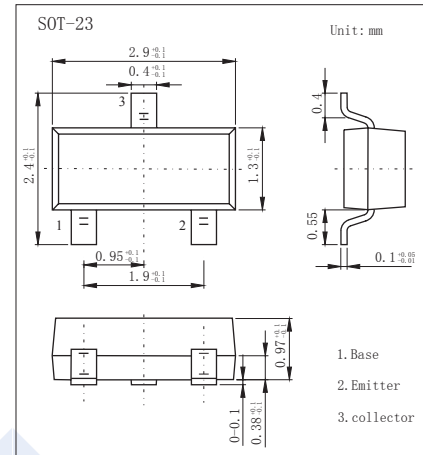


NPN Transistors

2SC3122

■ Features

- Collector Current Capability $I_c=20\text{mA}$
- Collector Emitter Voltage $V_{CE0}=30\text{V}$



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|--------------------------------|-----------|------------|------------------|
| Collector - Base Voltage | V_{CBO} | 30 | V |
| Collector - Emitter Voltage | V_{CEO} | 30 | |
| Emitter - Base Voltage | V_{EBO} | 3 | |
| Collector Current - Continuous | I_c | 20 | mA |
| Base Current | I_B | 10 | |
| Collector Power Dissipation | P_C | 150 | mW |
| Junction Temperature | T_J | 125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55 to 125 | |

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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---|-----|-----|------|------|
| Collector- base breakdown voltage | V_{CBO} | $I_c = 100 \mu\text{A}, I_E = 0$ | 30 | | | V |
| Collector- emitter breakdown voltage | V_{CEO} | $I_c = 1 \text{ mA}, I_B = 0$ | 30 | | | |
| Emitter - base breakdown voltage | V_{EBO} | $I_E = 100 \mu\text{A}, I_c = 0$ | 3 | | | |
| Collector-base cut-off current | I_{CBO} | $V_{CB} = 25 \text{ V}, I_E = 0$ | | | 0.1 | uA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 2 \text{ V}, I_c = 0$ | | | 0.1 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_c = 20 \text{ mA}, I_B = 2 \text{ mA}$ | | | 0.5 | V |
| Base - emitter saturation voltage | $V_{BE(sat)}$ | $I_c = 20 \text{ mA}, I_B = 2 \text{ mA}$ | | | 1.2 | |
| DC current gain | h_{FE} | $V_{CE} = 10 \text{ V}, I_c = 2 \text{ mA}$ | 60 | | 300 | |
| Power gain | PG | $V_{CE} = 12 \text{ V}, V_{AGC} = 1.4 \text{ V}, f = 200 \text{ MHz}$ | 20 | | 28 | dB |
| Noise figure | NF | | | | 3.2 | |
| AGC voltage | V_{AGC} | $V_{CC} = 12 \text{ V}, GR = 30 \text{ dB}, f = 200 \text{ MHz}$ | 3.6 | | 5.1 | V |
| Reverse transfer capacitance | C_{re} | $V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ | | | 0.45 | pF |
| Transition frequency | f_t | $V_{CE} = 10 \text{ V}, I_c = 2 \text{ mA}$ | 400 | | | MHz |

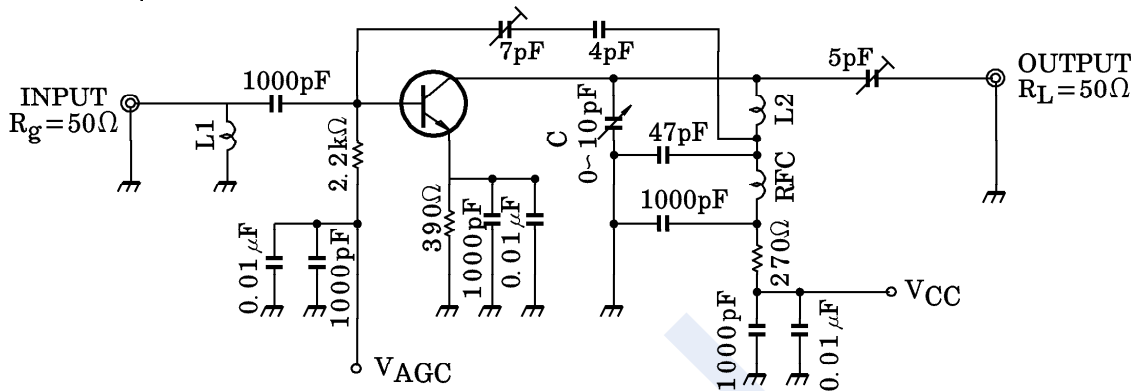
■ Marking

| | |
|---------|----|
| Marking | HD |
|---------|----|

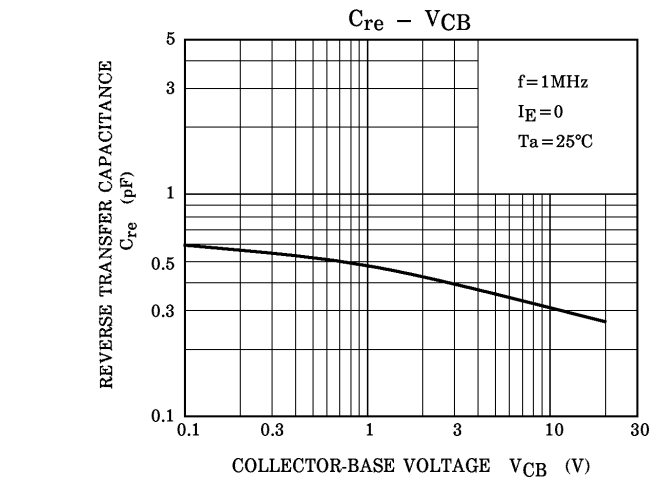
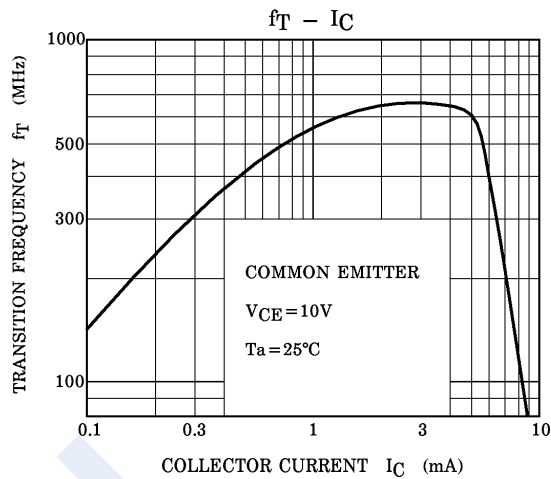
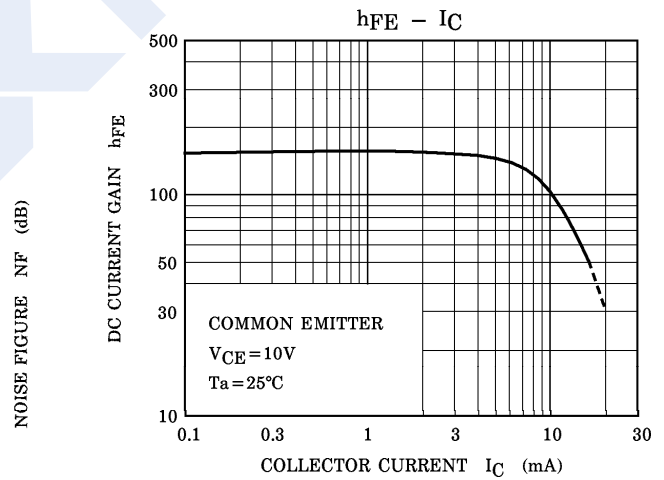
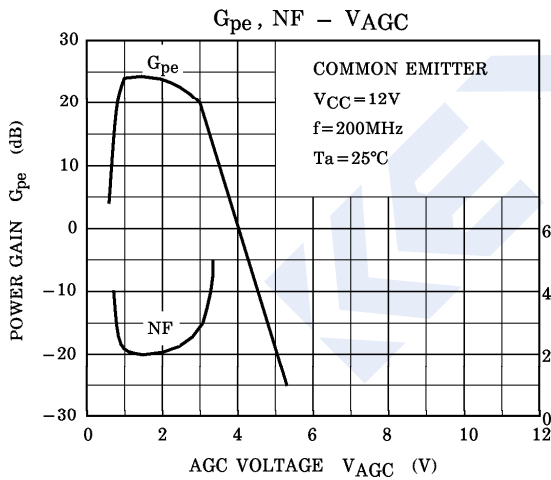
NPN Transistors 2SC3122

■ Typical Characteristics

Fig.1 200MHz G_{pe} , NF TEST CIRCUIT



L1 : RF Coil M-15T (TOKO Inc.) or EQUIVALENT
L2 : RF Coil M-25T (TOKO Inc.) or EQUIVALENT



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■ Typical Characteristics

