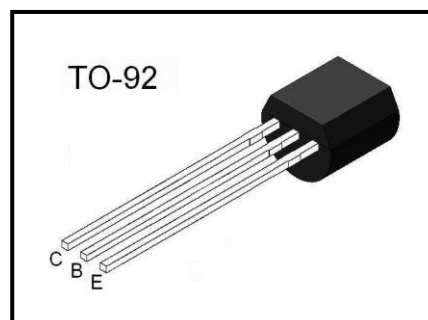


**Switching and Applications**

- High Voltage: BC546,  $V_{CEO}=65V$
- Low Noise: BC549, BC550
- Complement to BC556/557/558/559/BC560

**Absolute Maximum Ratings** ( $T_a=25^{\circ}C$ )

| Parameter                                   |               | Symbol            | Value           | Unit        |
|---------------------------------------------|---------------|-------------------|-----------------|-------------|
| Collector-Base Voltage                      | BC546         | $BV_{CBO}$        | 80              | V           |
|                                             | BC547/550     |                   | 50              |             |
|                                             | BC548/549     |                   | 30              |             |
| Collector-Emitter Voltage                   | BC546         | $BV_{CEO}$        | 65              | V           |
|                                             | BC547/550     |                   | 45              |             |
|                                             | BC548/549     |                   | 30              |             |
| Emitter-Base Voltage                        | BC546/547     | $BV_{EBO}$        | 6               | V           |
|                                             | BC548/549/550 |                   | 5               |             |
| Collector Current                           |               | $I_C$             | 100             | mA          |
| Collector Power Dissipation                 |               | $P_C$             | 500             | mW          |
| Junction Temperature<br>Storage Temperature |               | $T_j$ 、 $T_{stg}$ | 150<br>-55~+150 | $^{\circ}C$ |

**Electrical Characteristics** ( $T_a=25^{\circ}C$ )

| Parameter                            | Symbol        | Conditions                  | Value |     |      | Unit |
|--------------------------------------|---------------|-----------------------------|-------|-----|------|------|
|                                      |               |                             | Min   | Typ | Max  |      |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = 30V, I_E = 0$     |       |     | 15   | nA   |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = 5V, I_C = 0$      |       |     | 15   | nA   |
| DC current gain                      | $h_{FE}$      | $V_{CE} = 5V, I_C = 2mA$    | 110   |     | 800  |      |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10mA, I_B = 0.5mA$   |       |     | 0.25 | V    |
|                                      |               | $I_C = 100mA, I_B = 5mA$    |       |     | 0.60 |      |
| Base -emitter saturation voltage     | $V_{BE(sat)}$ | $I_C = 10mA, I_B = 0.5mA$   |       |     | 1.0  | V    |
|                                      |               | $I_C = 100mA, I_B = 5mA$    |       |     |      |      |
| Transition frequency                 | $f_T$         | $V_{CE} = 5V, I_B = 10mA$   |       | 200 |      | MHz  |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=10V, I_E=0, f=1MHz$ |       |     | 6    | pF   |

 **$h_{FE}$  Classification**

| Classification | A       | B       | C       |
|----------------|---------|---------|---------|
| $h_{FE}$       | 110-220 | 200-450 | 420-800 |

## Typical Characteristics

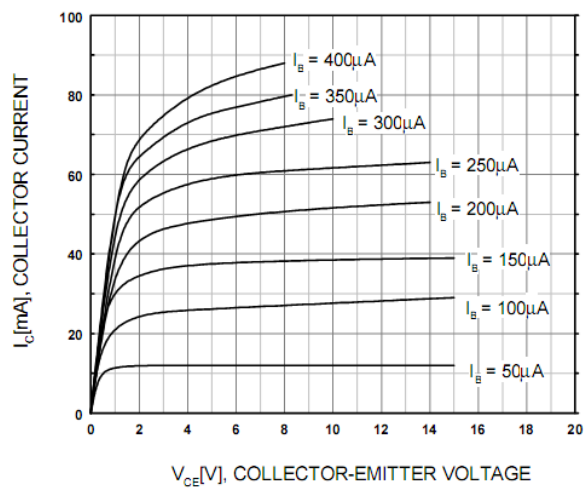


Figure 1. Static Characteristic

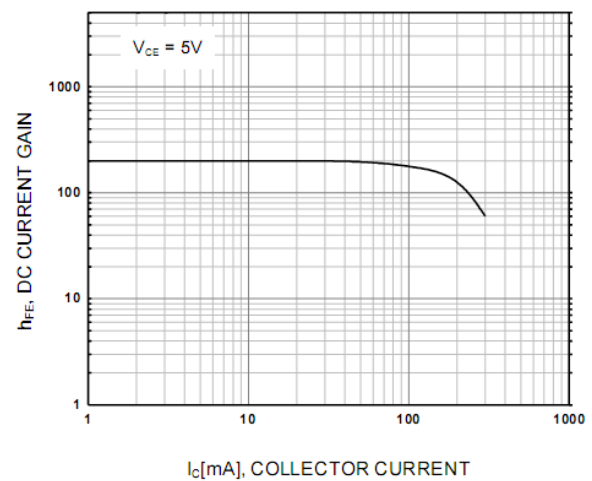


Figure 2. DC current Gain

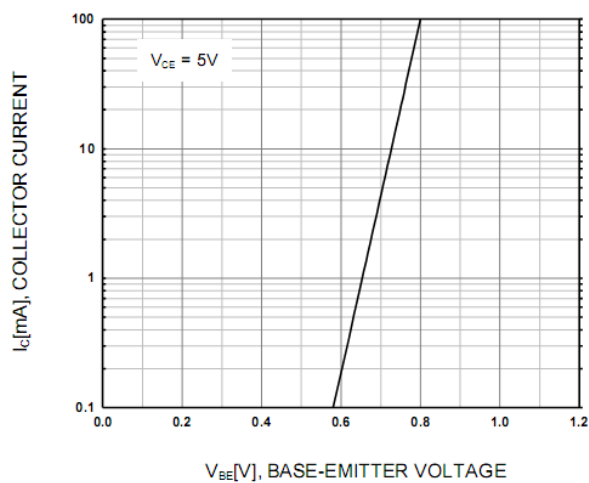


Figure 3. Transfer Characteristic

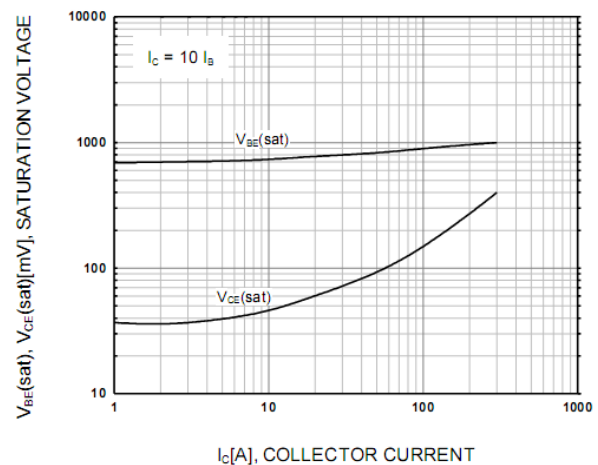
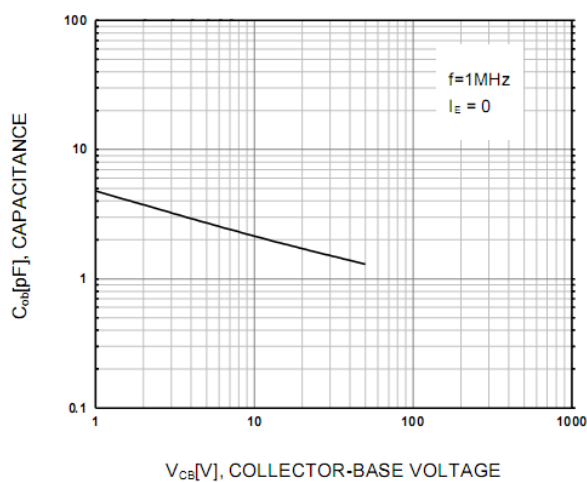
Figure 4. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

Figure 5. Output Capacitance

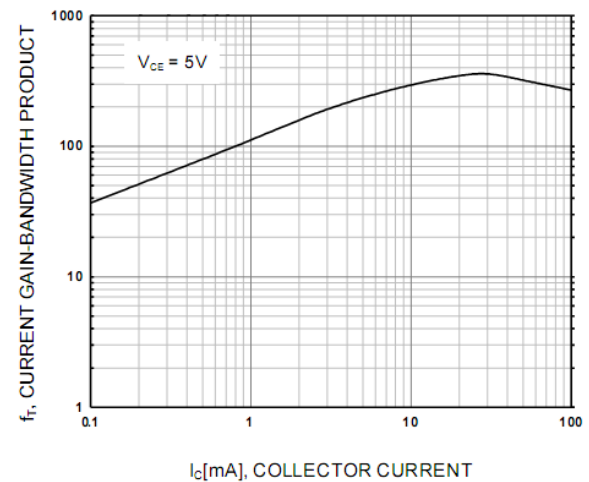
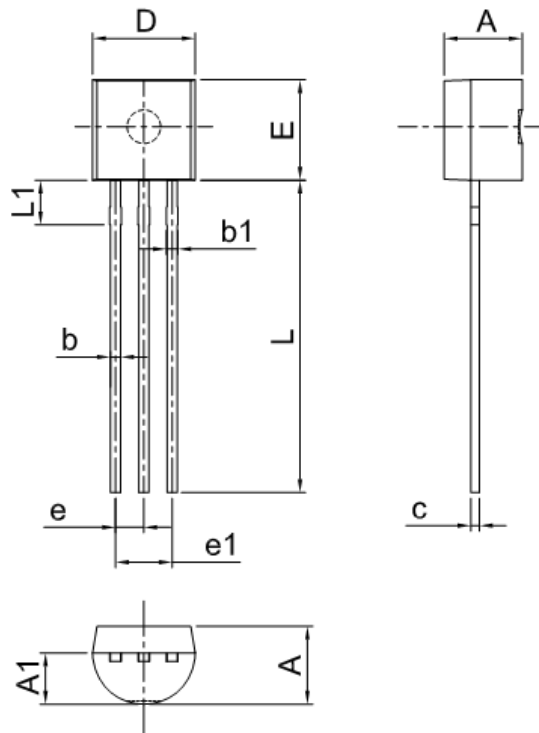


Figure 6. Current Gain Bandwidth Product

**Package Dimensions**

| Symbol | Millimeter |       | Inches |       |
|--------|------------|-------|--------|-------|
|        | Min.       | Max.  | Min.   | Max.  |
| A      | 3.30       | 3.70  | 0.130  | 0.146 |
| A1     | 2.30       | 2.70  | 0.091  | 0.106 |
| b      | 0.40       | 0.50  | 0.016  | 0.020 |
| b1     | 0.50       | 0.70  | 0.020  | 0.028 |
| c      | 0.35       | 0.45  | 0.014  | 0.018 |
| D      | 4.45       | 4.70  | 0.175  | 0.185 |
| E      | 4.40       | 4.65  | 0.173  | 0.183 |
| e      | 1.17       | 1.37  | 0.046  | 0.054 |
| e1     | 2.34       | 2.64  | 0.092  | 0.104 |
| L      | 13.50      | 14.50 | 0.531  | 0.571 |
| L1     | 1.80       | 2.20  | 0.071  | 0.087 |