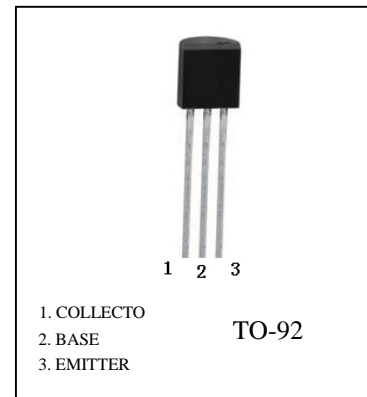


FEATURES

- High Voltage
- Complement to BC546,BC547,BC548

BC556/BC557/BC558 (PNP)


Maximum Ratings (Ta=25 °C unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|------------------|---|----------|------|
| V _{CBO} | Collector-Base Voltage | BC556 | -80 |
| | | BC557 | -50 |
| | | BC558 | -30 |
| V _{CEO} | Collector-Emitter Voltage | BC556 | -65 |
| | | BC557 | -45 |
| | | BC558 | -30 |
| V _{EBO} | Emitter-Base Voltage | -5 | V |
| I _C | Collector Current-Continuous | -0.1 | A |
| P _C | Collector Power Dissipation | 625 | mW |
| R _{JA} | Thermal Resistance from Junction to Ambient | 200 | °C/W |
| T _j | Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature | -55~+150 | °C |

BC556/BC557/BC558

ELECTRICAL CHARACTERISTICS (@ Ta=25 °C unless otherwise specified)

| Parameter | | Symbol | Test conditions | Min | Typ | Max | Unit |
|--|-------|---------------|---|-------|-----|-------|---------|
| Collector-base breakdown voltage | BC556 | $V_{(BR)CBO}$ | $I_C = -0.1mA, I_E = 0$ | -80 | | | V |
| | BC557 | | | -50 | | | |
| | BC558 | | | -30 | | | |
| Collector-emitter breakdown voltage | BC556 | $V_{(BR)CEO}$ | $I_C = -2mA, I_B = 0$ | -65 | | | V |
| | BC557 | | | -45 | | | |
| | BC558 | | | -30 | | | |
| Emitter-base breakdown voltage | | $V_{(BR)EBO}$ | $I_E = -100\mu A, I_C = 0$ | -5 | | | V |
| Collector cut-off current | BC556 | I_{CBO} | $V_{CB} = -70V, I_E = 0$ | | | -0.1 | μA |
| | BC557 | | $V_{CB} = -45V, I_E = 0$ | | | -0.1 | μA |
| | BC558 | | $V_{CB} = -25V, I_E = 0$ | | | -0.1 | μA |
| Collector cut-off current | BC556 | I_{CEO} | $V_{CE} = -60V, I_B = 0$ | | | -0.1 | μA |
| | BC557 | | $V_{CE} = -40V, I_B = 0$ | | | -0.1 | μA |
| | BC558 | | $V_{CE} = -25V, I_B = 0$ | | | -0.1 | μA |
| Emitter cut-off current | | I_{EBO} | $V_{EB} = -5V, I_C = 0$ | | | -0.1 | μA |
| DC current gain | | h_{FE}^* | $V_{CE} = -5V, I_C = -2mA$ | 120 | | 800 | |
| Collector-emitter saturation voltage | | $V_{CE(sat)}$ | $I_C = -10mA, I_B = -0.5mA$ | | | -0.3 | V |
| | | | $I_C = -100mA, I_B = -5mA$ | | | -0.65 | V |
| Base-emitter saturation voltage | | $V_{BE(sat)}$ | $I_C = -10mA, I_B = -0.5mA$ | | | -0.8 | V |
| | | | $I_C = -100mA, I_B = -5mA$ | | | -1 | V |
| Base-emitter voltage | | V_{BE} | $V_{CE} = -5V, I_C = -2mA$ | -0.55 | | -0.7 | V |
| | | | $V_{CE} = -5V, I_C = -10mA$ | | | -0.82 | V |
| Collector output capacitance | | C_{ob} | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | | | 6 | pF |
| Transition frequency | BC556 | f_T | $V_{CE} = -5V, I_C = -10mA, f = 100MHz$ | | 150 | | MHz |
| | BC557 | | | | 150 | | MHz |
| | BC558 | | | | 150 | | MHz |

CLASSIFICATION of h_{FE}

| RANK | A | B | C |
|-------|---------|---------|---------|
| RANGE | 110-220 | 180-460 | 420-800 |

BC556/BC557/BC558 Typical Characteristics

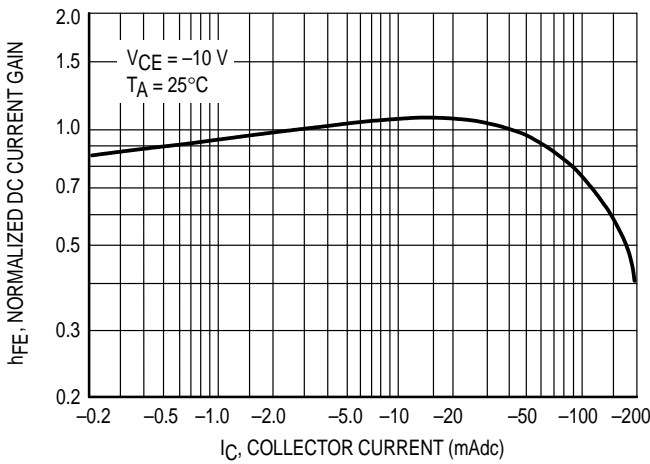


Figure 1. Normalized DC Current Gain

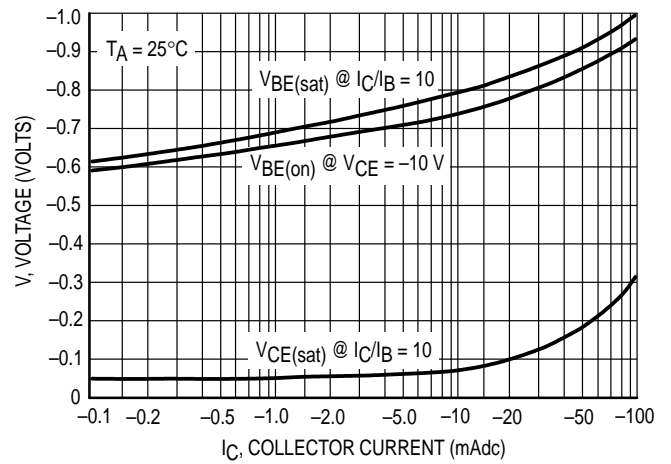


Figure 2. "Saturation" and "On" Voltages

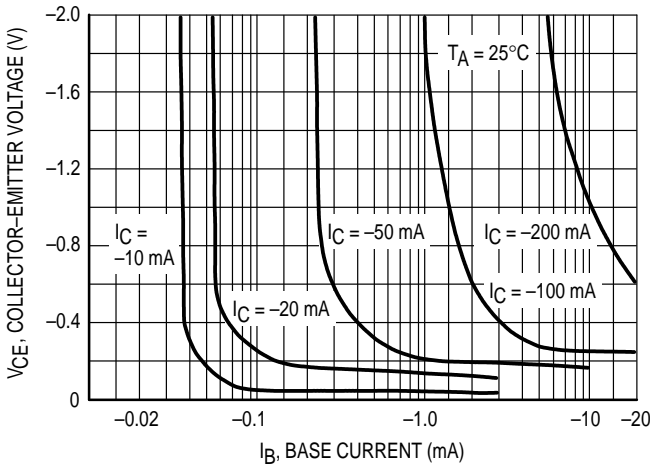


Figure 3. Collector Saturation Region

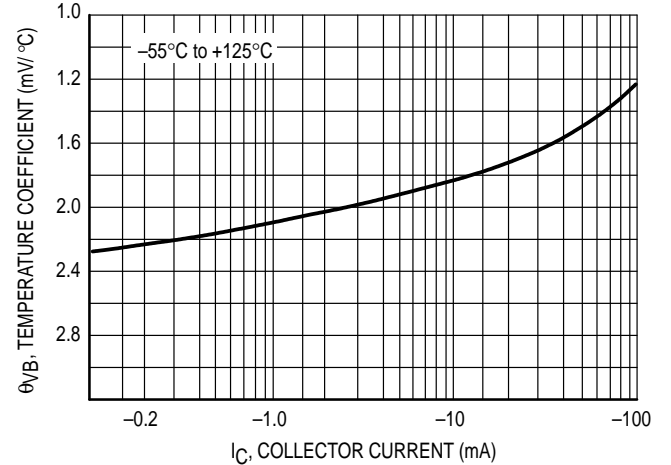


Figure 4. Base-Emitter Temperature Coefficient

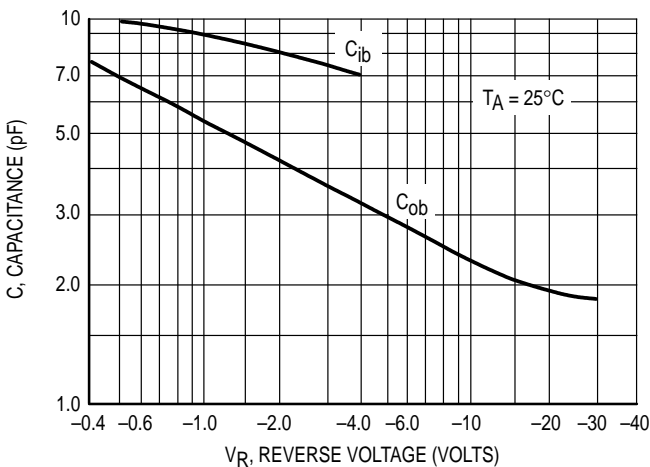


Figure 5. Capacitances

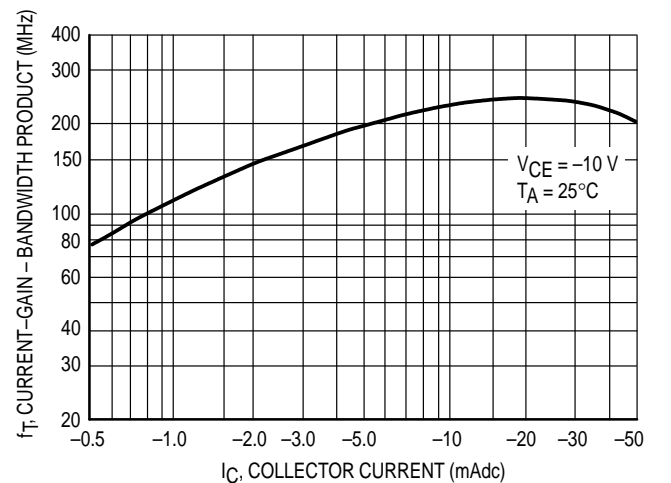


Figure 6. Current-Gain - Bandwidth Product

BC556/BC557/BC558 Typical Characteristics

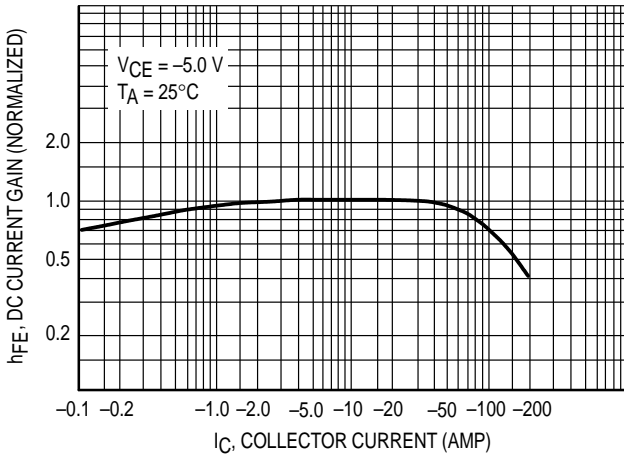


Figure 7. DC Current Gain

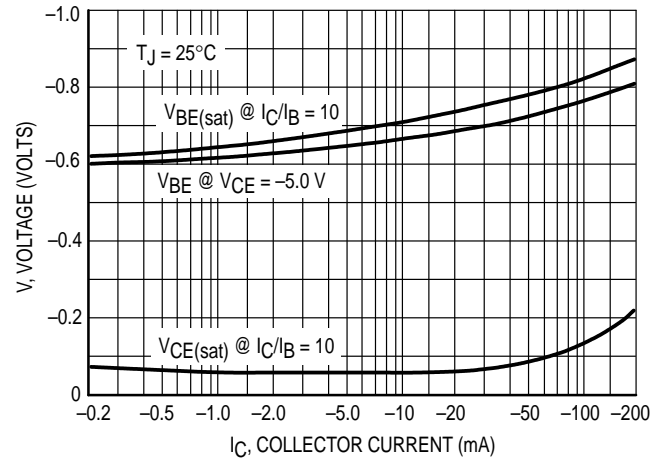


Figure 8. "On" Voltage

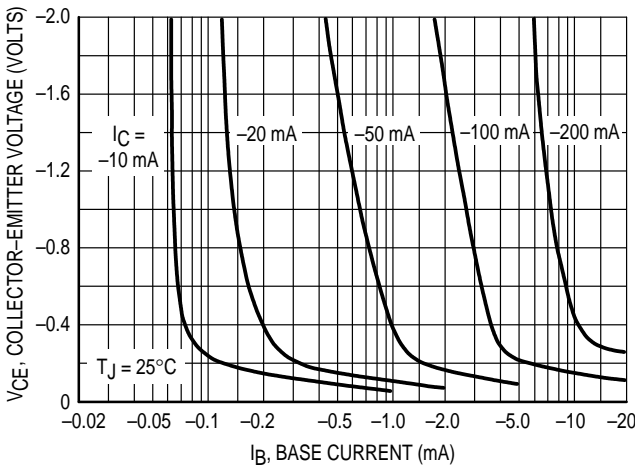


Figure 9. Collector Saturation Region

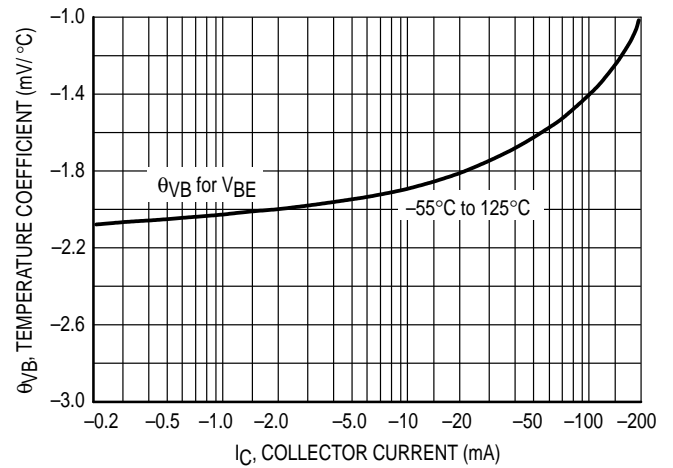


Figure 10. Base-Emitter Temperature Coefficient

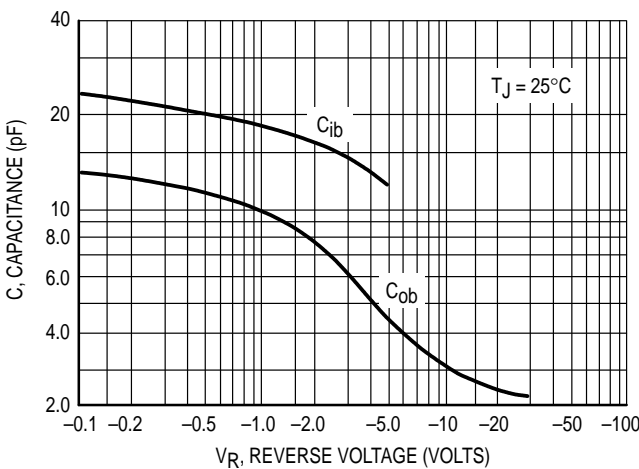


Figure 11. Capacitance

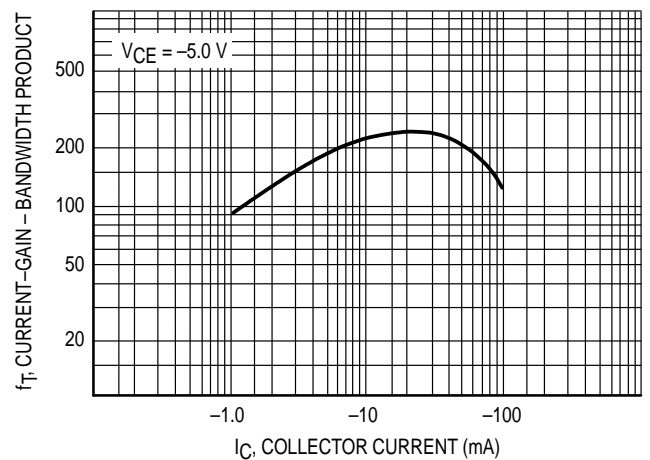


Figure 12. Current-Gain - Bandwidth Product