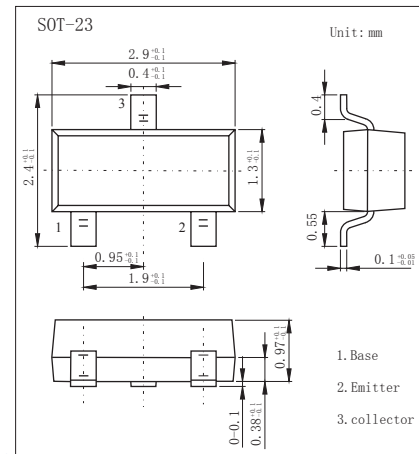


## NPN Transistors

## 2SC3121

## ■ Features

- Collector Current Capability  $I_C=50\text{mA}$
- Collector Emitter Voltage  $V_{CE0}=15\text{V}$

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

| Parameter                      | Symbol    | Rating     | Unit             |
|--------------------------------|-----------|------------|------------------|
| Collector - Base Voltage       | $V_{CBO}$ | 30         | V                |
| Collector - Emitter Voltage    | $V_{CEO}$ | 15         |                  |
| Emitter - Base Voltage         | $V_{EBO}$ | 3          |                  |
| Collector Current - Continuous | $I_C$     | 50         | mA               |
| Base Current                   | $I_B$     | 25         |                  |
| 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 | $V_{CEO}$     | $I_C=1\ \text{mA}, I_B=0$                                 | 15  |     |     |               |
| Emitter - base breakdown voltage     | $V_{EBO}$     | $I_E=100\ \mu\text{A}, I_C=0$                             | 3   |     |     |               |
| Collector-base cut-off current       | $I_{CBO}$     | $V_{CB}=15\ \text{V}, I_E=0$                              |     |     | 0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=3\ \text{V}, I_C=0$                               |     |     | 1   |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=50\ \text{mA}, I_B=5\ \text{mA}$                     |     |     | 0.5 | V             |
| Base - emitter saturation voltage    | $V_{BE(sat)}$ | $I_C=50\ \text{mA}, I_B=5\ \text{mA}$                     |     |     | 1.2 |               |
| DC current gain                      | $h_{FE}$      | $V_{CE}=3\ \text{V}, I_C=8\ \text{mA}$                    | 60  |     | 320 |               |
| Collector-base time constant         | $C_{c\ rbb'}$ | $V_{CB}=10\ \text{V}, I_C=8\ \text{mA}, f=30\ \text{MHz}$ |     |     | 12  | ps            |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=10\ \text{V}, I_E=0, f=1\ \text{MHz}$             |     |     | 1.3 | pF            |
| Transition frequency                 | $f_T$         | $V_{CE}=10\ \text{V}, I_C=8\ \text{mA}$                   | 1.1 |     |     | GHz           |

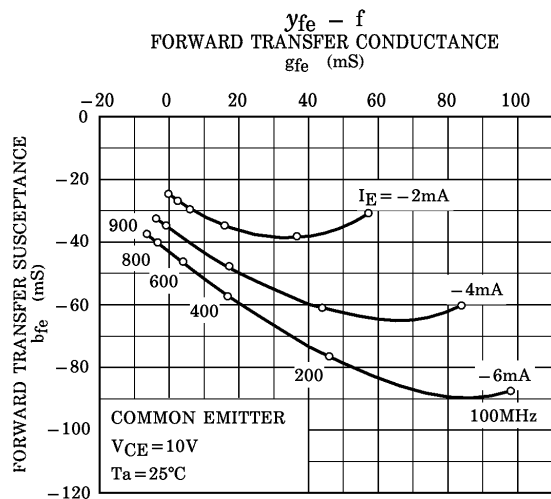
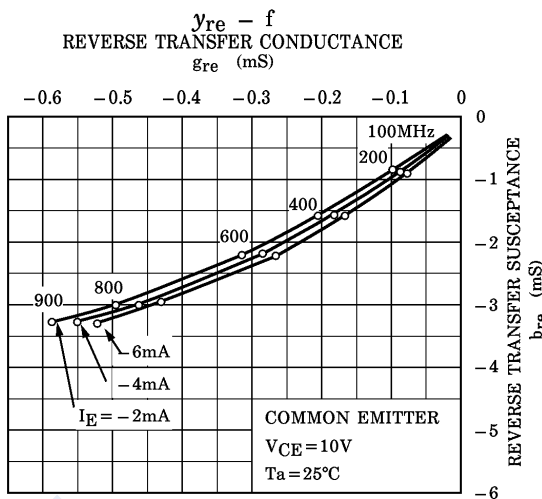
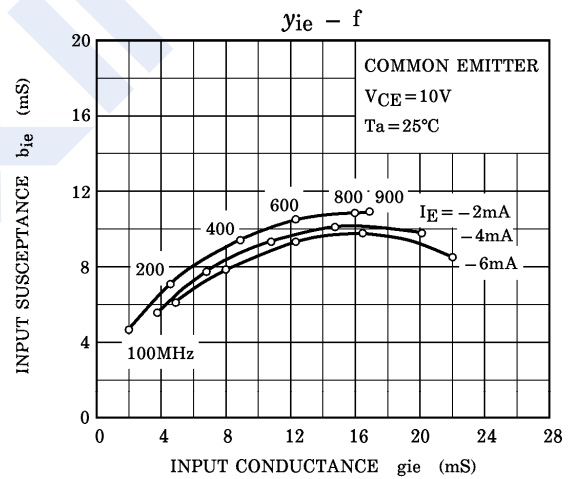
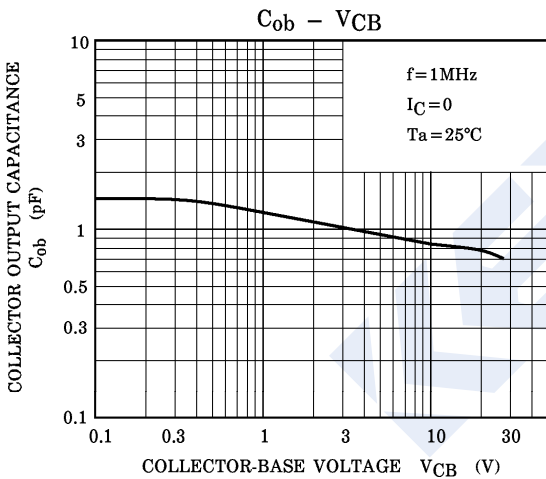
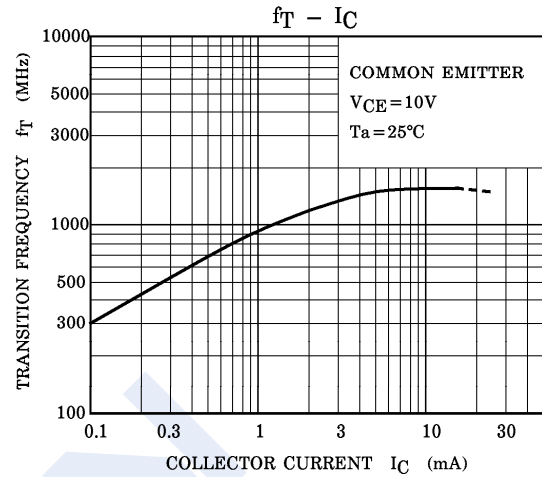
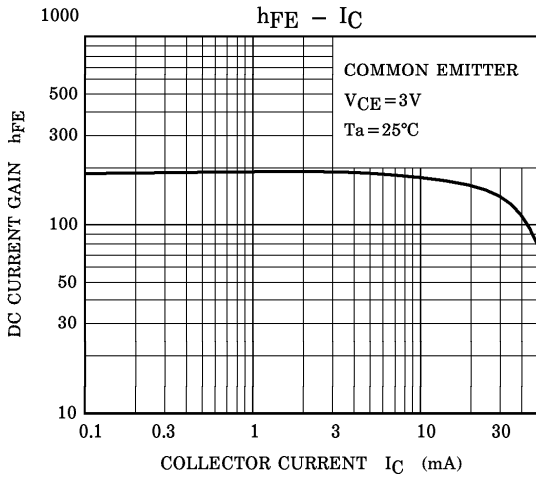
## ■ Marking

|         |    |
|---------|----|
| Marking | HC |
|---------|----|

# NPN Transistors

## 2SC3121

### Typical Characteristics



### NPN Transistors

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■ Typical Characteristics

