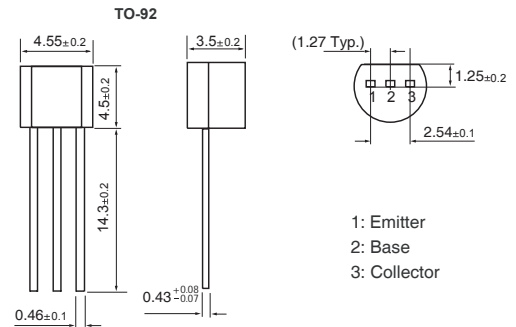


**FEATURES**

- Complimentary to S8550
- Collector Current:  $I_C = 0.5\text{ A}$


**ABSOLUTE MAXIMUM RATINGS at  $T_a = 25^\circ\text{C}$** 

| Parameter                     | Symbol         | Ratings          | Unit             |
|-------------------------------|----------------|------------------|------------------|
| Collector to Base Voltage     | $V_{CBO}$      | 40               | V                |
| Collector to Emitter Voltage  | $V_{CEO}$      | 25               | V                |
| Emitter to Base Voltage       | $V_{EBO}$      | 5                | V                |
| Collector Current             | $I_C$          | 500              | mA               |
| Total Power Dissipation       | $P_D$          | 625              | mW               |
| Junction, Storage Temperature | $T_J, T_{STG}$ | +150, -55 ~ +150 | $^\circ\text{C}$ |

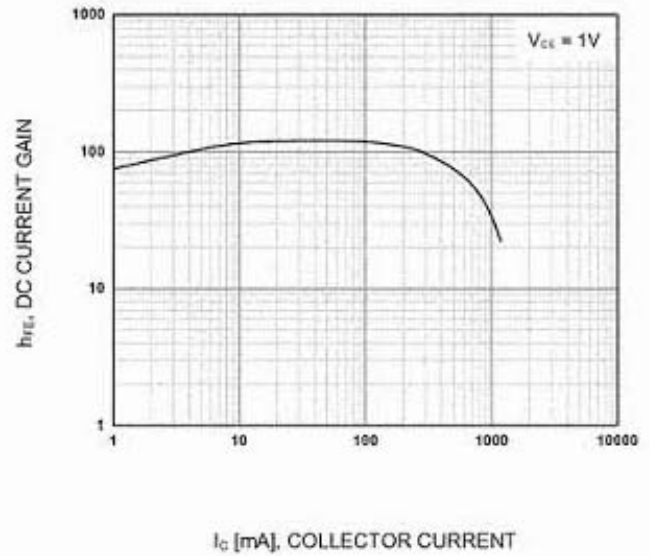
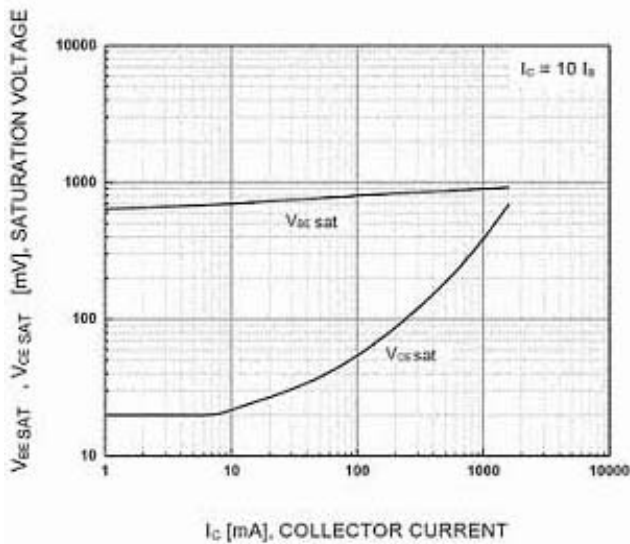
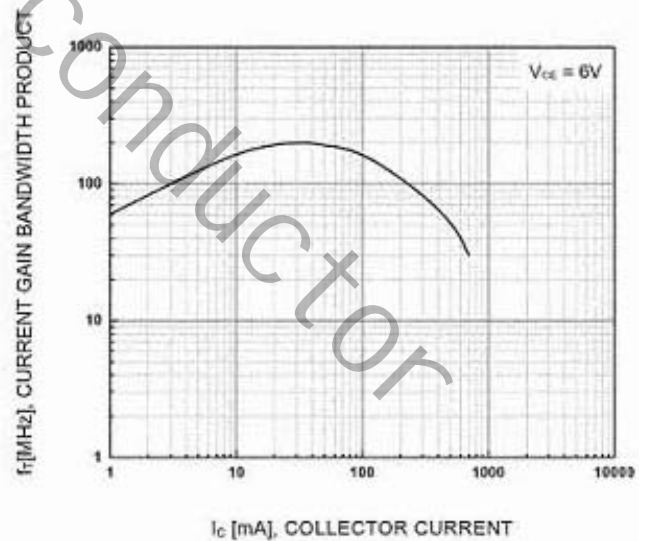
**ELECTRICAL CHARACTERISTICS ( $T_{AMB} = 25^\circ\text{C}$  unless otherwise specified)**

| Parameter                            | Symbol        | Min. | Typ. | Max. | Unit          | Test Conditions   |
|--------------------------------------|---------------|------|------|------|---------------|---|
| Collector-base Breakdown Voltage     | $V_{(BR)CBO}$ | 40   | -    | -    | V             | $I_C = 100\ \mu\text{A}, I_E = 0$                               |
| Collector-emitter Breakdown Voltage  | $V_{(BR)CEO}$ | 25   | -    | -    | V             | $I_C = 0.1\ \text{mA}, I_B = 0$                                 |
| Emitter-base Breakdown Voltage       | $V_{(BR)EBO}$ | 5    | -    | -    | V             | $I_E = 100\ \mu\text{A}, I_C = 0$                               |
| Collector Cut-off Current            | $I_{CBO}$     | -    | -    | 0.1  | $\mu\text{A}$ | $V_{CB} = 40\ \text{V}, I_E = 0$                                |
| Collector Cut-off Current            | $I_{CEO}$     | -    | -    | 0.1  | $\mu\text{A}$ | $V_{CE} = 20\ \text{V}, I_B = 0$                                |
| Emitter Cut-off Current              | $I_{EBO}$     | -    | -    | 0.1  | $\mu\text{A}$ | $V_{EB} = 5\ \text{V}, I_C = 0$                                 |
| DC Current Gain                      | $h_{FE(1)}$   | 85   | -    | 400  |               | $V_{CE} = 1\ \text{V}, I_C = 50\ \text{mA}$                     |
|                                      | $h_{FE(2)}$   | 50   | -    | -    |               | $V_{CE} = 1\ \text{V}, I_C = 500\ \text{mA}$                    |
| Collector-emitter Saturation Voltage | $V_{CE(sat)}$ | -    | -    | 0.6  | V             | $I_C = 500\ \text{mA}, I_B = 50\ \text{mA}$                     |
| Base-emitter Saturation Voltage      | $V_{BE(sat)}$ | -    | -    | 1.2  | V             | $I_C = 500\ \text{mA}, I_B = 50\ \text{mA}$                     |
| Transition Frequency                 | $f_T$         | 150  | -    | -    | MHz           | $V_{CE} = 6\ \text{V}, I_C = 20\ \text{mA}, f = 30\ \text{MHz}$ |

**CLASSIFICATION OF  $h_{FE}$** 

| Rank  | B        | C         | D         |
|-------|----------|-----------|-----------|
| Range | 85 - 160 | 120 - 200 | 160 - 300 |

**CHARACTERISTIC CURVES**
**S8050**

**Static Characteristic**

**DC current Gain**

**Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage**

**Current Gain Bandwidth Product**