



## TO-92 Plastic-Encapsulated Transistors

### 2N5551 TRANSISTOR (NPN)

#### FEATURES

Power dissipation

$$P_{CM} : 0.625 \text{ W (Tamb=25°C)}$$

Collector current

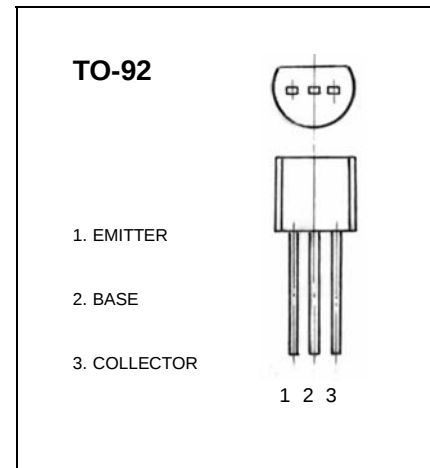
$$I_{CM} : 0.6 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : 180 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg} : -55^\circ\text{C to } +150^\circ\text{C}$$



#### ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                                                 | MIN | TYP | MAX | UNIT          |
|--------------------------------------|---------------|-----------------------------------------------------------------|-----|-----|-----|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = 100 \mu\text{A}, I_E = 0$                                | 180 |     |     | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = 100 \mu\text{A}, I_B = 0$                                | 160 |     |     | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E = 100 \mu\text{A}, I_C = 0$                                | 6   |     |     | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = 180 \text{ V}, I_E = 0$                               |     |     | 0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = 4 \text{ V}, I_C = 0$                                 |     |     | 0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE} = 5 \text{ V}, I_C = 1 \text{ mA}$                      | 80  |     |     |               |
|                                      | $h_{FE(2)}$   | $V_{CE} = 5 \text{ V}, I_C = 10 \text{ mA}$                     | 80  |     | 250 |               |
|                                      | $h_{FE(3)}$   | $V_{CE} = 5 \text{ V}, I_C = 50 \text{ mA}$                     | 50  |     |     |               |
| Collector-emitter saturation voltage | $V_{CEsat}$   | $I_C = 50 \text{ mA}, I_B = 5 \text{ mA}$                       |     |     | 0.5 | V             |
| Base-emitter saturation voltage      | $V_{BEsat}$   | $I_C = 50 \text{ mA}, I_B = 5 \text{ mA}$                       |     |     | 1   | V             |
| Transition frequency                 | $f_T$         | $V_{CE} = 5 \text{ V}, I_C = 10 \text{ mA}, f = 30 \text{ MHz}$ | 80  |     |     | MHz           |

#### CLASSIFICATION OF $h_{FE(2)}$

| Rank  | A      | B       | C       |
|-------|--------|---------|---------|
| Range | 80-160 | 120-180 | 150-250 |

