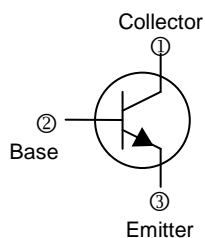


RoHS Compliant Product

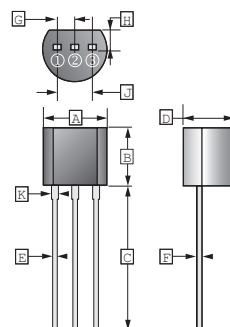
A suffix of "-C" specifies halogen & lead-free

## FEATURES

The BC184 is complementary silicon planar epitaxial transistors for use in AF small signal amplifiers and drivers, as well as for low noise pre-amplifiers applications. Both types feature good linearity of DC current gain.



## TO-92



| REF. | Millimeter |      |
|------|------------|------|
|      | Min.       | Max. |
| A    | 4.40       | 4.70 |
| B    | 4.30       | 4.70 |
| C    | 12.70      | -    |
| D    | 3.30       | 3.81 |
| E    | 0.36       | 0.56 |
| F    | 0.36       | 0.51 |
| G    | 1.27 TYP.  |      |
| H    | 1.10       | -    |
| J    | 2.42       | 2.66 |
| K    | 0.36       | 0.76 |

## ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise specified)

| PARAMETER                      | SYMBOL                            | RATING       | UNIT |
|--------------------------------|-----------------------------------|--------------|------|
| Collector to Base Voltage      | V <sub>CBO</sub>                  | 45           | V    |
| Collector to Emitter Voltage   | V <sub>CEO</sub>                  | 30           | V    |
| Emitter to Base Voltage        | V <sub>EBO</sub>                  | 6            | V    |
| Collector Current - Continuous | I <sub>C</sub>                    | 0.1          | A    |
| Collector Power Dissipation    | P <sub>C</sub>                    | 350          | mW   |
| Junction, Storage Temperature  | T <sub>J</sub> , T <sub>STG</sub> | 150, -55~150 | °C   |

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise specified)

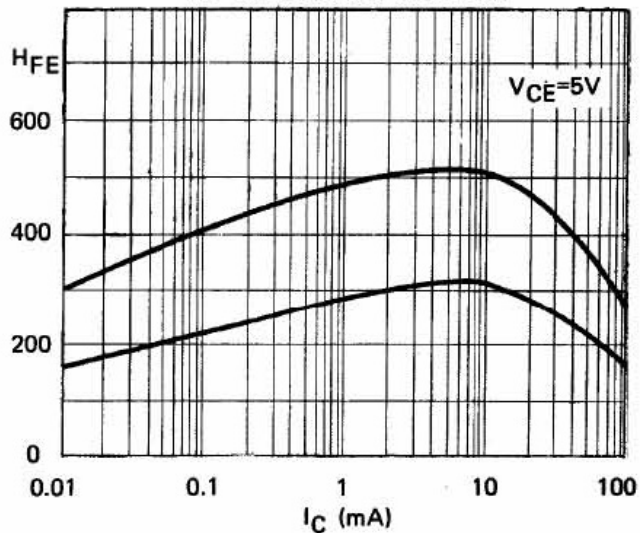
| PARAMETER                               | SYMBOL               | MIN | TYP | MAX | UNIT | TEST CONDITION  |
|---|----------------------|-----|-----|-----|------|---|
| Collector to Base Breakdown Voltage     | V <sub>(BR)CBO</sub> | 45  | -   | -   | V    | I <sub>C</sub> =10μA, I <sub>E</sub> = 0A                               |
| Collector to Emitter Breakdown Voltage  | V <sub>(BR)CEO</sub> | 30  | -   | -   | V    | I <sub>C</sub> =2mA, I <sub>B</sub> = 0A                                |
| Emitter to Base Breakdown Voltage       | V <sub>(BR)EBO</sub> | 6   | -   | -   | V    | I <sub>E</sub> =0.1mA, I <sub>C</sub> = 0A                              |
| Collector Cut-Off Current               | I <sub>CBO</sub>     | -   | -   | 15  | nA   | V <sub>CB</sub> =30 V, I <sub>E</sub> = 0 A                             |
| Collector Cut-Off Current               | I <sub>CEO</sub>     | -   | -   | 0.1 | μA   | V <sub>CE</sub> =30 V, I <sub>B</sub> = 0 A                             |
| Emitter Cut-Off Current                 | I <sub>EBO</sub>     | -   | -   | 15  | nA   | V <sub>EB</sub> =4 V, I <sub>C</sub> = 0 mA                             |
| DC Current Gain                         | h <sub>FE</sub>      | 240 | -   | 900 |      | V <sub>CE</sub> =5V, I <sub>C</sub> =2mA                                |
| Collector to Emitter Saturation Voltage | V <sub>CE(sat)</sub> | -   | -   | 0.6 | V    | I <sub>C</sub> =0.1A, I <sub>B</sub> =5mA                               |
| Base to Emitter Voltage                 | V <sub>BE(sat)</sub> | -   | -   | 1.2 | V    | I <sub>C</sub> =0.1A, I <sub>B</sub> =5mA                               |
| Collector Output Capacitance            | C <sub>ob</sub>      | -   | -   | 5   | pF   | V <sub>CB</sub> = 10V, I <sub>C</sub> = 0 A, f=1MHz                     |
| Input Capacitance                       | C <sub>ib</sub>      | -   | 8   | -   | pF   | V <sub>BE</sub> = 0.5V, I <sub>C</sub> = 0 A, f=1MHz                    |
| Transition Frequency                    | f <sub>T</sub>       | 150 | -   | -   | MHz  | V <sub>CE</sub> = 5V, I <sub>C</sub> = 10mA, f=100MHz                   |
| Noise Figure                            | NF                   | -   | -   | 4   | dB   | V <sub>CE</sub> =5V, I <sub>C</sub> = 0.2mA, f=1KHz, R <sub>S</sub> =2W |

## CLASSIFICATION OF h<sub>FE</sub>

| Rank  | BC184B  | BC184C  |
|-------|---------|---------|
| Range | 240-500 | 450-900 |

**CHARACTERISTIC CURVES**

D.C. CURRENT GAIN  
vs COLLECTOR CURRENT



$V_{BE}$  AND  $V_{CE(sat)}$   
vs COLLECTOR CURRENT

