



Micro Commercial Components

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 20736 Marilla Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

## Features

- Through Hole Package
- 150°C Junction Temperature
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL rating 1
- Marking: Type Number
- Lead Free Finish/Rohs Compliant ("P" Suffix designates Compliant. See ordering information)

## Mechanical Data

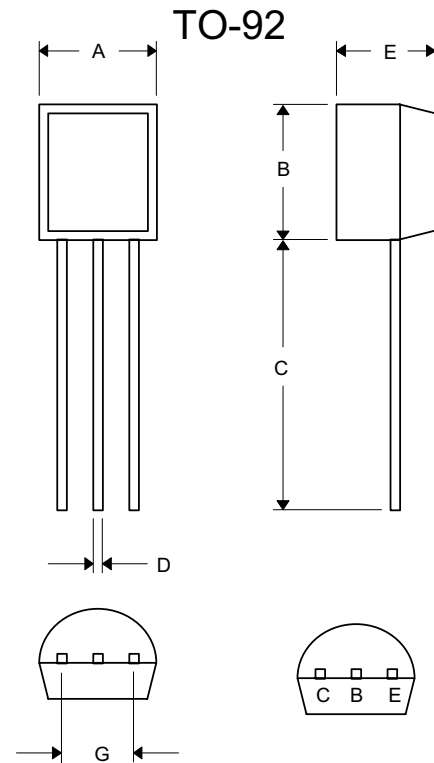
- Case: TO-92, Molded Plastic
- Polarity: indicated as below.

### Maximum Ratings @ 25°C Unless Otherwise Specified

| Charateristic                               | Symbol          | Value   | Unit  |
|---|-----------------|---------|-------|
| Collector-Emitter Voltage                   | BC556           | -65     | V     |
|   | BC557           | -45     |       |
|   | BC558           | -30     |       |
| Collector-Base Voltage                      | BC556           | -80     | V     |
|   | BC557           | -50     |       |
|   | BC558           | -30     |       |
| Emitter-Base Voltage                        | $V_{EBO}$       | -5.0    | V     |
| Collector Current(DC)                       | $I_C$           | -100    | mA    |
| Power Dissipation@ $T_A=25^\circ\text{C}$   | $P_d$           | 625     | mW    |
|   |                 | 5.0     | mW/°C |
| Power Dissipation@ $T_C=25^\circ\text{C}$   | $P_d$           | 1.5     | W     |
|   |                 | 12      | mW/°C |
| Thermal Resistance, Junction to Ambient Air | $R_{\theta JA}$ | 200     | °C/W  |
| Thermal Resistance, Junction to Case        | $R_{\theta JC}$ | 83.3    | °C/W  |
| Operating & Storage Temperature             | $T_i, T_{STG}$  | -55~150 | °C    |

**BC556,B**  
**BC557,A,B,C**  
**BC558,B**

**PNP Silicon**  
**Amplifier Transistor**  
**625mW**



| DIM | DIMENSIONS |      |       |       | NOTE |
|-----|------------|------|-------|-------|------|
|     | INCHES     |      | MM    |       |      |
|     | MIN        | MAX  | MIN   | MAX   |      |
| A   | .170       | .190 | 4.33  | 4.83  |      |
| B   | .170       | .190 | 4.30  | 4.83  |      |
| C   | .550       | .590 | 13.97 | 14.97 |      |
| D   | .010       | .020 | 0.36  | 0.56  |      |
| E   | .130       | .160 | 3.30  | 3.96  |      |
| G   | .010       | .104 | 2.44  | 2.64  |      |

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# BC556 thru BC558B

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| Characteristic  | Symbol                  | Min           | Typ                  | Max         | Unit        |   |
|---|-------------------------|---------------|----------------------|-------------|-------------|---|
| <b>OFF CHARACTERISTICS</b>  |                         |               |                      |             |             |   |
| Collector–Emitter Breakdown Voltage<br>( $I_C = -2.0\text{ mA}$ , $I_B = 0$ ) | BC556<br>BC557<br>BC558 | $V_{(BR)CEO}$ | -65<br>-45<br>-30    | —<br>—<br>— | —<br>—<br>— | V |
| Collector–Base Breakdown Voltage<br>( $I_C = -100\ \mu\text{A}$ )             | BC556<br>BC557<br>BC558 | $V_{(BR)CBO}$ | -80<br>-50<br>-30    | —<br>—<br>— | —<br>—<br>— | V |
| Emitter–Base Breakdown Voltage<br>( $I_E = -100\ \mu\text{A}$ , $I_C = 0$ )   | BC556<br>BC557<br>BC558 | $V_{(BR)EBO}$ | -5.0<br>-5.0<br>-5.0 | —<br>—<br>— | —<br>—<br>— | V |

## ON CHARACTERISTICS

|  |   |               |  |                                  |  |   |
|--|---|---------------|--|----------------------------------|--|---|
| DC Current Gain<br>( $I_C = -10\ \mu\text{A}$ , $V_{CE} = -5.0\text{ V}$ )   | BC557A<br>BC556B/557B/558B<br>BC557C                            | $h_{FE}$      | —<br>—<br>—                            | 90<br>150<br>270                 | —<br>—<br>—                            | — |
| ( $I_C = -2.0\text{ mA}$ , $V_{CE} = -5.0\text{ V}$ )  | BC556<br>BC557<br>BC558<br>BC557A<br>BC556B/557B/558B<br>BC557C |               | 120<br>120<br>120<br>120<br>180<br>420 | —<br>—<br>—<br>170<br>290<br>500 | 500<br>800<br>800<br>220<br>460<br>800 |   |
| ( $I_C = -100\text{ mA}$ , $V_{CE} = -5.0\text{ V}$ )  | BC557A<br>BC556B/557B/558B<br>BC557C                            |               | —<br>—<br>—                            | 120<br>180<br>300                | —<br>—<br>—                            |   |
| Collector–Emitter Saturation Voltage<br>( $I_C = -100\text{ mA}$ , $I_B = -5.0\text{ mA}$ )  |   | $V_{CE(sat)}$ | —                                      | —                                | -0.3                                   | V |
| Base–Emitter Saturation Voltage<br>( $I_C = -100\text{ mA}$ , $I_B = -5.0\text{ mA}$ )   |   | $V_{BE(sat)}$ | —                                      | —                                | -1.0                                   | V |
| Base–Emitter On Voltage<br>( $I_C = -2.0\text{ mA}$ , $V_{CE} = -5.0\text{ Vdc}$ )<br>( $I_C = -10\text{ mA}$ , $V_{CE} = -5.0\text{ Vdc}$ ) |   | $V_{BE(on)}$  | -0.55<br>—                             | -0.62<br>-0.7                    | -0.7<br>-0.82                          | V |

## SMALL-SIGNAL CHARACTERISTICS

|   |                         |          |                   |                   |             |     |
|---|-------------------------|----------|-------------------|-------------------|-------------|-----|
| Current–Gain — Bandwidth Product<br>( $I_C = -10\text{ mA}$ , $V_{CE} = -5.0\text{ V}$ , $f = 100\text{ MHz}$ ) | BC556<br>BC557<br>BC558 | $f_T$    | 150<br>150<br>150 | 280<br>320<br>360 | —<br>—<br>— | MHz |
| Output Capacitance<br>( $V_{CB} = -10\text{ V}$ , $I_C = 0$ , $f = 1.0\text{ MHz}$ )                            |                         | $C_{ob}$ | —                 | 3.0               | 6.0         | pF  |

# BC556 thru BC558B

## BC557/BC558

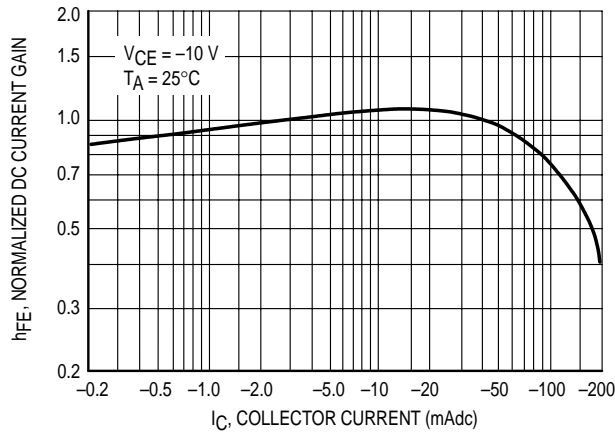


Figure 1. Normalized DC Current Gain

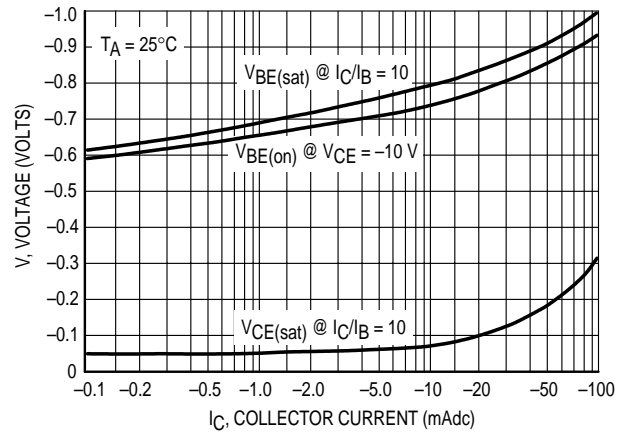


Figure 2. "Saturation" and "On" Voltages

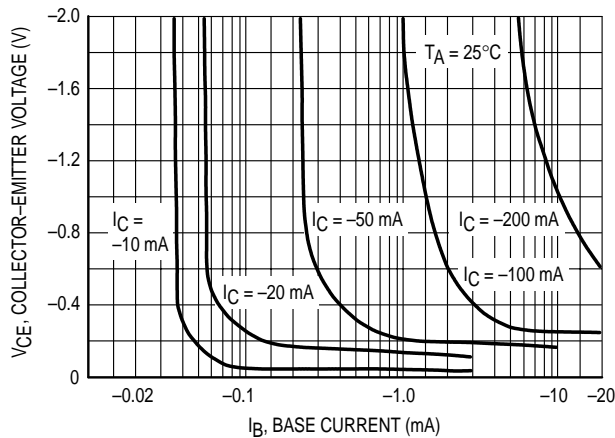


Figure 3. Collector Saturation Region

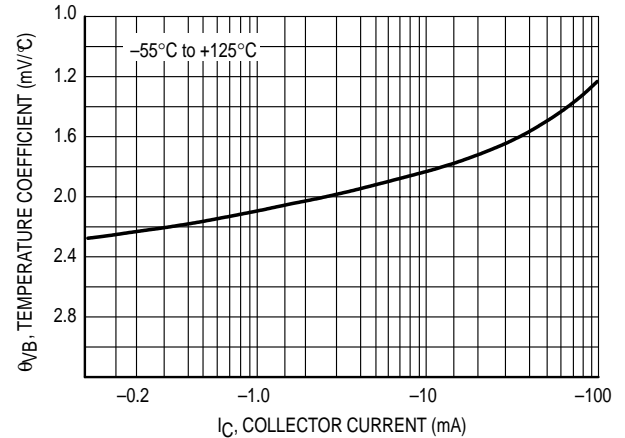


Figure 4. Base-Emitter Temperature Coefficient

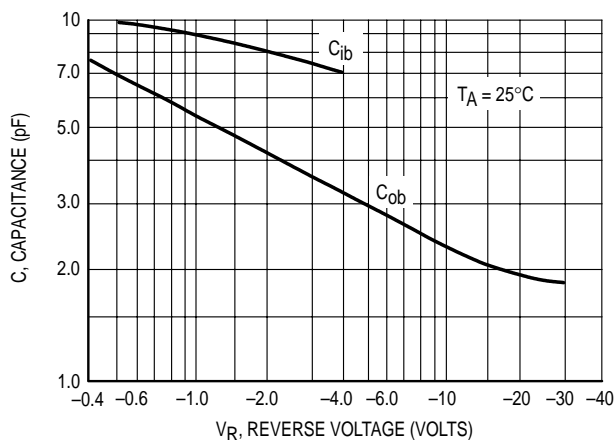


Figure 5. Capacitances

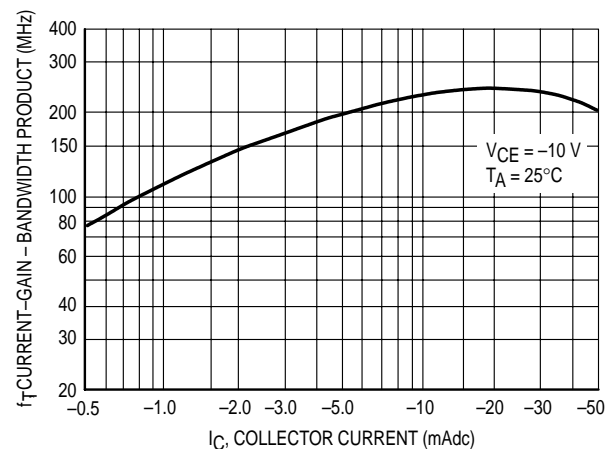


Figure 6. Current-Gain - Bandwidth Product

# BC556 thru BC558B

## BC556

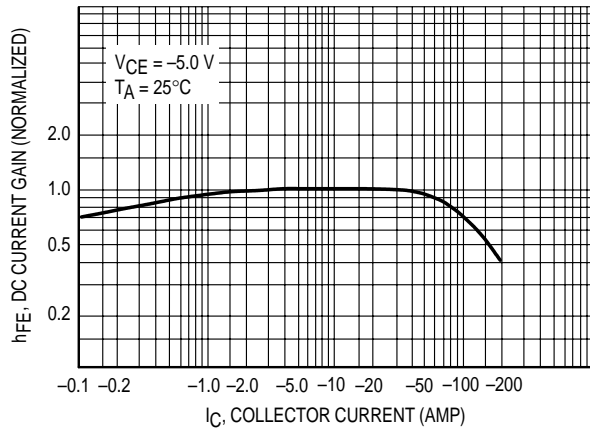


Figure 7. DC Current Gain

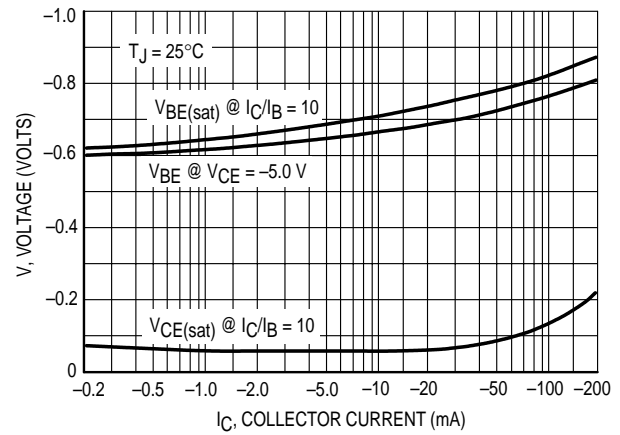


Figure 8. "On" Voltage

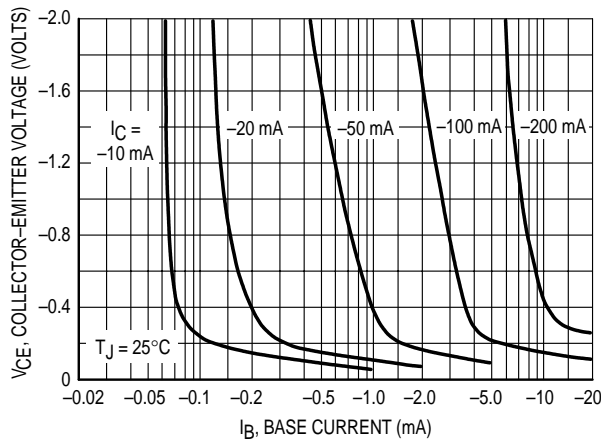


Figure 9. Collector Saturation Region

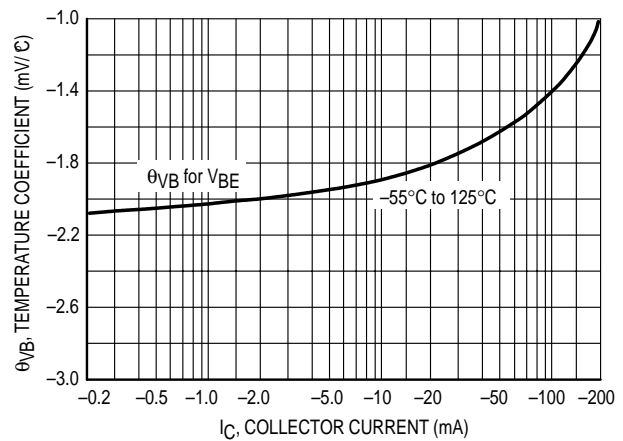


Figure 10. Base-Emitter Temperature Coefficient

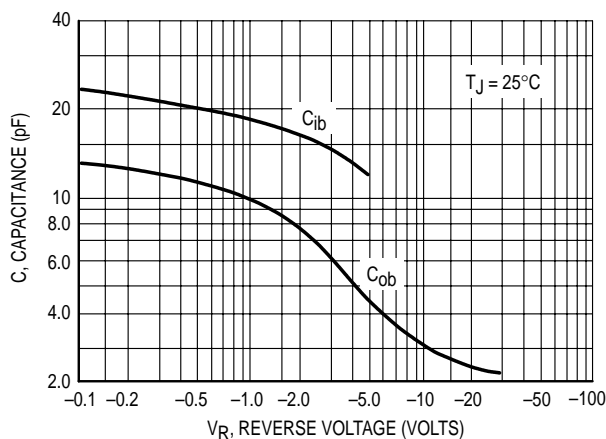


Figure 11. Capacitance

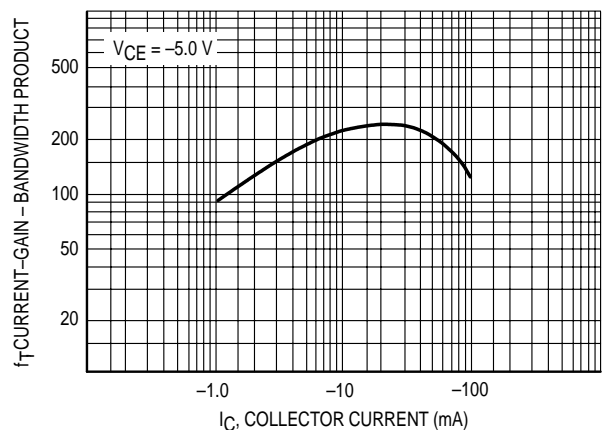


Figure 12. Current-Gain - Bandwidth Product



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## Ordering Information

| Device           | Packing                    |
|------------------|----------------------------|
| (Part Number)-AP | Ammo Packing;2Kpcs/AmmoBox |
| (Part Number)-BP | Bulk;1Kpcs/Bag             |

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