

**Description**

- General purpose application
- Switching application

**Features**

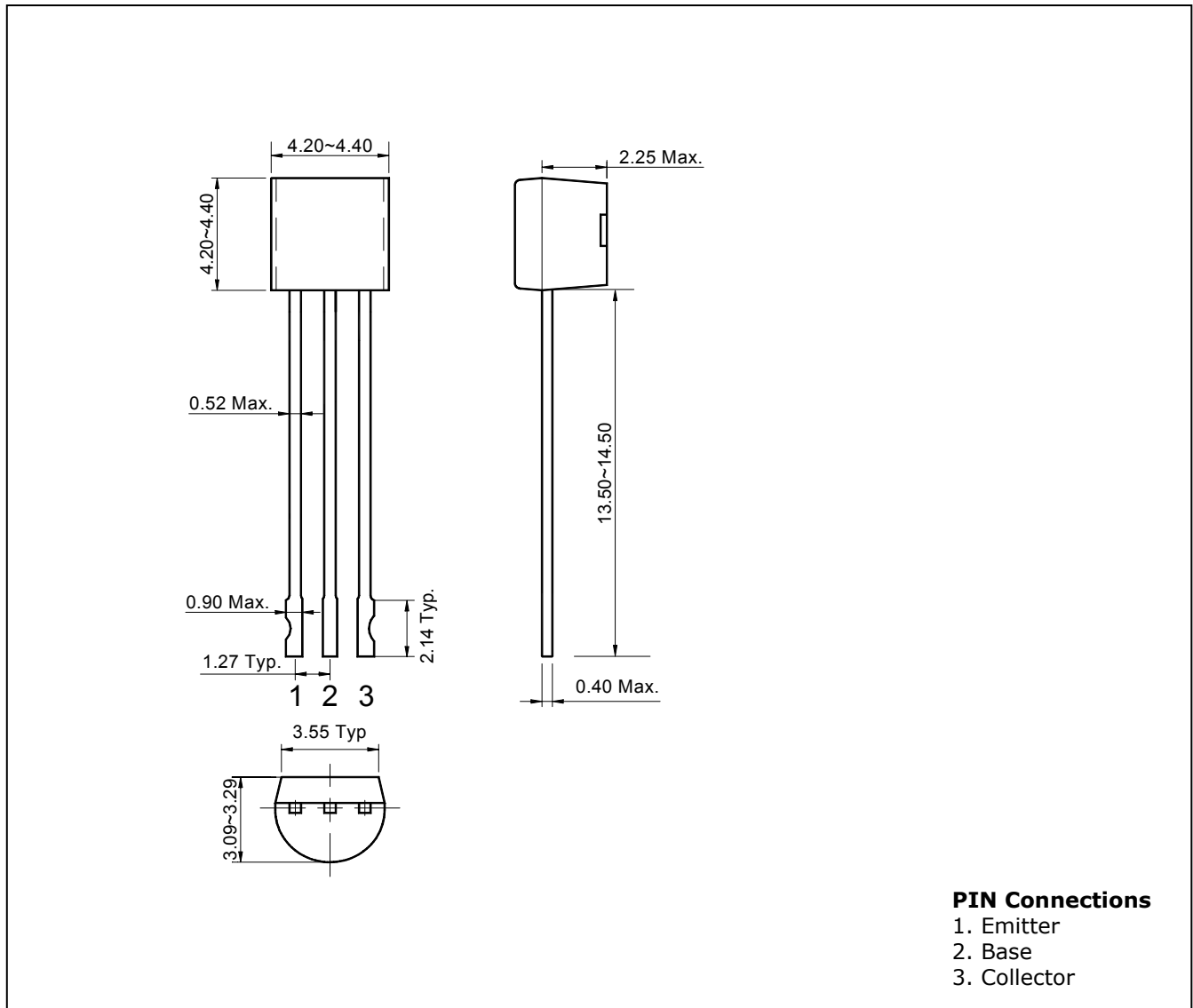
- Excellent  $h_{FE}$  linearity :  $h_{FE}(I_C=0.1 \text{ mA}) / h_{FE}(I_C=2 \text{ mA}) = 0.95(\text{Typ.})$
- Complementary pair with STA9015N

**Ordering Information**

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| STC9014N | STC9014 | TO-92N       |

**Outline Dimensions**

unit : mm



## Absolute Maximum Ratings

(Ta=25°C)

| Characteristic              | Symbol    | Rating  | 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   |
| Collector power dissipation | $P_C$     | 500     | mW   |
| Junction temperature        | $T_J$     | 150     | °C   |
| Storage temperature range   | $T_{stg}$ | -55~150 | °C   |

## 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            | $I_{CBO}$     | $V_{CB}=60V, I_E=0$         | -    | -    | 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    |
| Base-emitter voltage                 | $V_{BE}$      | $V_{CE}=5V, I_C=1mA$        | -    | 0.65 | 0.85 | V    |
| Transition frequency                 | $f_T$         | $V_{CE}=10V, I_C=10mA$      | -    | 200  | -    | MHz  |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=10V, I_E=0, f=1MHz$ | -    | 2    | -    | pF   |

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

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

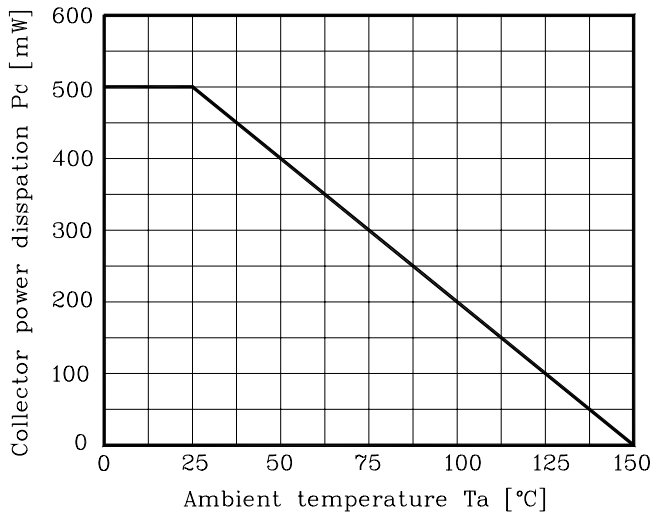


Fig. 2  $I_C - V_{BE}$

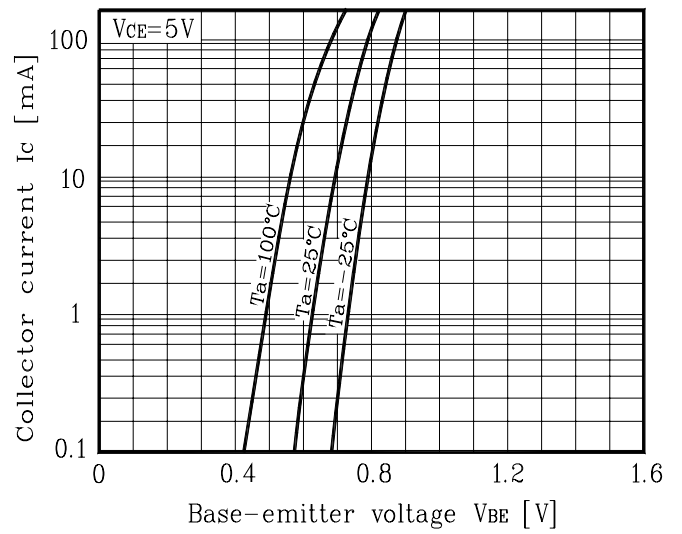


Fig. 3  $I_C - V_{CE}$

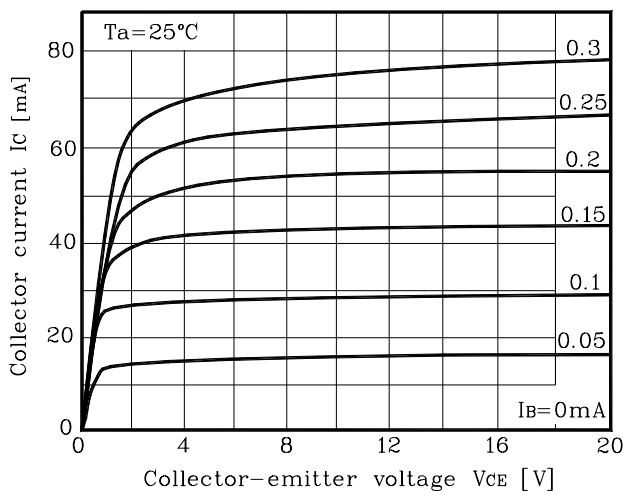


Fig. 4  $V_{CE(sat)} - I_C$

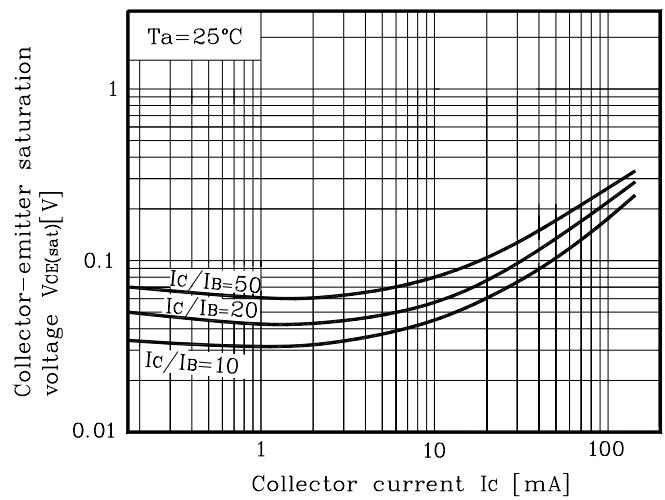


Fig. 5  $h_{FE} - I_C$

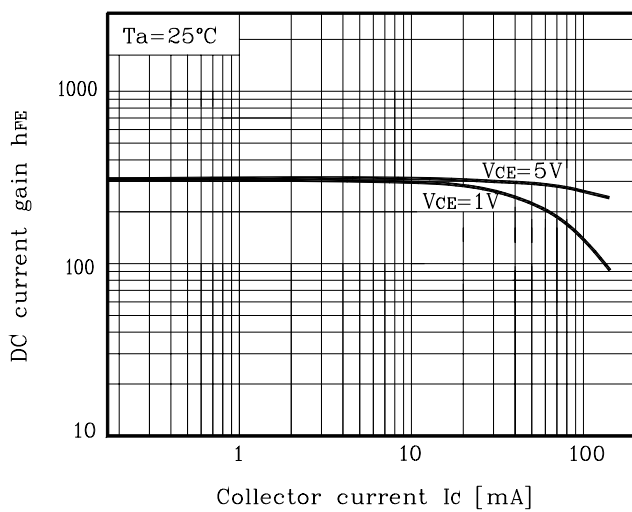
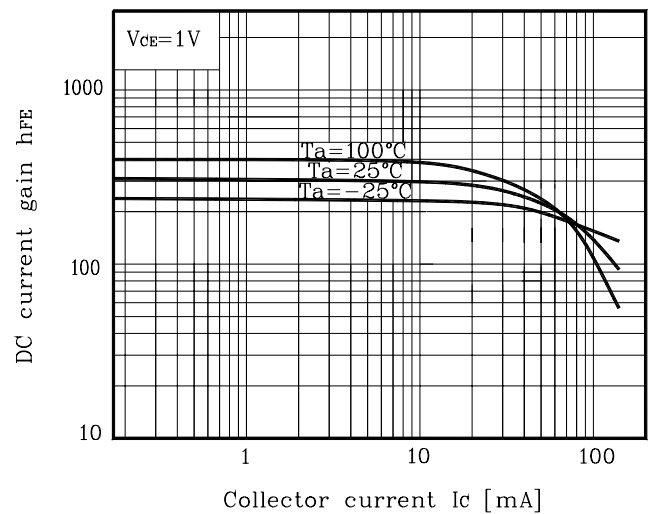


Fig. 6  $h_{FE} - I_C$



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