

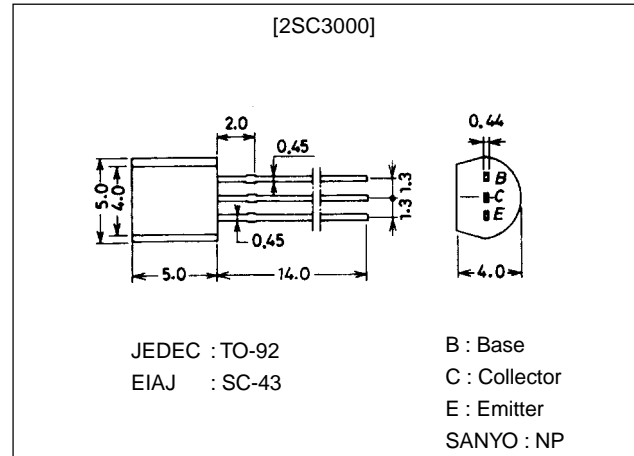
**2SC3000****HF Amplifier Applications****Features**

- FBET series.
- High f_T and small C_{re} .

Package Dimensions

unit:mm

2003A

**Specifications****Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$**

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------|-------------|------------------|
| Collector-to-Base Voltage | V_{CB0} | | 30 | V |
| Collector-to-Emitter Voltage | V_{CE0} | | 20 | V |
| Emitter-to-Base Voltage | V_{EB0} | | 5 | V |
| Collector Current | I_C | | 30 | mA |
| Collector Dissipation | P_C | | 250 | mW |
| Junction Temperature | T_J | | 125 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | | -55 to +125 | $^\circ\text{C}$ |

Electrical Characteristics at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---------------------------------|-------------|--|---------|-----|------|---------------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=10\text{V}, I_E=0$ | | | 0.1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=4\text{V}, I_C=0$ | | | 0.1 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=6\text{V}, I_C=1\text{mA}$ | 60* | | 320* | |
| Gain-Bandwidth Product | f_T | $V_{CE}=6\text{V}, I_C=1\text{mA}$ | 200 | 320 | | MHz |
| Reverse Transfer Capacitance | C_{re} | $V_{CB}=6\text{V}, f=1\text{MHz}$ | 0.7 | 1.1 | 1.4 | pF |
| Base-to-Collector Time Constant | $rb_b' C_C$ | $V_{CE}=6\text{V}, I_C=1\text{mA}, f=31.9\text{MHz}$ | | 15 | 22 | ps |
| Noise Figure | NF | $V_{CE}=6\text{V}, I_C=1\text{mA}, f=100\text{MHz}$ | | 3.0 | | dB |
| Power Gain | PG | $V_{CE}=6\text{V}, I_C=1\text{mA}, f=100\text{MHz}$ | | 25 | | dB |

* : The 2SC2300 are classified by 1mA h_{FE} as follows :

| | | | | | | | | |
|----|---|-----|-----|---|-----|-----|---|-----|
| 60 | D | 120 | 100 | E | 200 | 160 | F | 320 |
|----|---|-----|-----|---|-----|-----|---|-----|

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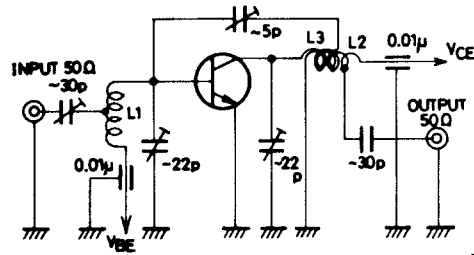
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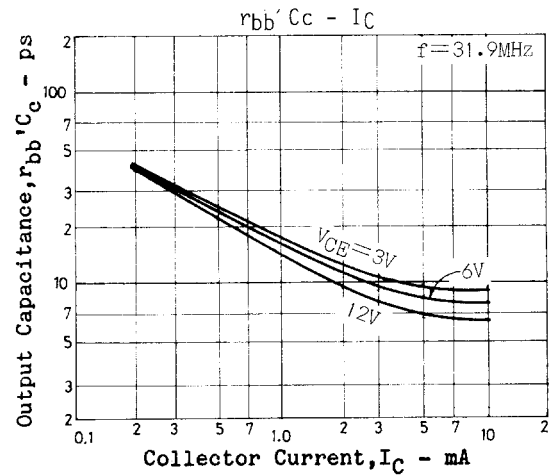
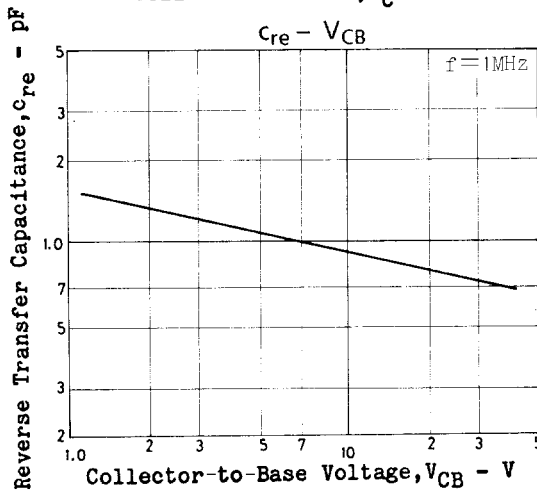
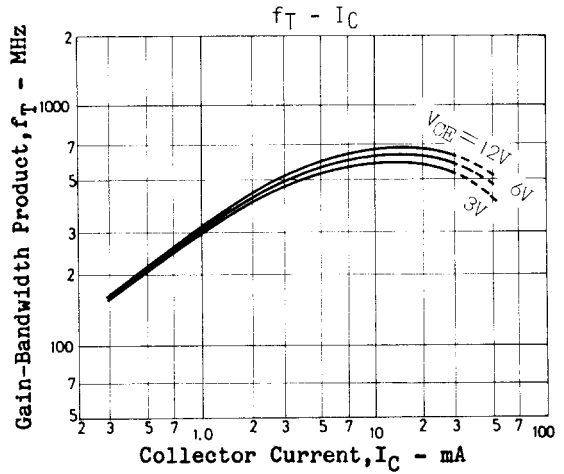
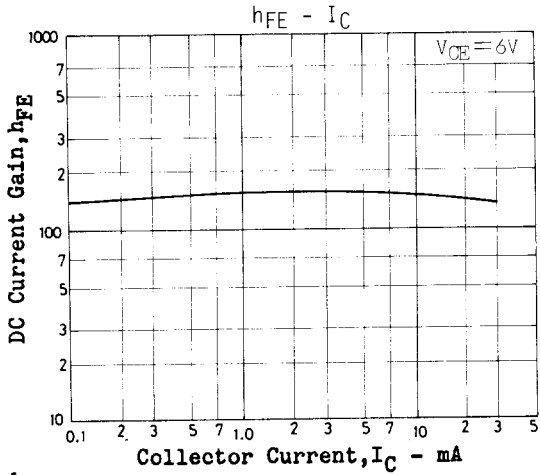
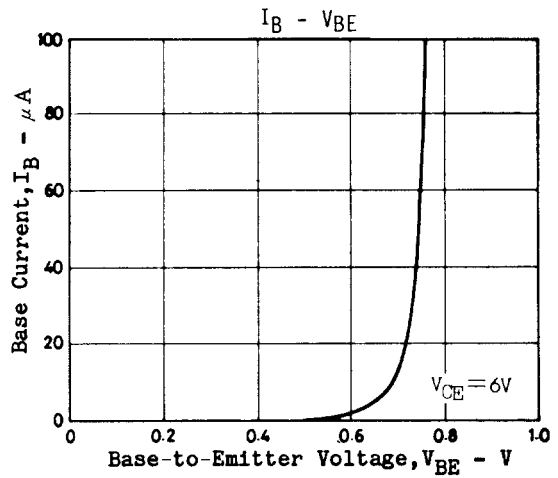
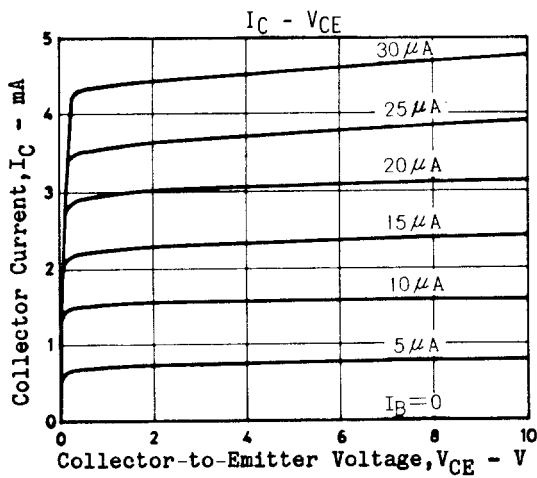
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NF, PG Test Circuit

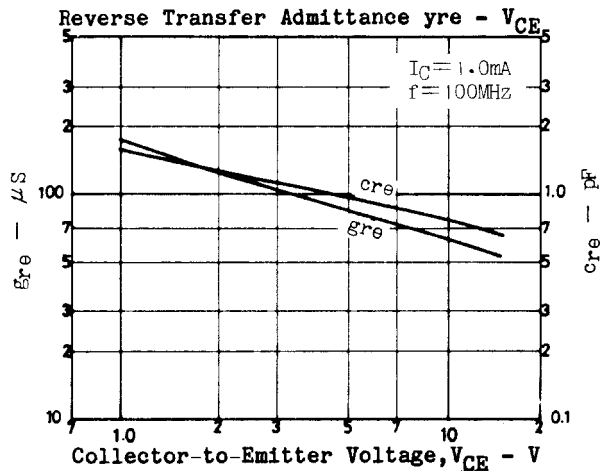
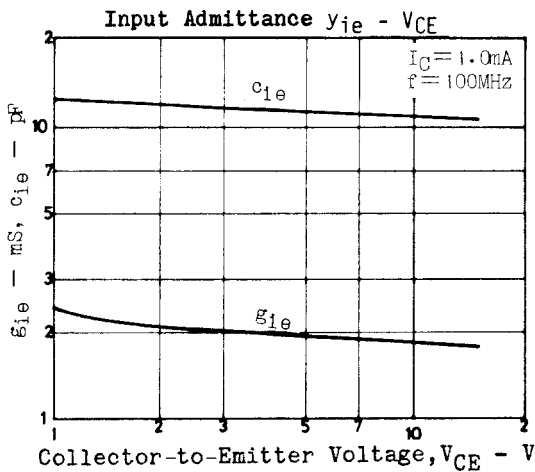
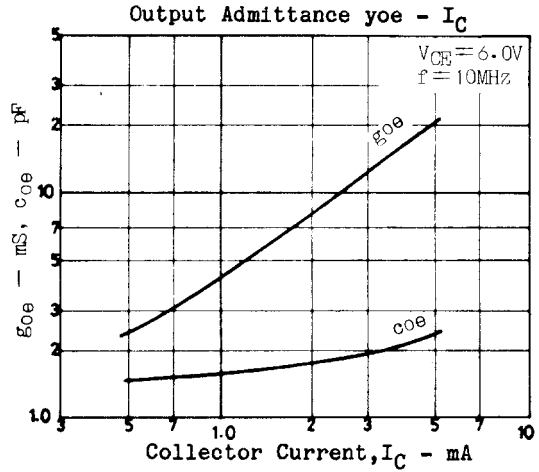
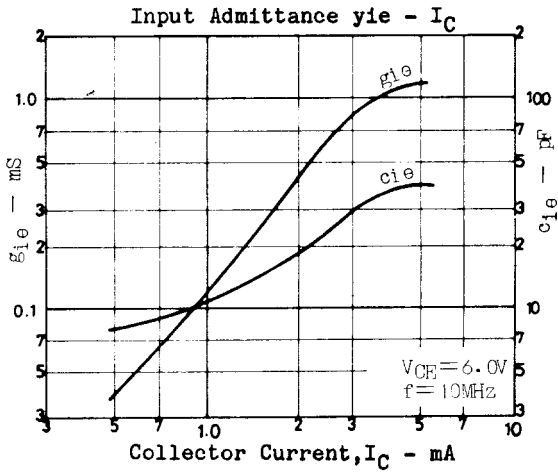
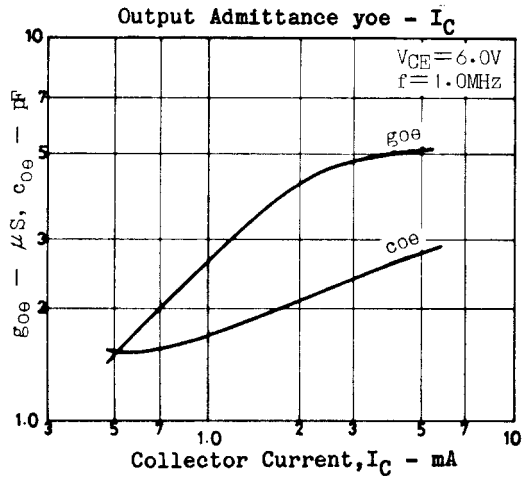
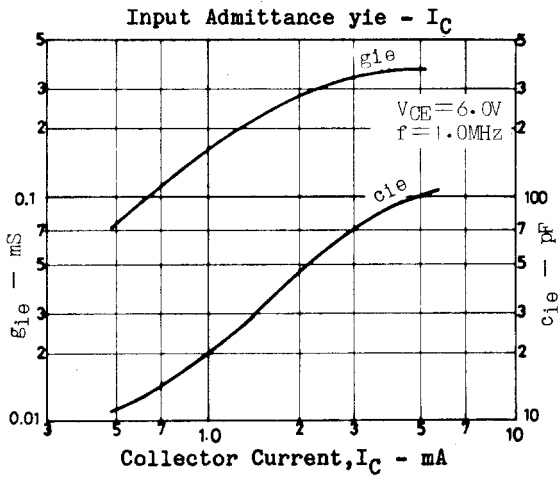
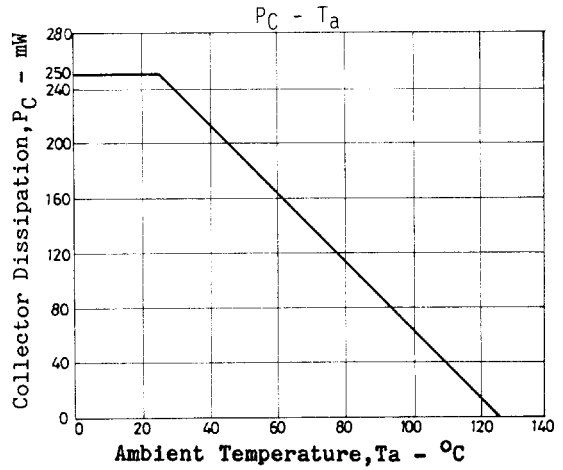
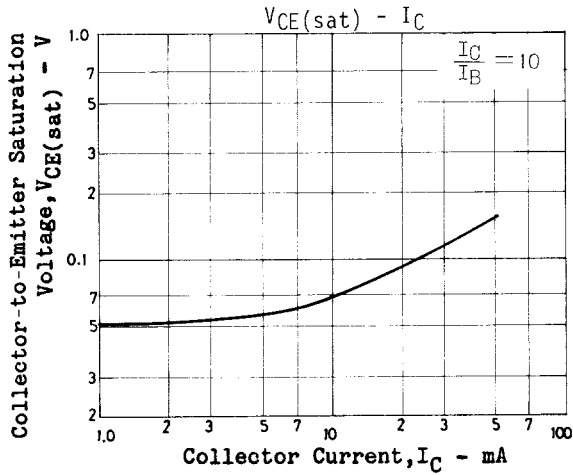


Unit(capacitance : F)

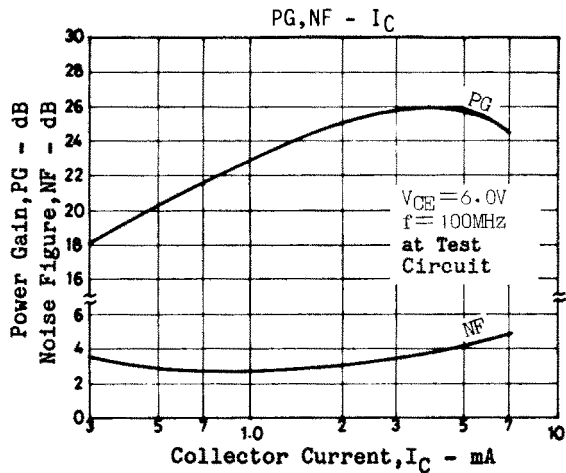
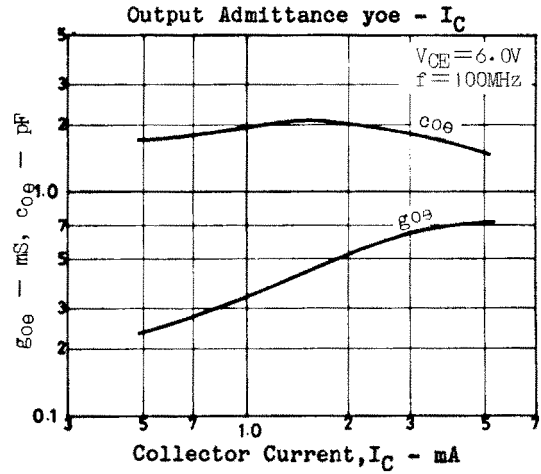
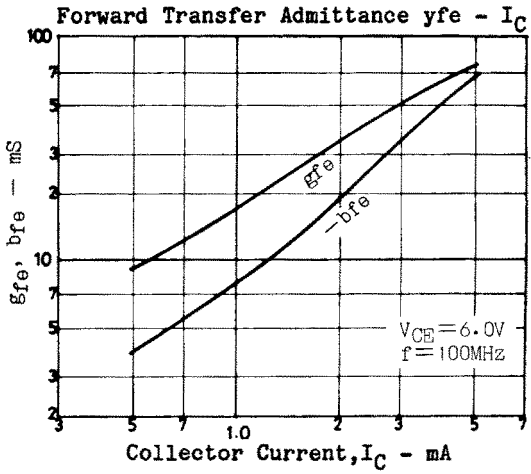
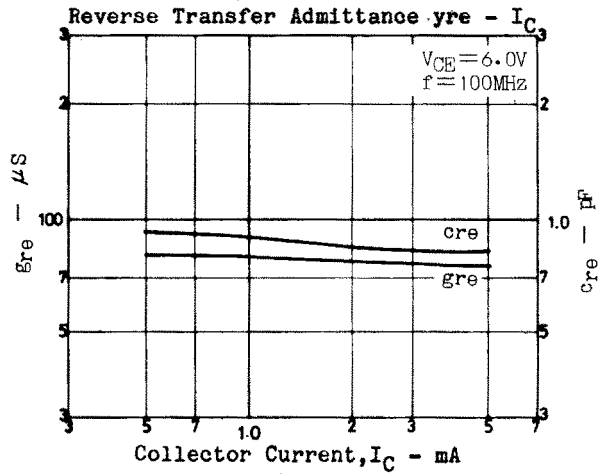
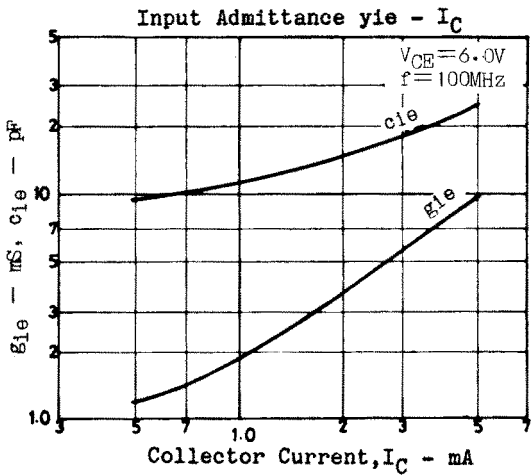
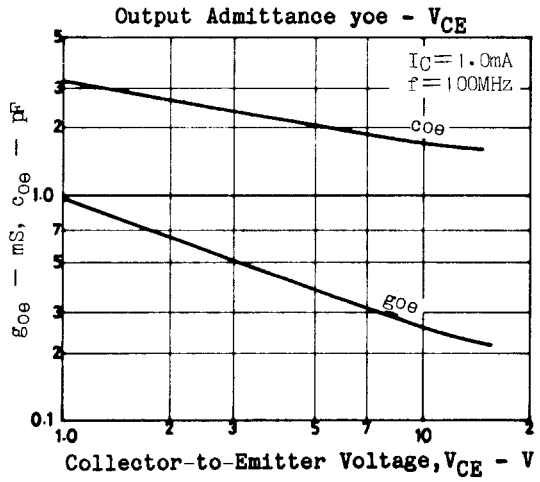
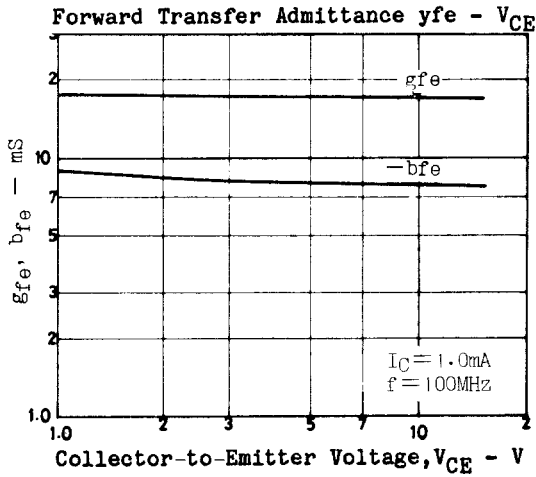
- L1: 1mm ϕ plated wire, 10mm ϕ 5T, tapped at 2T from V_{BE} .
- L2: 1mm ϕ plated wire, 10mm ϕ 7T, tapped at 1T from V_{CE} .
- L3: 1mm ϕ enameled wire, 10mm ϕ 3T.



2SC3000



2SC3000



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