

Descriptions

- General purpose application
- Switching application

Features

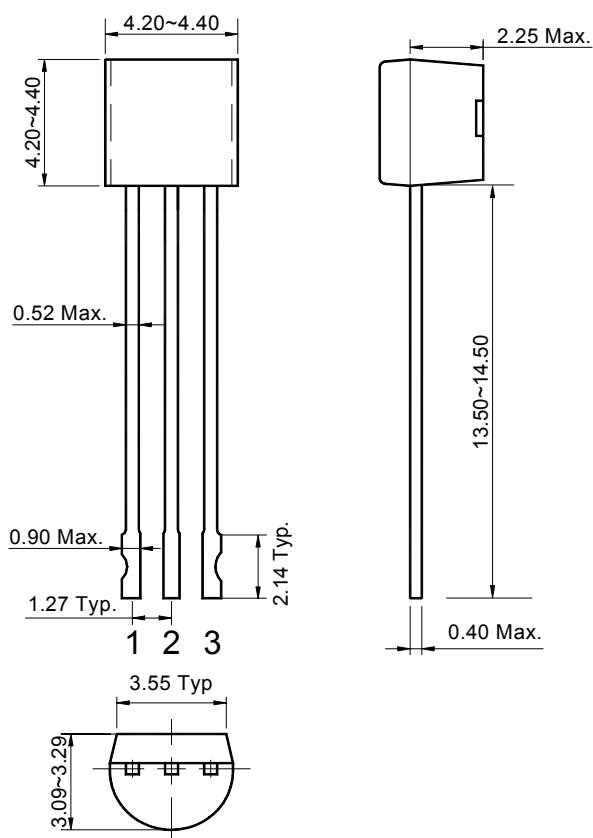
- Large collector current : $I_C = -600\text{mA}$
- Low collector saturation voltage : $V_{CE(sat)} = -0.4\text{V(Max.)}$ @ $I_C = -150\text{mA}$, $I_B = -15\text{mA}$
- Complementary pair with STC2222N

Ordering Information

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| STA2907N | STA2907 | TO-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} | -60 | V |
| Collector-emitter voltage | V_{CEO} | -40 | V |
| Emitter-base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -600 | 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} | $I_C = -1mA, I_B = 0$ | -40 | - | - | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -60V, I_E = 0$ | - | - | -50 | nA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5V, I_E = 0$ | - | - | -50 | nA |
| DC current gain | h_{FE} | $V_{CE} = -10V, I_C = -10mA$ | 75 | - | - | - |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -150mA, I_B = -15mA$ | - | - | -0.4 | V |
| Base-emitter voltage | V_{BE} | $V_{CE} = -10V, I_C = -10mA$ | - | -0.66 | -0.85 | V |
| Transition frequency | f_T | $V_{CE} = -20V, I_C = -20mA$ | - | 250 | - | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | - | 6.0 | - | pF |

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

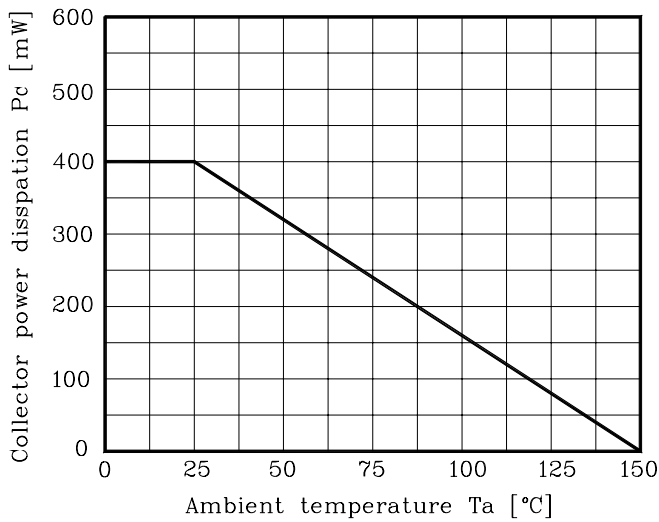


Fig. 2 $I_C - V_{BE}$

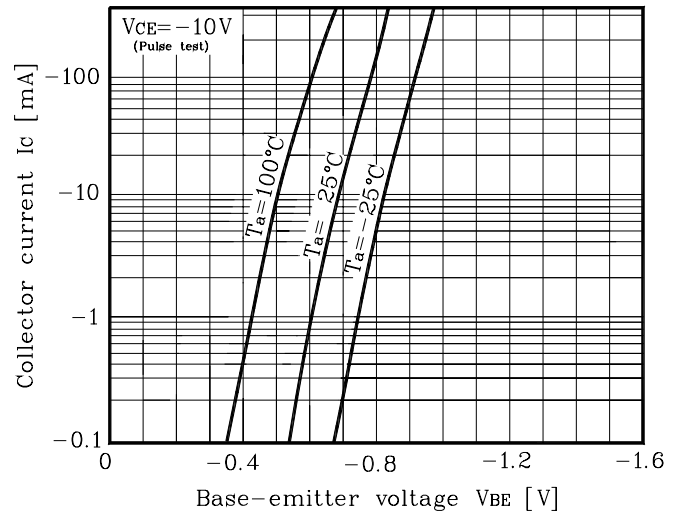


Fig. 3 $I_C - V_{CE}$

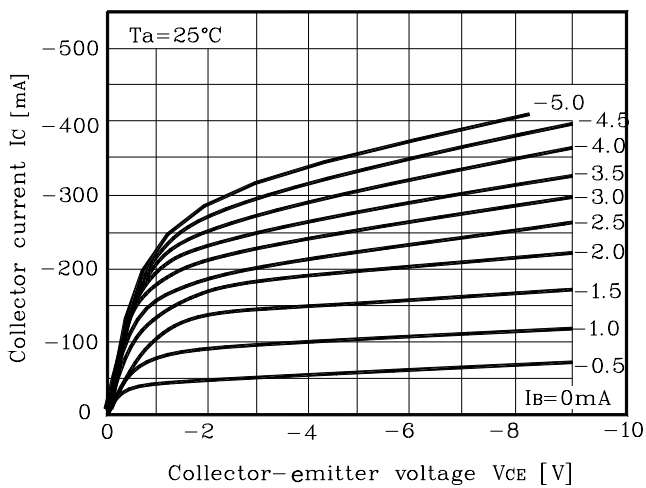


Fig. 4 $V_{CE(sat)} - I_C$

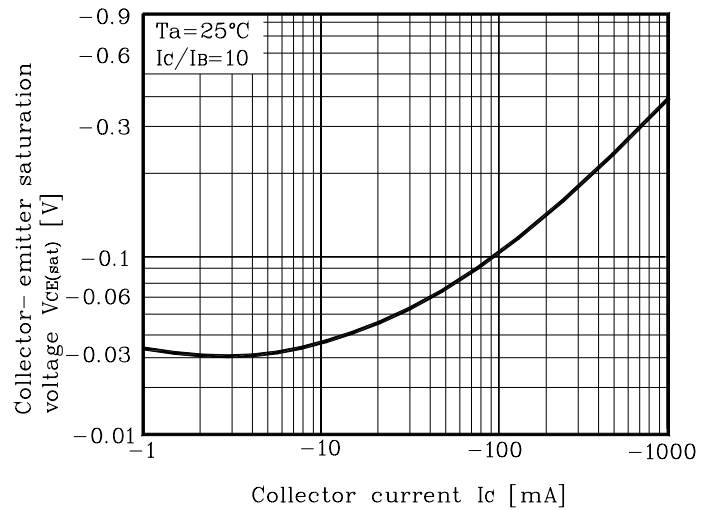


Fig. 5 $h_{FE} - I_C$

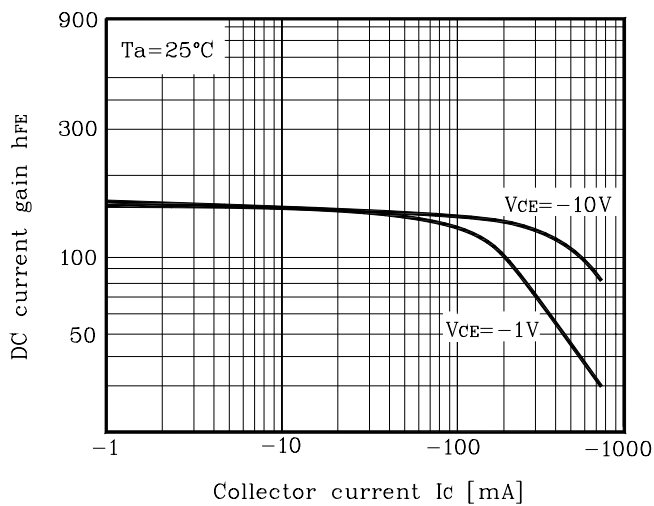
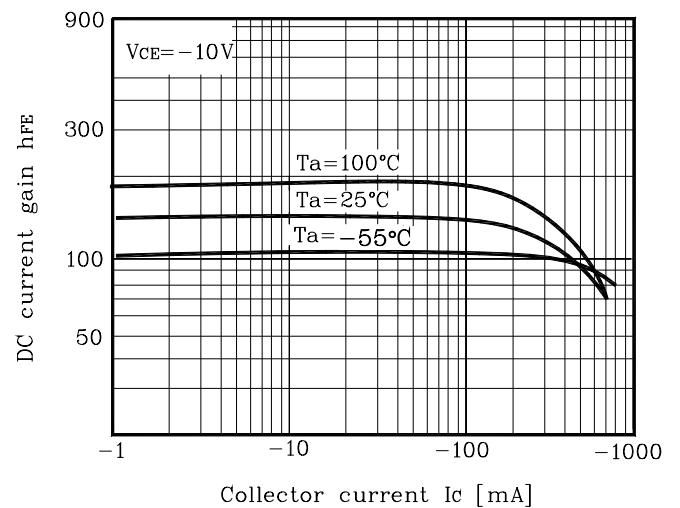


Fig. 6 $h_{FE} - I_C$



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