



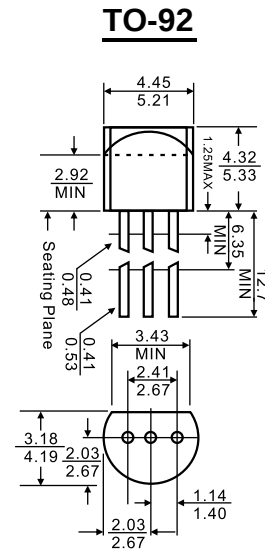
1. EMITTER
2. BASE
3. COLLECTOR

## Features

- ✧ Complimentary to S8550
- ✧ Collector current:  $I_C=0.5A$

## MAXIMUM RATINGS ( $T_A=25^\circ C$ unless otherwise noted)

| Symbol    | Parameter                     | Value   | Units      |
|-----------|-------------------------------|---------|------------|
| $V_{CBO}$ | Collector-Base Voltage        | 40      | V          |
| $V_{CEO}$ | Collector-Emitter Voltage     | 25      | V          |
| $V_{EBO}$ | Emitter-Base Voltage          | 5       | V          |
| $I_C$     | Collector Current -Continuous | 0.5     | A          |
| $P_C$     | Collector Power Dissipation   | 0.625   | W          |
| $T_J$     | Junction Temperature          | 150     | $^\circ C$ |
| $T_{stg}$ | Storage Temperature           | -55-150 | $^\circ C$ |



Dimensions in inches and (millimeters)

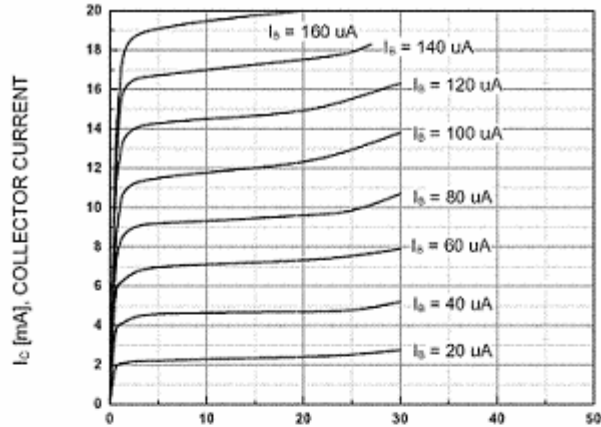
## ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^\circ C$ unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                          | MIN | TYP | MAX | UNIT    |
|--------------------------------------|---------------|------------------------------------------|-----|-----|-----|---------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = 100\mu A, I_E = 0$                | 40  |     |     | V       |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = 0.1mA, I_B = 0$                   | 25  |     |     | V       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E = 100\mu A, I_C = 0$                | 5   |     |     | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = 40V, I_E = 0$                  |     |     | 0.1 | $\mu A$ |
| Collector cut-off current            | $I_{CEO}$     | $V_{CE} = 20V, I_B = 0$                  |     |     | 0.1 | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = 5V, I_C = 0$                   |     |     | 0.1 | $\mu A$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE} = 1V, I_C = 50mA$                | 85  |     | 400 |         |
|                                      | $h_{FE(2)}$   | $V_{CE} = 1V, I_C = 500mA$               | 50  |     |     |         |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 500mA, I_B = 50mA$                |     |     | 0.6 | V       |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C = 500mA, I_B = 50mA$                |     |     | 1.2 | V       |
| Transition frequency                 | $f_T$         | $V_{CE} = 6V, I_C = 20mA$<br>$f = 30MHz$ | 150 |     |     | MHz     |

## CLASSIFICATION OF $h_{FE(1)}$

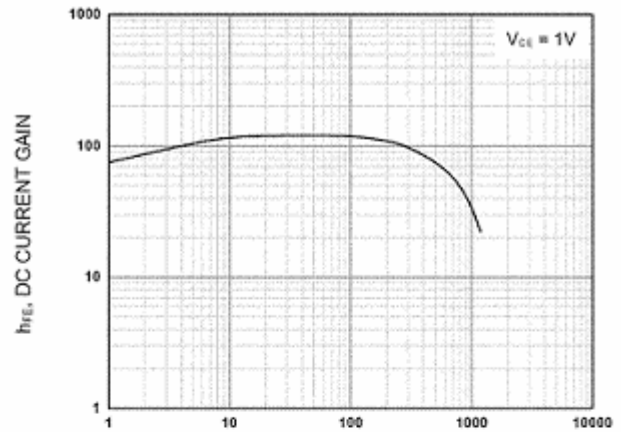
| Rank  | B      | C       | D       | D3      |
|-------|--------|---------|---------|---------|
| Range | 85-160 | 120-200 | 160-300 | 300-400 |

## Typical Characteristics



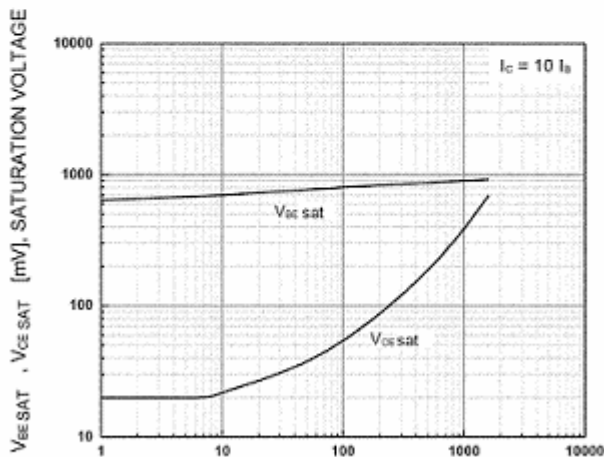
$V_{CE}$  [V], COLLECTOR-EMITTER VOLTAGE

**Static Characteristic**



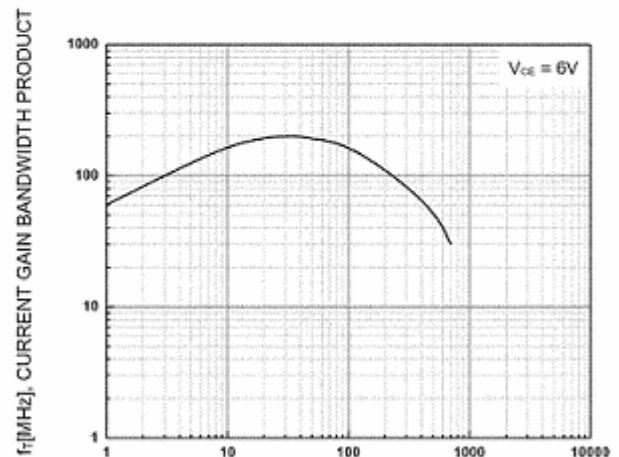
$I_C$  [mA], COLLECTOR CURRENT

**DC current Gain**



$I_C$  [mA], COLLECTOR CURRENT

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



$I_C$  [mA], COLLECTOR CURRENT

**Current Gain Bandwidth Product**