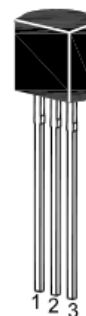


**TO-92**



1. Emitter 2. Collector 3. Base  
 TO-92 Plastic Package



**Features**

- ◇ For switching and AF amplifier applications
- ◇ These types are subdivided into three groups A, B and C according to their current gain
- ◇ Moisture sensitivity level 1
- ◇ Driver transistor
- ◇ Pb free version and RoHS compliant
- ◇ Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

**Mechanical Data**

- ◇ Case : TO-92 small outline plastic package per MIL-STD-202, Method 208 guaranteed
- ◇ High temperature soldering guaranteed: 260°C/10s
- ◇ Weight approx.: 190 mg

**Ordering Information (example)**

| Part No.           | Package | Packing   | Packing code | Packing code (Green) | Marking    | Manufacture code |
|--------------------|---------|-----------|--------------|----------------------|------------|------------------|
| BC546...BC550A/B/C | TO-92   | 4K / AMMO | A1           | A1G                  | BC546A/B/C | B0               |

Note : Detail please see "Ordering Information(detail, example)" below.

**Maximum Ratings and Electrical Characteristics**

Rating at 25 °C ambient temperature unless otherwise specified.

| Parameter                 | Symbol           | Value         | Units |
|---------------------------|------------------|---------------|-------|
| Collector Base Voltage    | V <sub>CBO</sub> | BC546         | 80    |
|                           |                  | BC547, BC550  | 50    |
|                           |                  | BC548, BC549  | 30    |
| Collector Emitter Voltage | V <sub>CEO</sub> | BC546         | 65    |
|                           |                  | BC547, BC550  | 45    |
|                           |                  | BC548, BC549  | 30    |
| Emitter Base Voltage      | V <sub>EBO</sub> | 6             | V     |
| Collector Current (DC)    | I <sub>C</sub>   | 100           | mA    |
| Peak Collector Current    | I <sub>CM</sub>  | 200           | mA    |
| Total Power Dissipation   | P <sub>TOT</sub> | 500           | mW    |
| Junction Temperature      | T <sub>J</sub>   | 150           | °C    |
| Storage Temperature Range | T <sub>STG</sub> | - 65 to + 150 | °C    |

## Small Signal Product

Characteristics at  $T_A=25^\circ\text{C}$

| Parameter   | Symbol        | Min. | Typ. | Max. | Units |
|---|---------------|------|------|------|-------|
| DC Current Gain<br>at $V_{CE}=5\text{V}$ , $I_C=2\text{mA}$<br>Current Gain Group A | $h_{FE}$      | 110  | -    | 220  | V     |
|   |               | 200  | -    | 450  |       |
|   |               | 420  | -    | 800  |       |
|   |               |      |      |      |       |
| Collector Base Cutoff Current<br>at $V_{CB}=30\text{V}$                             | $I_{CBO}$     | -    | -    | 15   | nA    |
| Emitter Base Cutoff Current<br>at $V_{EB}=5\text{V}$                                | $I_{EBO}$     | -    | -    | 100  | nA    |
| Collector Base Breakdown Voltage<br>at $I_C=100\mu\text{A}$                         | BC546         | 80   | -    | -    | V     |
|   | BC547, BC550  | 50   | -    | -    |       |
|   | BC548, BC549  | 30   | -    | -    |       |
| Collector Emitter Breakdown Voltage<br>at $I_C=1\text{mA}$                          | BC546         | 65   | -    | -    | V     |
|   | BC547, BC550  | 45   | -    | -    |       |
|   | BC548, BC549  | 30   | -    | -    |       |
| Emitter Base Breakdown Voltage<br>at $I_E=100\mu\text{A}$                           | $V_{(BR)EBO}$ | 6    | -    | -    | V     |

FIG.1 Static Characteristic

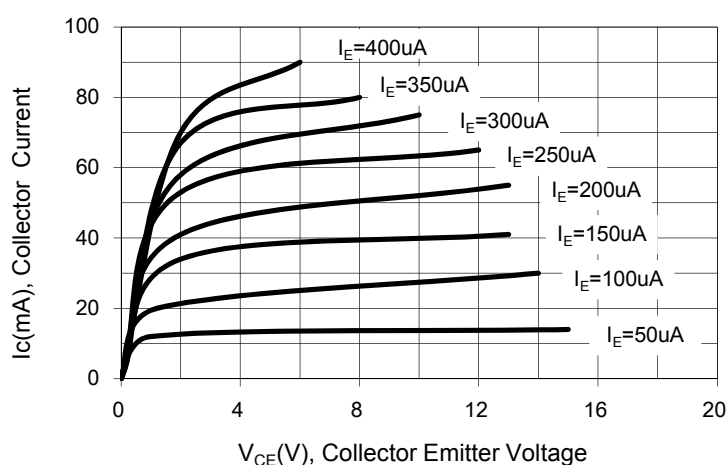


FIG. 2 Transfer Characteristic

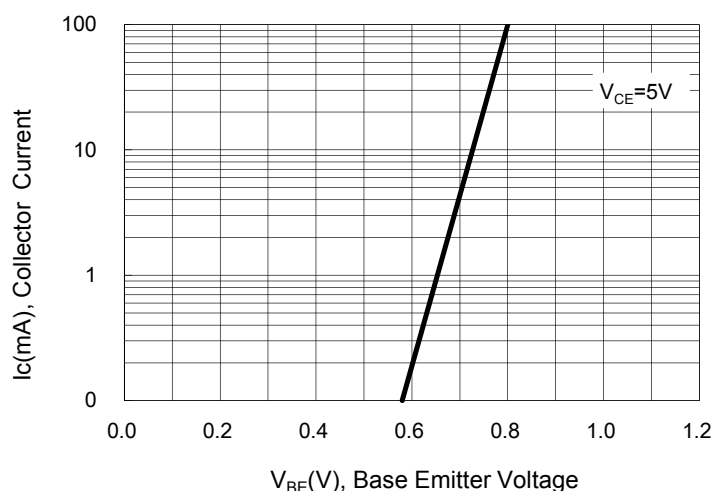


FIG. 3 DC Current Gain

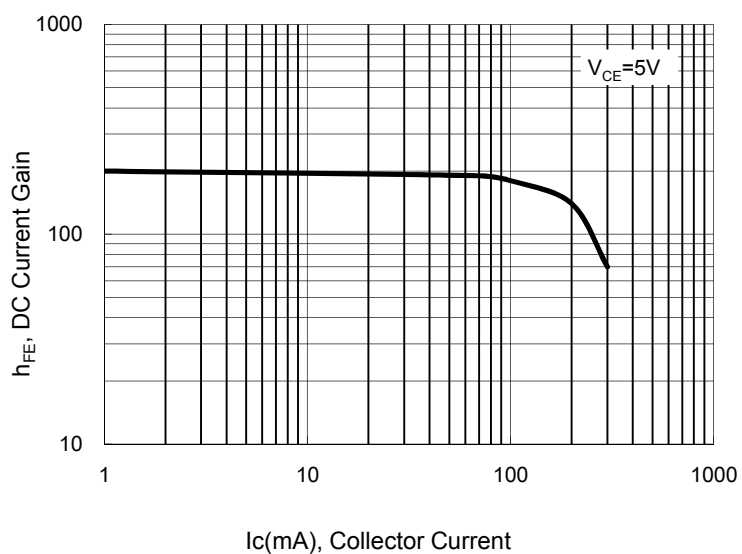
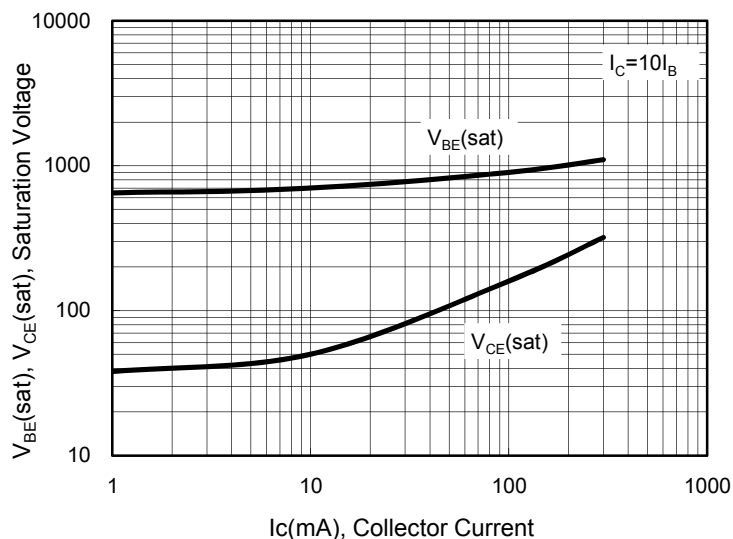


FIG. 4 Base Emitter Saturation Voltage  
Collector Emitter Saturation Voltage



Small Signal Product

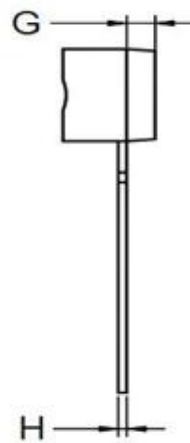
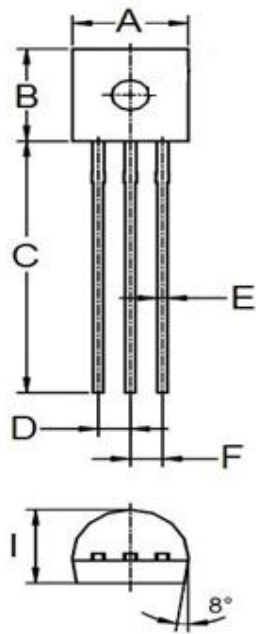
**Ordering information(detail, example)**

| Part No.              | Package | Packing   | Packing code | Packing code (Green) | Marking               | Manufacture code |
|-----------------------|---------|-----------|--------------|----------------------|-----------------------|------------------|
| BC5xxA/B/C<br>(Note1) | TO-92   | 4K / Ammo | A1           | A1G                  | BC5xxA/B/C<br>(Note1) | (Note 2)         |
|                       |         | 5K / Bulk | B1           | B1G                  |                       |                  |
| BC546A/B/C            | TO-92   | 4K / Ammo | A1           | A1G                  | BC546A/B/C            |                  |
| BC546A/B/C            | TO-92   | 4K / Ammo | A1           | A1G                  | BC546A/B/C            | B0               |

Note 1: "xx" is Device Code from "46" thru "50".

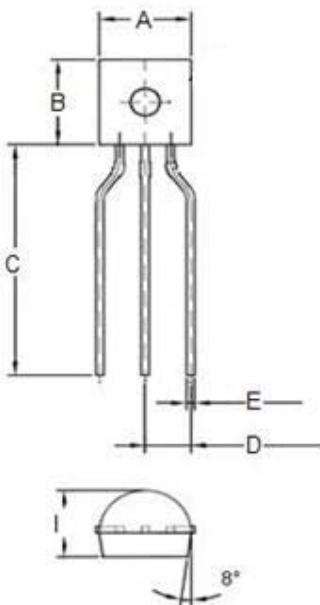
Note 2: Manufacture dpecial control, if empty means no special control requirement.

**Dimensions**



| DIM. | Unit(mm) |       | Unit(inch) |       |
|------|----------|-------|------------|-------|
|      | Min      | Max   | Min        | Max   |
| A    | 4.40     | 5.10  | 0.173      | 0.201 |
| B    | 4.30     | 4.70  | 0.169      | 0.185 |
| C    | 12.50    | -     | 0.492      | -     |
| D    | 1.17     | 1.37  | 0.046      | 0.054 |
| E    | 0.350    | 0.550 | 0.014      | 0.022 |
| F    | 1.17     | 1.37  | 0.046      | 0.054 |
| G    | 1.00     | 1.40  | 0.039      | 0.055 |
| H    | 0.29     | 0.51  | 0.011      | 0.020 |
| I    | 3.30     | 4.10  | 0.130      | 0.161 |

**AMMO Packing Dimensions**



| DIM. | Unit(mm) |       | Unit(inch) |       |
|------|----------|-------|------------|-------|
|      | Min      | Max   | Min        | Max   |
| A    | 4.30     | 5.10  | 0.169      | 0.201 |
| B    | 4.30     | 4.70  | 0.169      | 0.185 |
| C    | 12.50    | -     | 0.492      | -     |
| D    | 2.20     | 2.80  | 0.087      | 0.110 |
| E    | 0.350    | 0.550 | 0.014      | 0.022 |
| G    | 1.00     | 1.40  | 0.039      | 0.055 |
| H    | 0.29     | 0.51  | 0.011      | 0.020 |
| I    | 3.40     | 4.10  | 0.134      | 0.161 |