

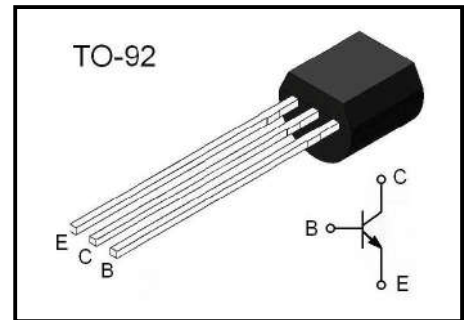
BC546/547/548/549/550 TO-92

NPN Plastic-Encapsulate Transistors

Switching and Applications

Features

- ◆High Voltage: BC546, $V_{CE0}=65V$
- ◆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 Storage Temperature | | T_j, T_{stg} | 150 -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 | $V_{CE(sat)}$ | $I_C = 10mA, I_B = 0.5mA$ $I_C = 100mA, I_B = 5mA$ | | | 0.25 0.60 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 10mA, I_B = 0.5mA$ $I_C = 100mA, I_B = 5mA$ | | | 1.0 | V |
| 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

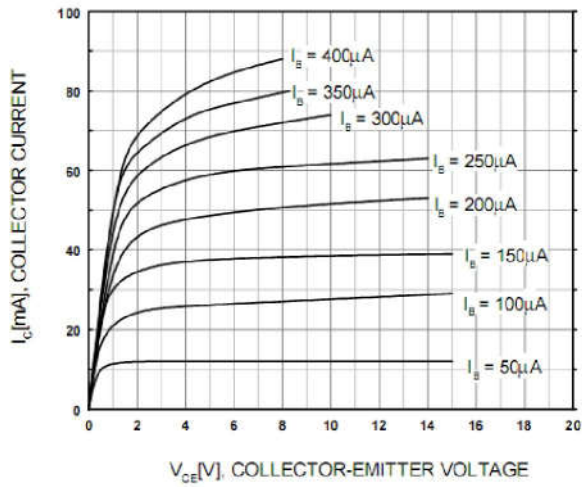


Figure 1. Static Characteristic

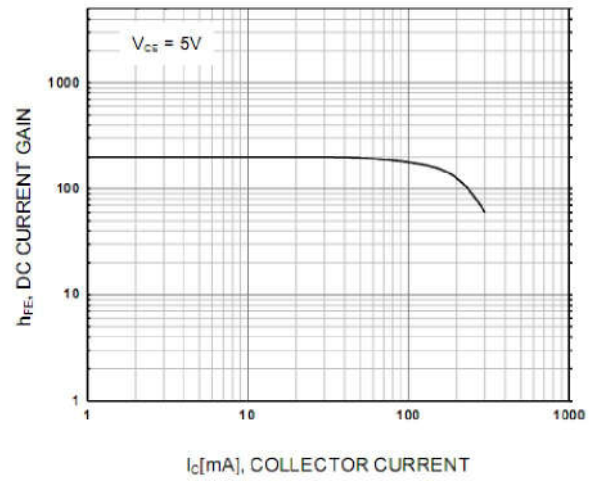


Figure 2. DC current Gain

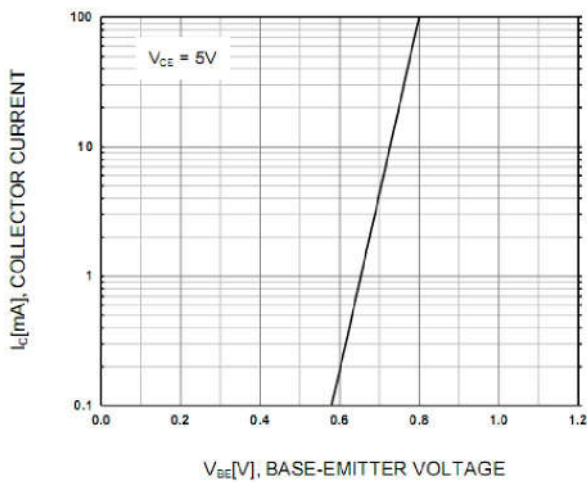


Figure 3. Transfer Characteristic

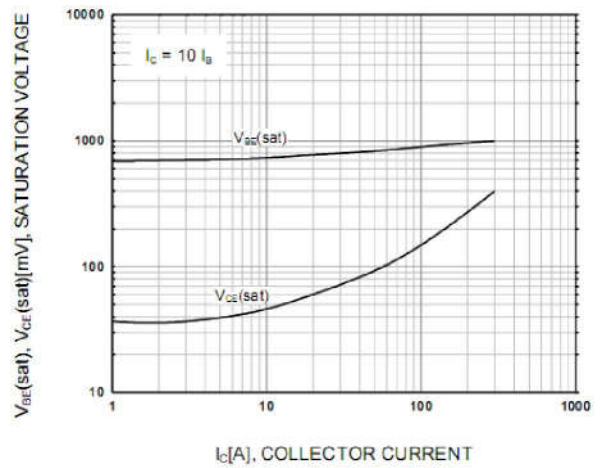


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

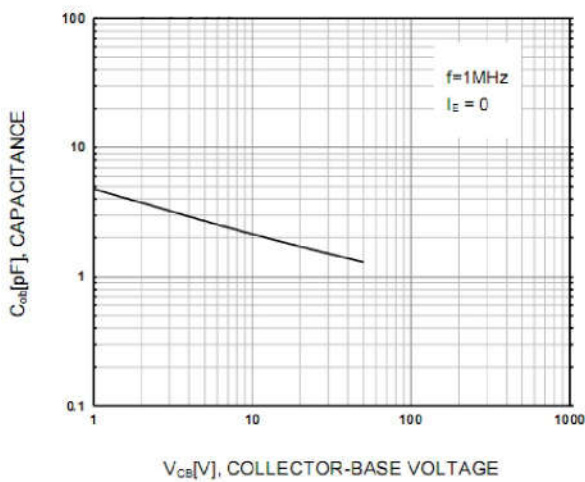


Figure 5. Output Capacitance

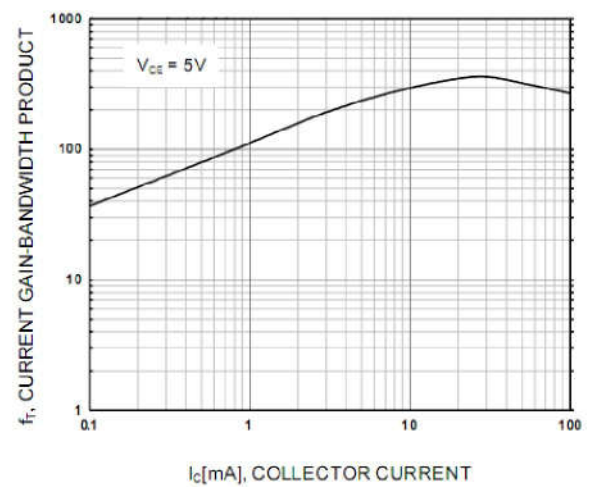


Figure 6. Current Gain Bandwidth Product

Ordering information

| Package | Packing Description | Base Quantity |
|---------|---------------------|---------------|
| TO-92 | Bulk | 1000pcs/Bag |
| | Tape | 2000pcs/Box |

Package Dimensions

TO-92

| Dim | 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 |

