

Description

- RF amplifier

Features

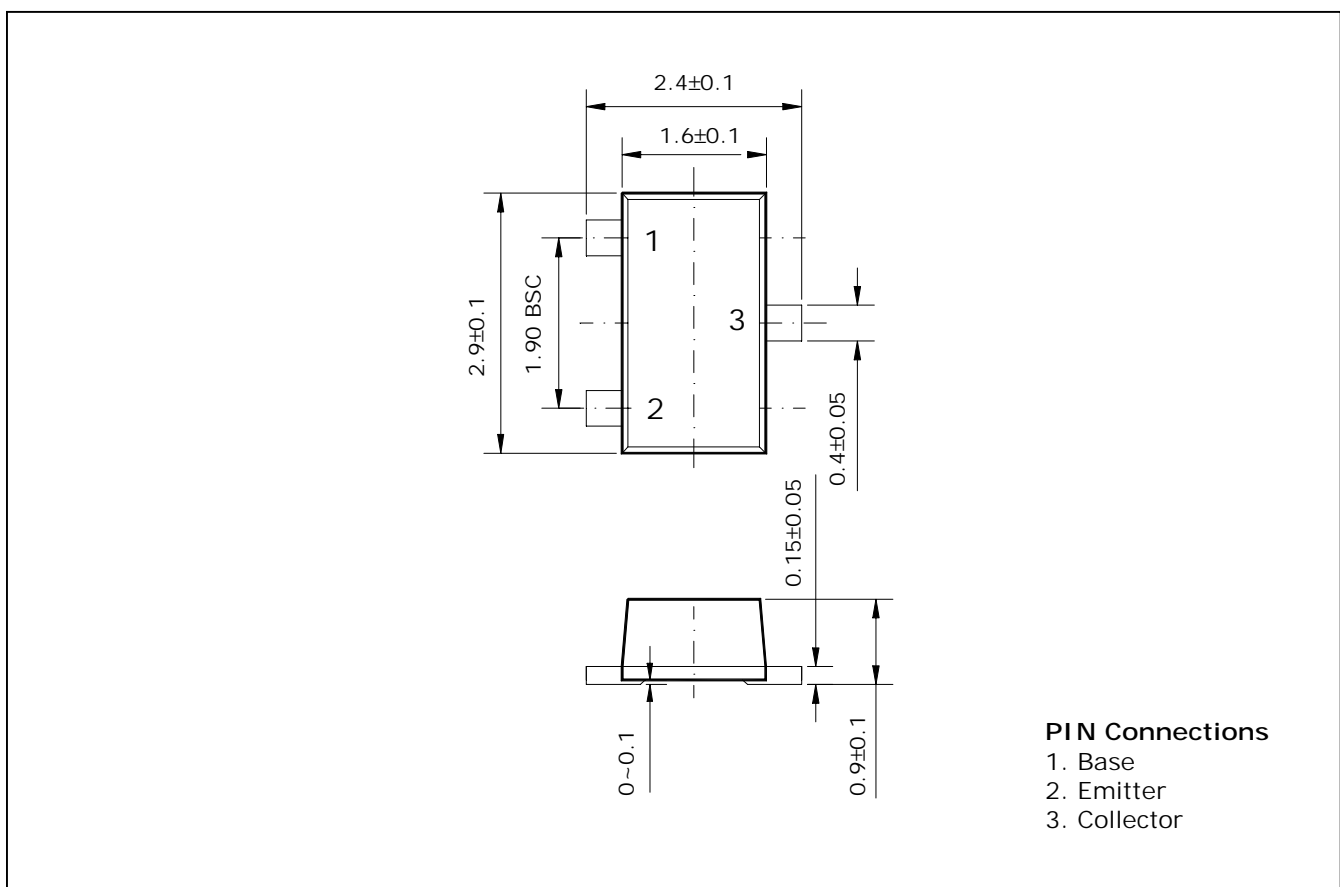
- High current transition frequency
 $f_T=550\text{MHz(Typ.)}$, [$V_{CE}=6\text{V}$, $I_E=-1\text{mA}$]
- Low output capacitance :
 $C_{ob}=1.4\text{pF(Typ.)}$ [$V_{CB}=6\text{V}$, $I_E=0$]
- Low base time constant and high gain
- Excellent noise response

Ordering Information

| Type NO. | Marking | Package Code |
|-----------|-------------------------|--------------|
| 2SC5345SF | Z□ □ : h_{FE} rank | SOT-23F |

Outline Dimensions

unit : mm



Absolute maximum ratings

Ta=25°C

| Characteristic | Symbol | Ratings | Unit |
|---------------------------|-----------|-----------|------|
| Collector-Base voltage | V_{CBO} | 30 | V |
| Collector-Emitter voltage | V_{CEO} | 20 | V |
| Emitter-Base voltage | V_{EBO} | 4 | V |
| Collector current | I_C | 20 | mA |
| Collector dissipation | P_C | 150 | 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-Base breakdown voltage | BV_{CBO} | $I_C=10\mu A, I_E=0$ | 30 | - | - | V |
| Collector-Emitter breakdown voltage | BV_{CEO} | $I_C=5mA, I_B=0$ | 20 | - | - | V |
| Emitter-Base breakdown voltage | BV_{EBO} | $I_E=10\mu A, I_C=0$ | 4 | - | - | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=30V, I_E=0$ | - | - | 0.5 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=4V, I_C=0$ | - | - | 0.5 | μA |
| DC current gain | h_{FE}^* | $V_{CE}=6V, I_C=1mA$ | 40 | - | 240 | - |
| Collector-Emitter saturation voltage | $V_{CE(sat)}$ | $I_C=10mA, I_B=1mA$ | - | - | 0.3 | V |
| Transistor frequency | f_T | $V_{CE}=6V, I_E=-1mA$ | - | 550 | - | MHz |
| Collector output capacitance | C_{ob} | $V_{CB}=6V, I_E=0, f=1MHz$ | - | 1.4 | - | pF |

* : h_{FE} rank / R : 40~80, O : 70~140, Y : 120~240

Electrical Characteristic Curves

Fig. 1 P_C - T_a

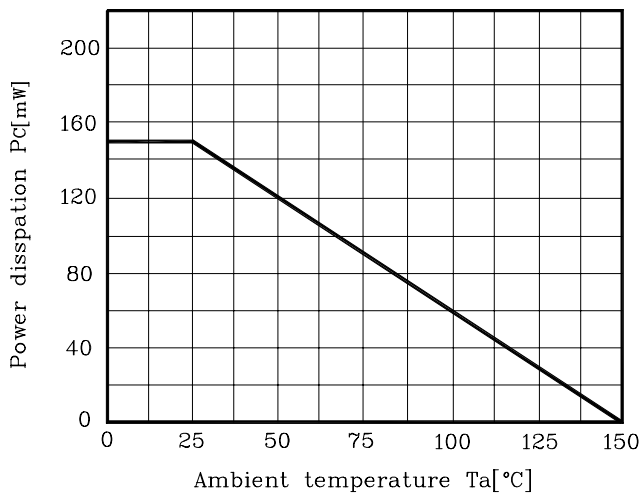


Fig. 2 I_C - V_{CE}

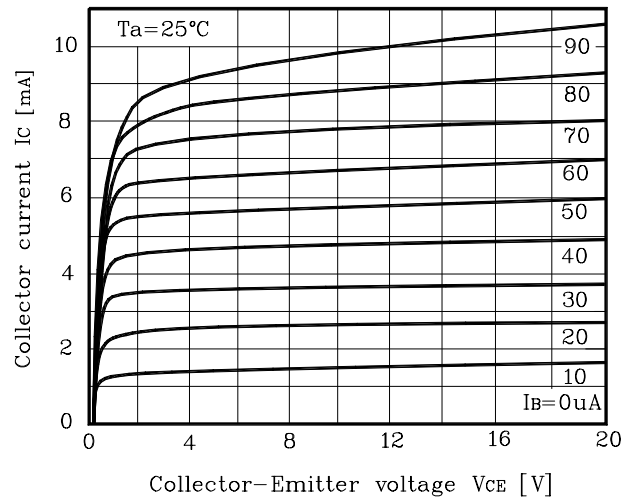


Fig. 3 h_{FE} - I_C

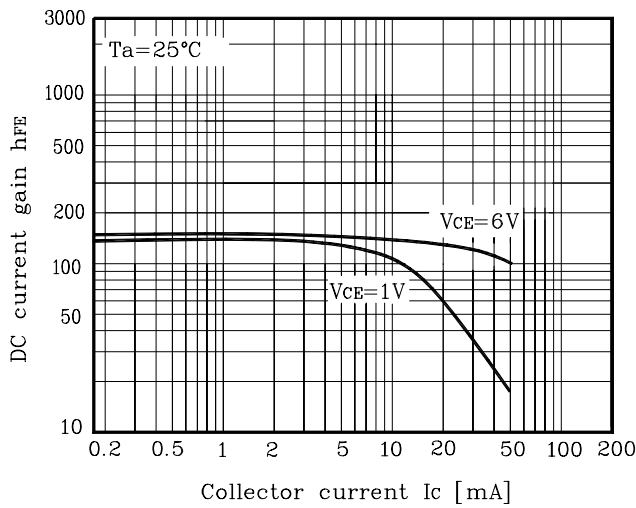


Fig. 4 f_T - I_E

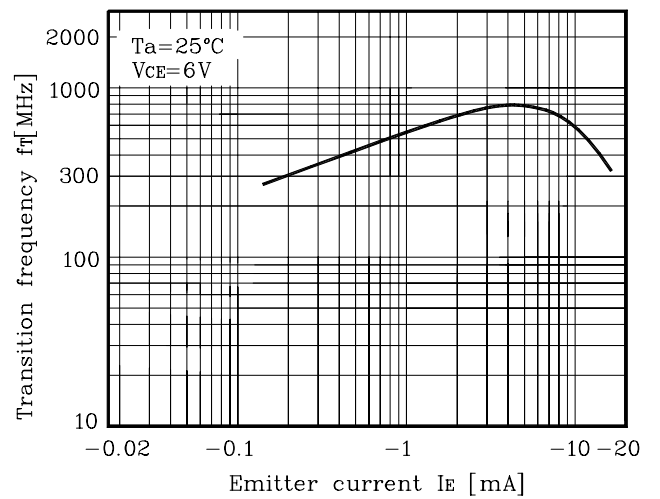


Fig. 5 C_{ob} - V_{CB} , C_{ib} - V_{EB}

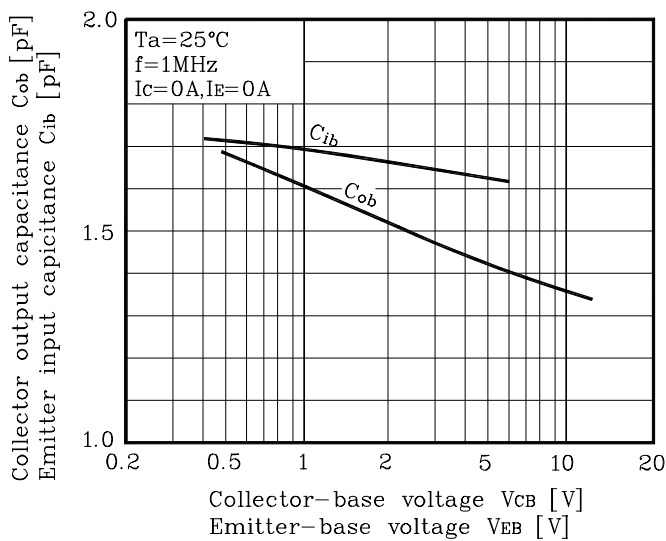
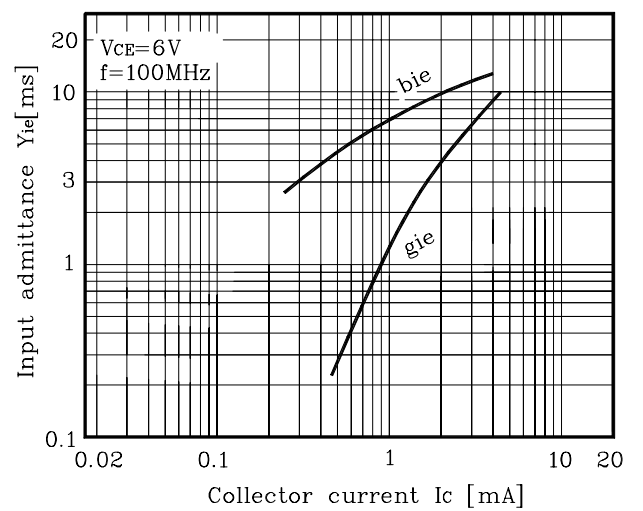


Fig. 6 Y_{ie} - I_C



Electrical Characteristic Curves

Fig. 7 I_C - Y_{oe}

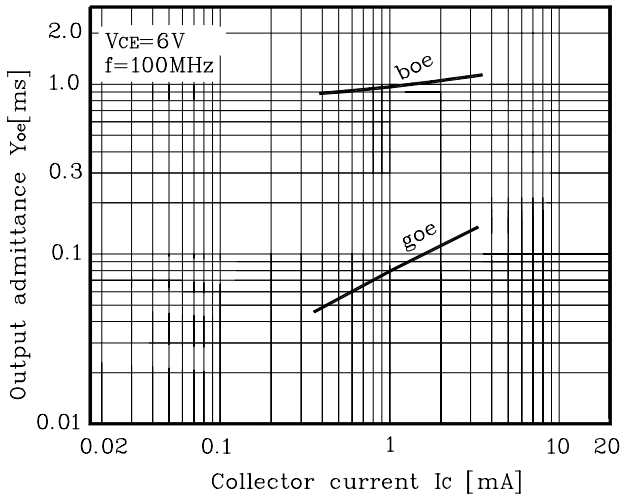


Fig. 8 I_C - Y_{fe}

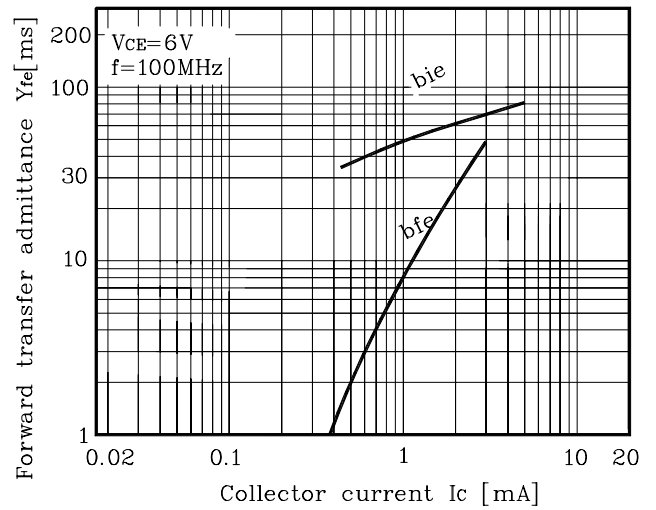


Fig. 9 I_C - Y_{re}

