

## Descriptions

- High voltage application

## Features

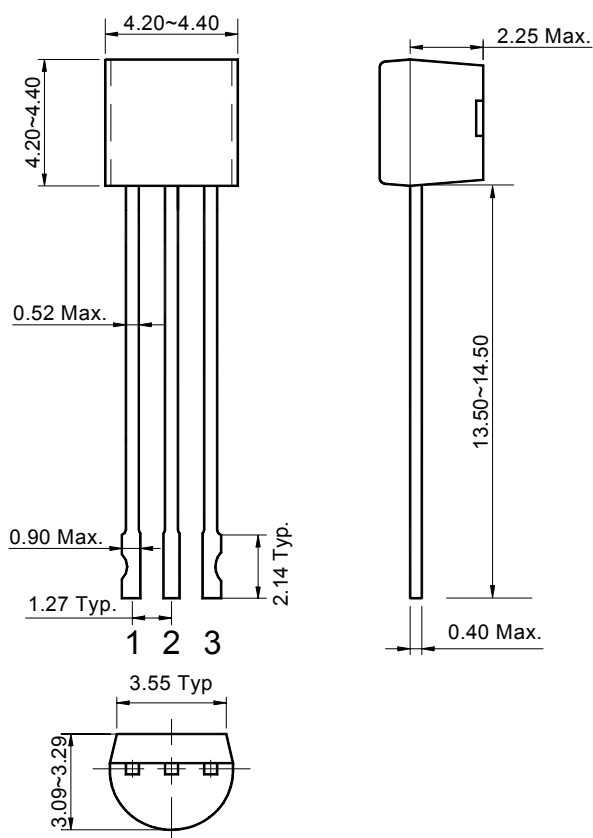
- High collector-emitter voltage :  $V_{CE0} = -300V$
- Complementary pair with STC42N

## Ordering Information

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| STA92N   | STA92   | T0-92N       |

## Outline Dimensions

unit : mm



### PIN Connections

1. Emitter
2. Base
3. Collector

**Absolute Maximum Ratings**

(Ta=25°C)

| Characteristic              | Symbol    | Rating  | Unit |
|-----------------------------|-----------|---------|------|
| Collector-base voltage      | $V_{CBO}$ | -300    | V    |
| Collector-emitter voltage   | $V_{CEO}$ | -300    | V    |
| Emitter-base voltage        | $V_{EBO}$ | -6      | V    |
| Collector current           | $I_C$     | -500    | mA   |
| Collector power dissipation | $P_C$     | 400     | 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  | $BV_{CEO}$      | $I_C = -1\text{mA}$ , $I_B = 0$                        | -300 | -    | -    | V             |
| Collector cut-off current            | $I_{CBO}$       | $V_{CB} = -300\text{V}$ , $I_E = 0$                    | -    | -    | -0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$       | $V_{EB} = -6\text{V}$ , $I_C = 0$                      | -    | -    | -0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE}^*$      | $V_{CE} = -10\text{V}$ , $I_C = -30\text{mA}$          | 40   | -    | -    | -             |
| Collector-emitter saturation voltage | $V_{CE(sat)}^*$ | $I_C = -20\text{mA}$ , $I_B = -2\text{mA}$             | -    | -    | -0.5 | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}^*$ | $I_C = -20\text{mA}$ , $I_B = -2\text{mA}$             | -    | -    | -0.9 | V             |
| Base-emitter voltage                 | $V_{BE}$        | $V_{CE} = -10\text{V}$ , $I_C = -30\text{mA}$          | -    | -0.7 | -0.9 | V             |
| Transition frequency                 | $f_T$           | $V_{CE} = -20\text{V}$ , $I_C = -10\text{mA}$          | -    | 80   | -    | MHz           |
| Collector output capacitance         | $C_{ob}$        | $V_{CB} = -20\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$ | -    | 3    | -    | pF            |

\* : Pulse Tester : Pulse Width  $\leq 300 \mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

## Electrical Characteristic Curves

Fig. 1  $h_{FE} - I_C$

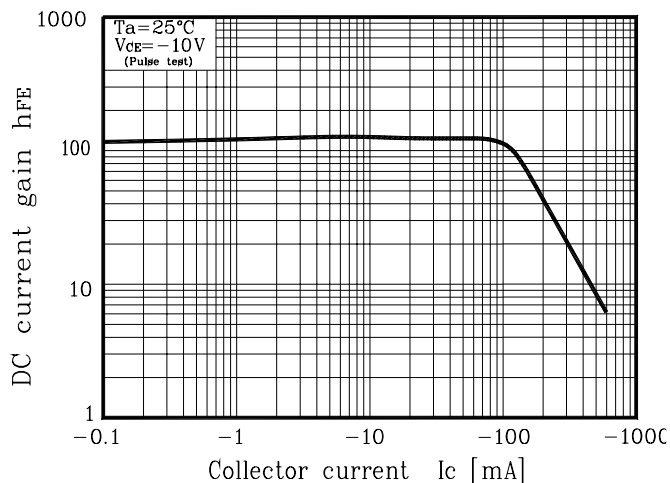


Fig. 2  $V_{CE(sat)}, V_{BE(sat)} - I_C$

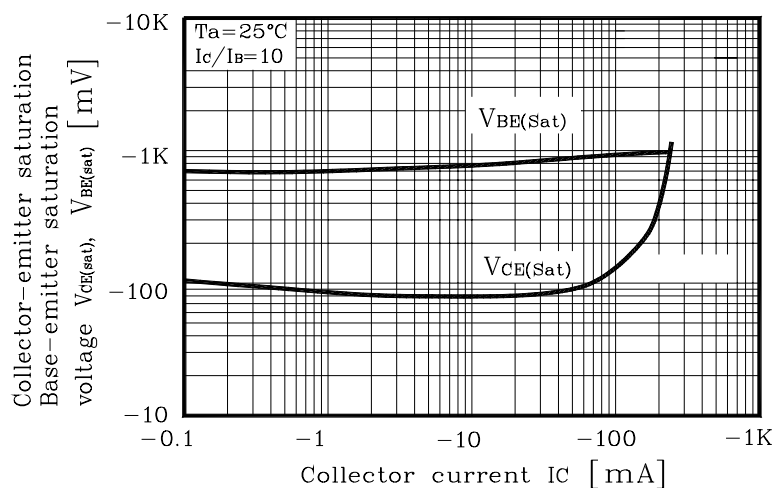


Fig. 3  $f_T - I_C$

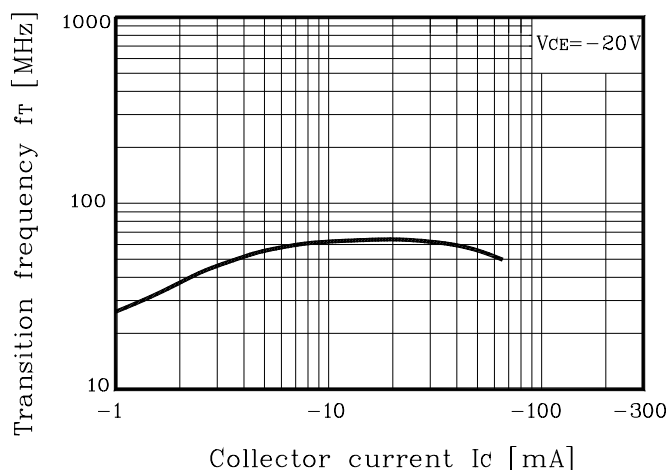
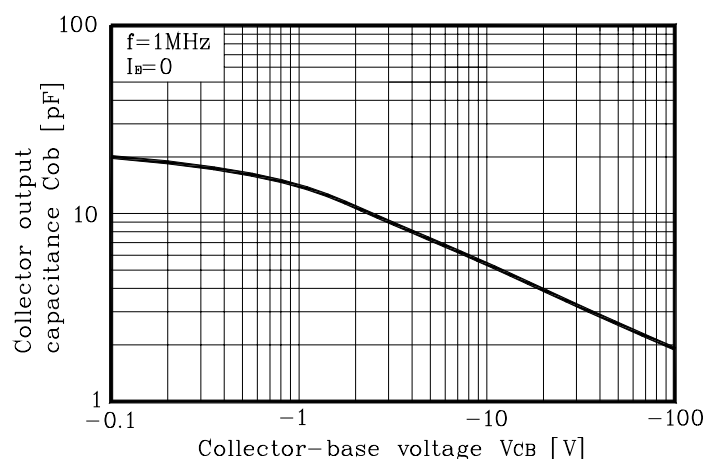


Fig. 4  $C_{ob} - V_{CB}$



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