

**Features**

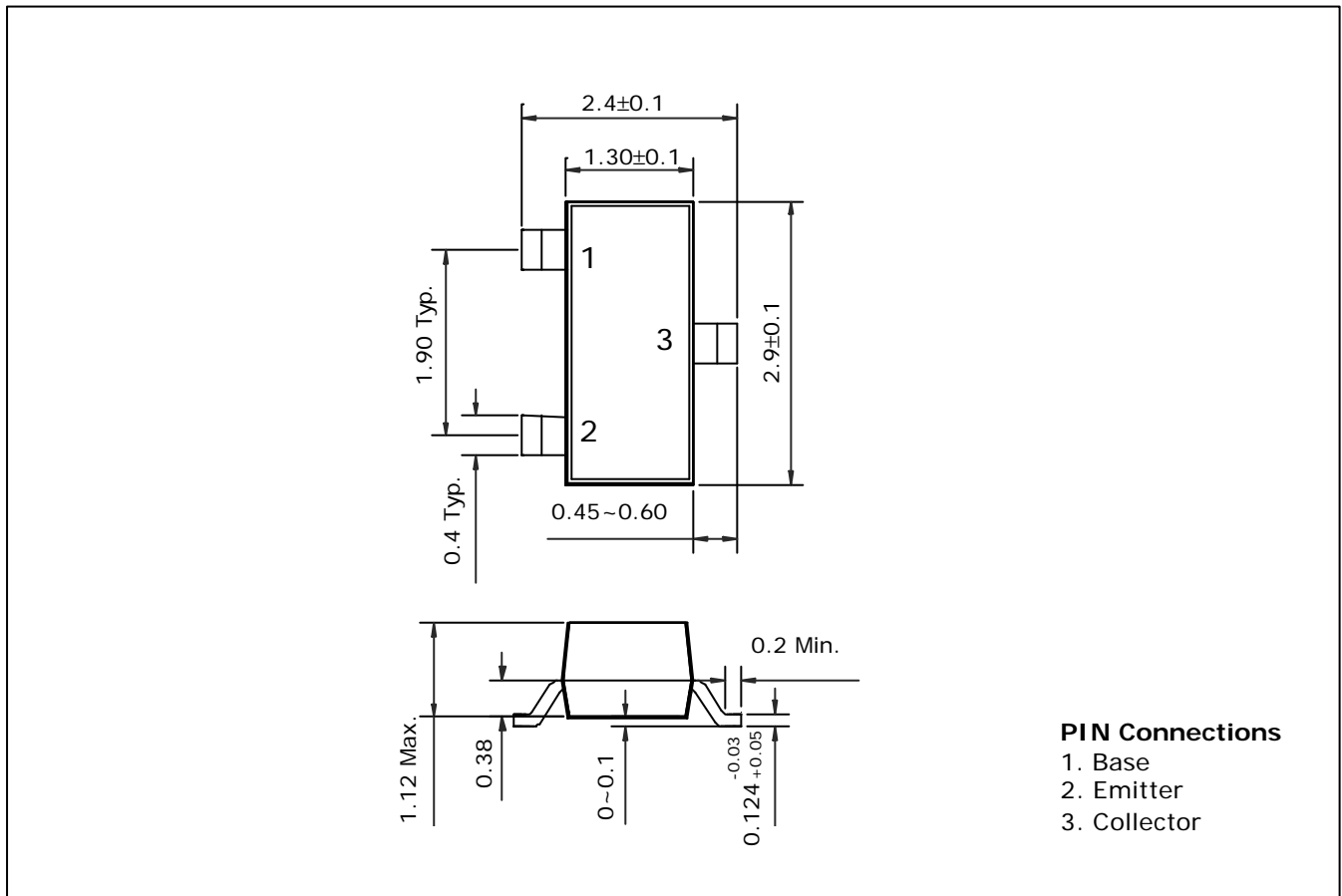
- Suitable for low voltage large current drivers
- High DC current gain and large current capability
- Complementary pair with STD123S

**Ordering Information**

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| STA124S  | 124     | SOT-23       |

**Outline Dimensions**

unit : mm



## Absolute maximum ratings

(Ta=25° C)

| Characteristic            | Symbol    | Ratings   | Unit |
|---------------------------|-----------|-----------|------|
| Collector-Base voltage    | $V_{CBO}$ | -15       | V    |
| Collector-Emitter voltage | $V_{CEO}$ | -12       | V    |
| Emitter-Base voltage      | $V_{EBO}$ | -6.5      | V    |
| Collector current         | $I_C$     | -1        | A    |
| Collector dissipation     | $P_C^*$   | 350       | mW   |
| Junction temperature      | $T_J$     | 150       | °C   |
| Storage temperature       | $T_{stg}$ | -55 ~ 150 | °C   |

\* : Package mounted on 99.5% alumina 10×8×0.1mm

## Electrical Characteristics

(Ta=25° C)

| Characteristic                       | Symbol        | Test Condition                     | Min. | Typ. | Max. | Unit    |
|--------------------------------------|---------------|------------------------------------|------|------|------|---------|
| Collector-Base breakdown voltage     | $BV_{CBO}$    | $I_C = -50\mu A, I_E = 0$          | -15  | -    | -    | V       |
| Collector-Emitter breakdown voltage  | $BV_{CEO}$    | $I_C = -1mA, I_B = 0$              | -12  | -    | -    | V       |
| Emitter-Base breakdown voltage       | $BV_{EBO}$    | $I_E = -50\mu A, I_C = 0$          | -6.5 | -    | -    | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = -15V, I_E = 0$           | -    | -    | -0.1 | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -6V, I_C = 0$            | -    | -    | -0.1 | $\mu A$ |
| DC current gain                      | $h_{FE}$      | $V_{CE} = -1V, I_C = -100mA$       | 200  | -    | 450  | -       |
| Collector-Emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -500mA, I_B = -50mA$        | -    | -0.2 | -0.4 | V       |
| Transistor frequency                 | $f_T$         | $V_{CE} = -5V, I_C = -50mA$        | -    | 260  | -    | MHz     |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | -    | 5    | -    | pF      |

Fig. 1  $P_C - T_a$

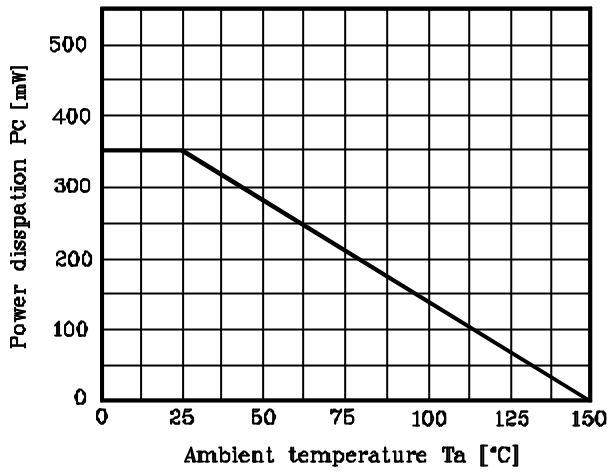


Fig. 2  $I_C - V_{BE}$

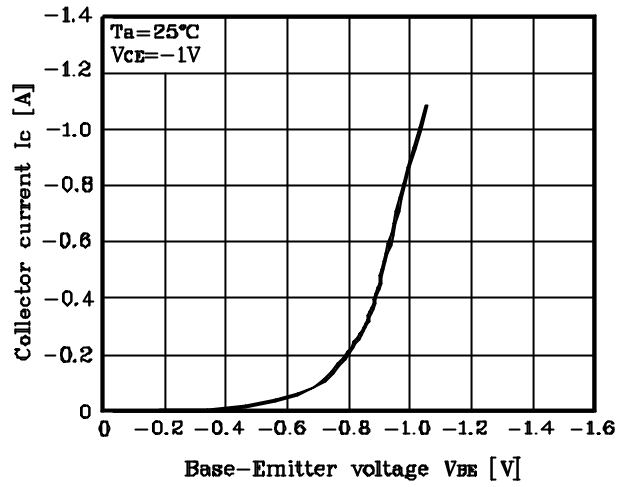


Fig. 3  $h_{FE} - I_C$

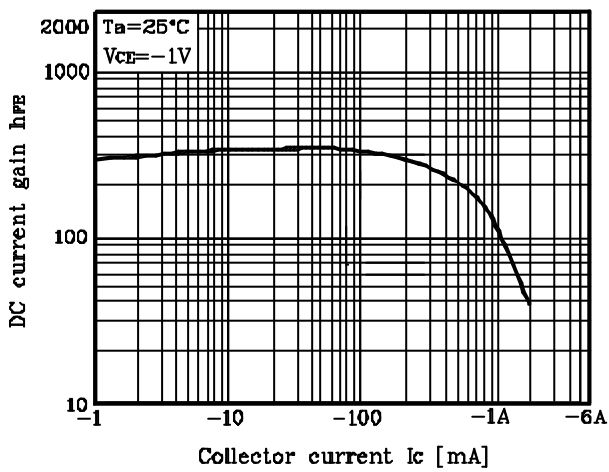


Fig. 4  $V_{CE(sat)} - I_C$

