AUK Semiconductor

# STN3906

**PNP Silicon Transistor**

## Descriptions

- General small signal amplifier
- Switching application

## Features

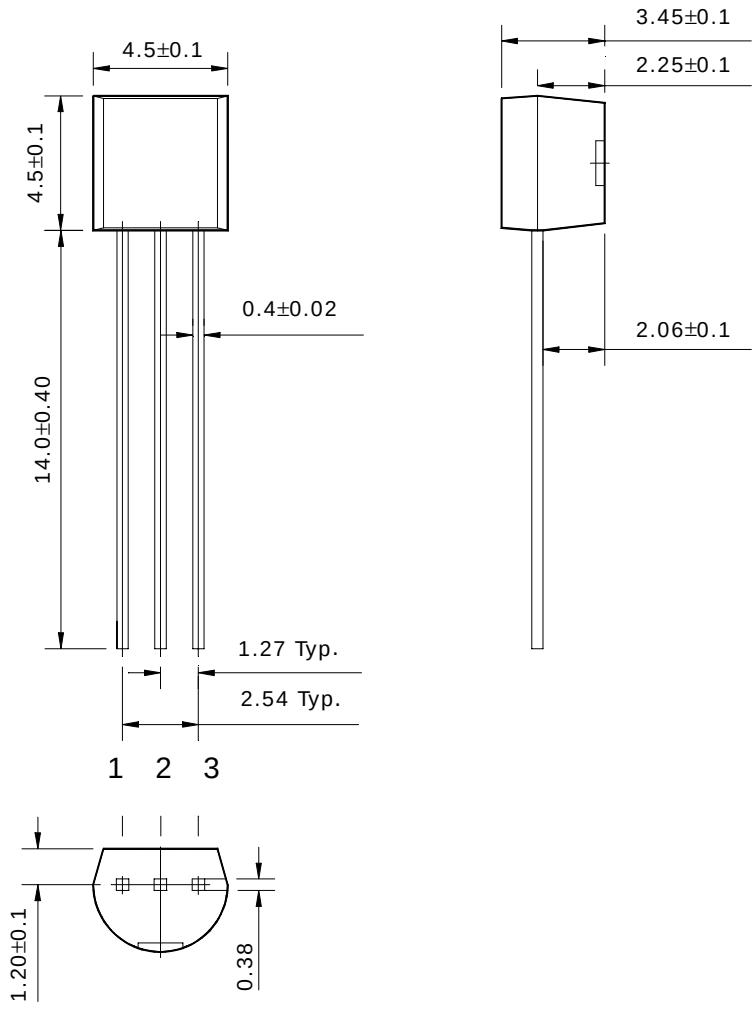
- Collector saturation voltage : $V_{CE(sat)}$= -0.5V(Max.)
- Low output capacitance : $C_{ob}$= 4.5pF(Max.)
- Complementary pair with STN3904

## Ordering Information

| Type NO. | Marking | Package Code |
|---|---|---|
| STN3906 | STN3906 | 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 | $V_{CEO}$ | -40 | V |
| Emitter-Base voltage | $V_{EBO}$ | -5 | V |
| Collector current | $I_C$ | -100 | 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-Emitter breakdown voltage | $BV_{CEO}$ | $I_C$=-1mA | -40 | - | - | V |
| Collector-Base breakdown voltage | $BV_{CBO}$ | $I_C$=-10μA | -40 | - | - | V |
| Emitter-Base breakdown voltage | $BV_{EBO}$ | $I_E$=-10μA | -5 | - | - | V |
| Collector cut-off current | $I_{CBO}$ | $V_{CB}$=-40V, $I_E$= 0 | - | - | -0.1 | μA |
| DC current gain | $h_{FE}$ | $V_{CE}$=-1V, $I_C$=-10mA | 100 | - | 300 | - |
| Collector-Emitter saturation voltage | $V_{CE(sat)}$ | $I_C$=-50mA, $I_B$=-5mA | - | - | -0.5 | V |
| Transition frequency | $f_T$ | $V_{CE}$=-20V, $I_C$=-10mA | 250 | - | - | MHz |
| Collector output capacitance | $C_{ob}$ | $V_{CB}$=-5V, $I_E$=0, f=1MHz | - | - | 4.5 | pF |

## Electrical Characteristic Curves

**Fig. 1 $P_C$-$T_a$**

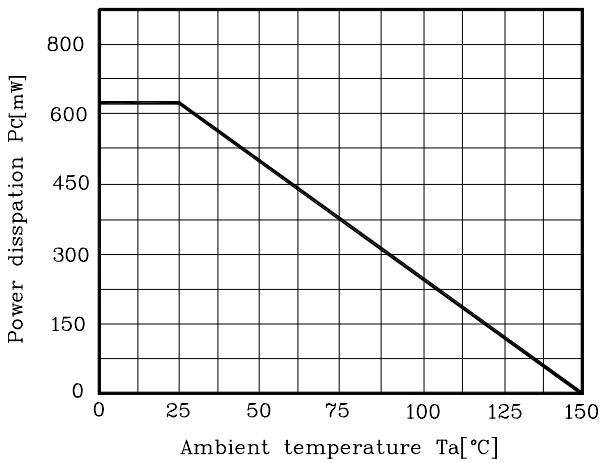



**Fig. 2 $I_C$ - $V_{BE}$**

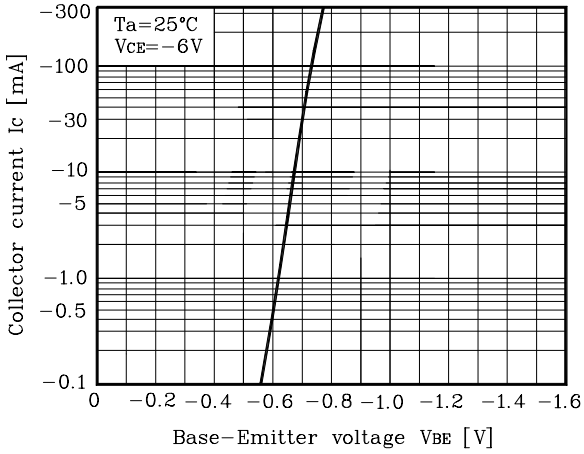



**Fig. 3 $h_{FE}$ - $I_C$**

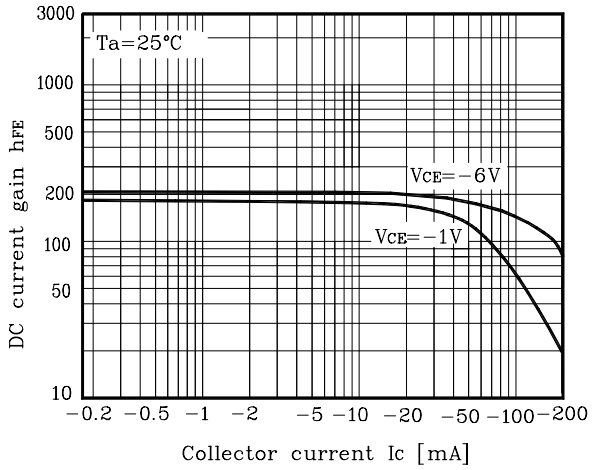



**Fig. 4 $I_C$ - $V_{CE}$**

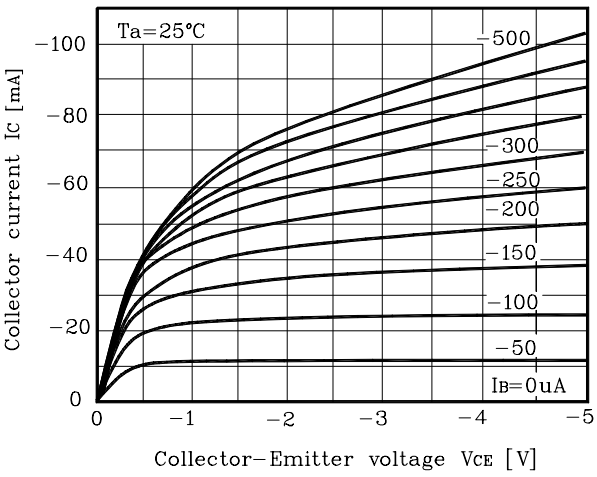



**Fig. 5 $V_{CE(sat)}$ - $I_C$**