C=1mA$	60	-	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	-	2	3.5	pF
Noise figure	NF	$V_{CB}=6V, I_C=0.1mA, f=1KHz, R_g=10K\Omega$	-	-	10	dB

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

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

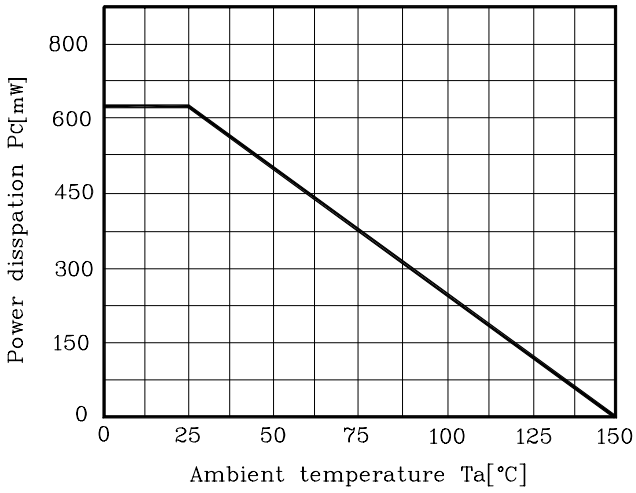


Fig. 2 $I_C - V_{BE}$

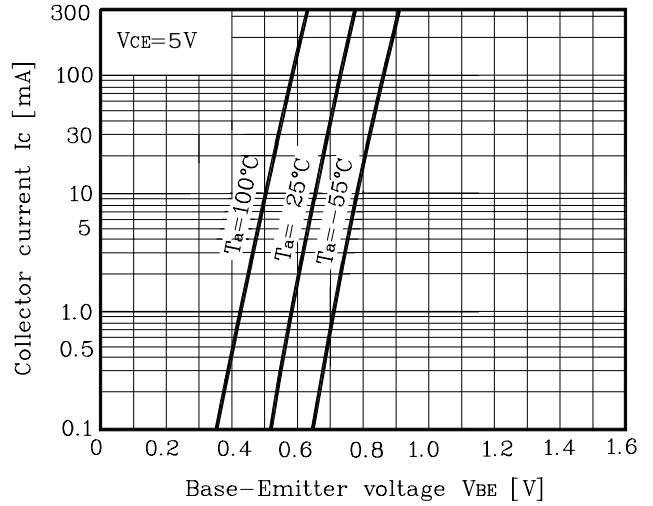


Fig. 3 $I_C - V_{CE}$

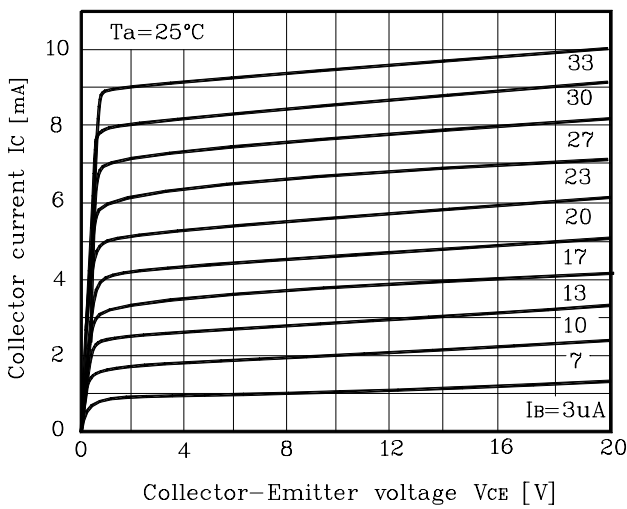


Fig. 4 $h_{FE} - I_C$

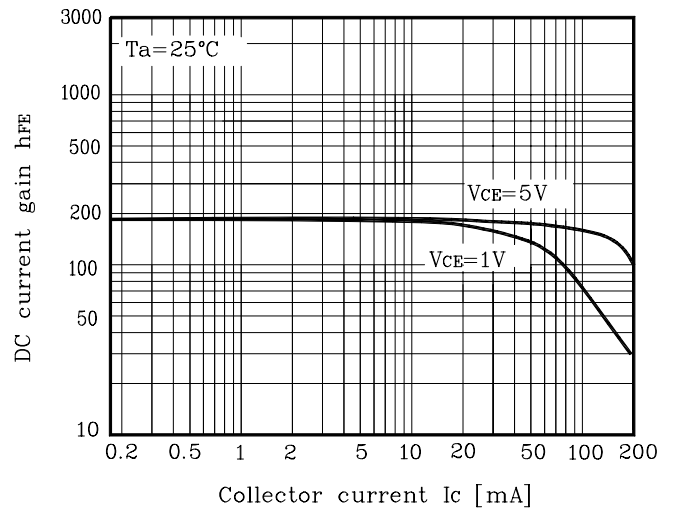


Fig. 5 $V_{CE(sat)} - I_C$

