



Micro Commercial Components

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# BC337-16/25/40 BC338-16/25/40

## Features

- Capable of 0.625Watts of Power Dissipation.
- Collector-current 0.8A
- Collector-base Voltage :  $V_{CBO}=50V(BC337)$  ,  $V_{CBO}=30V(BC338)$
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0

## NPN Plastic-Encapsulate Transistors

## Maximum Ratings

- Operating temperature :  $-55^{\circ}C$  to  $+150^{\circ}C$
- Storage temperature :  $-55^{\circ}C$  to  $+150^{\circ}C$

### Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol | Parameter | Min | Max | Units |
|--------|-----------|-----|-----|-------|
|--------|-----------|-----|-----|-------|

#### OFF CHARACTERISTICS

|               |   |                |          |         |
|---------------|---|----------------|----------|---------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage<br>( $I_C=10mA, I_B=0$ )    |                | ---      | Vdc     |
|               |   | BC337<br>BC338 | 45<br>25 |         |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage<br>( $I_C=100\mu A, I_E=0$ )   |                | ---      | Vdc     |
|               |   | BC337<br>BC338 | 50<br>30 |         |
| $V_{(BR)EBO}$ | Collector-Emitter Breakdown Voltage<br>( $I_E=10\mu A, I_C=0$ ) | 5.0            | ---      | Vdc     |
| $I_{CBO}$     | Collector Cutoff Current<br>( $V_{CB}=45Vdc, I_E=0$ )           |                | 0.1      | $\mu A$ |
|               |   | BC337<br>BC338 | ---      | 0.1     |
| $I_{CEO}$     | Collector Cutoff Current<br>( $V_{CE}=40Vdc, I_B=0$ )           |                | 0.2      | $\mu A$ |
|               |   | BC337<br>BC338 | ---      | 0.2     |
| $I_{EBO}$     | Emitter Cutoff Current<br>( $V_{EB}=4.0Vdc, I_C=0$ )            | ---            | 0.1      | $\mu A$ |

#### ON CHARACTERISTICS

|               |   |     |     |     |
|---------------|---|-----|-----|-----|
| $h_{FE(2)}$   | DC Current Gain<br>( $I_C=300mA, V_{CE}=1.0Vdc$ )                 | 60  | --- | --  |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage<br>( $I_C=500mA, I_B=50mA$ ) | --- | 0.7 | Vdc |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage<br>( $I_C=500mA, I_B=50mA$ )      | --- | 1.2 | Vdc |

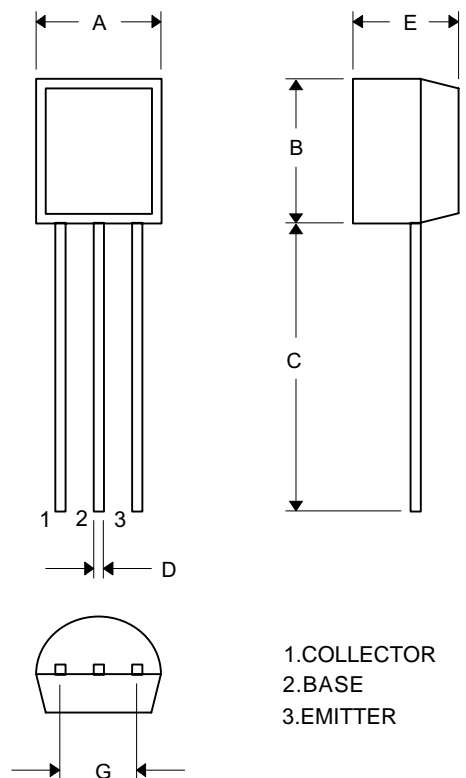
#### SMALL SIGNAL CHARACTERISTICS

|       |   |     |     |     |
|-------|---|-----|-----|-----|
| $f_T$ | Current-Gain-Bandwidth Product<br>( $V_{CE}=5.0V, f=100MHz, I_C=10mA$ ) | 210 | --- | MHz |
|-------|---|-----|-----|-----|

#### hFE CLASSIFICATION

| Classification | 16      | 25      | 40      |
|----------------|---------|---------|---------|
| $h_{FE(1)}$    | 100~250 | 160~400 | 250~630 |
| Marking Code   | A 011   | B 011   | C 011   |

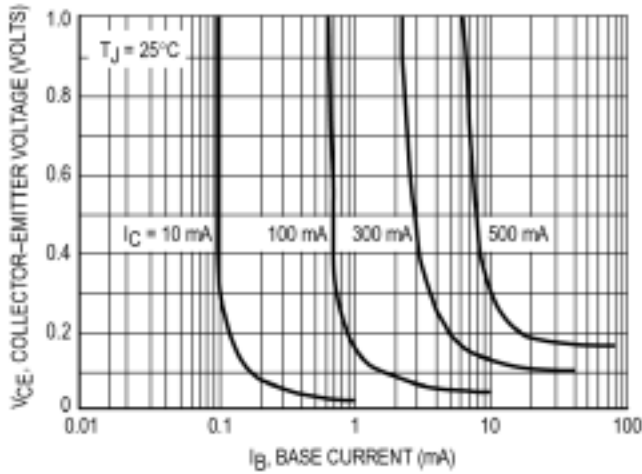
### TO-92



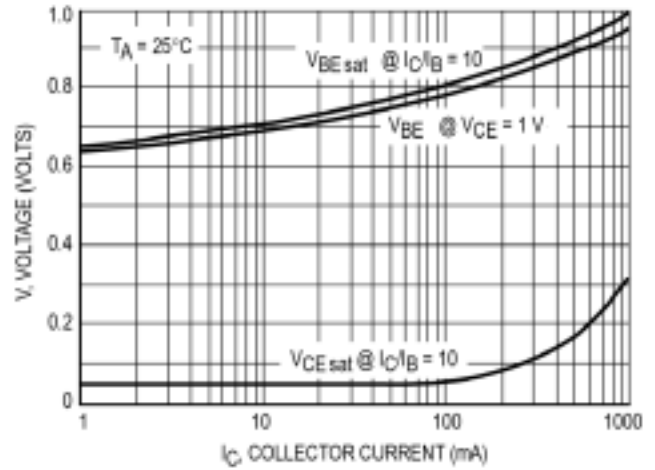
| DIM | DIMENSIONS |      |       |       | NOTE |
|-----|------------|------|-------|-------|------|
|     | INCHES     |      | MM    |       |      |
| A   | .170       | .190 | 4.33  | 4.83  |      |
| B   | .170       | .190 | 4.30  | 4.83  |      |
| C   | .550       | .590 | 13.97 | 14.97 |  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

Typical Characteristics

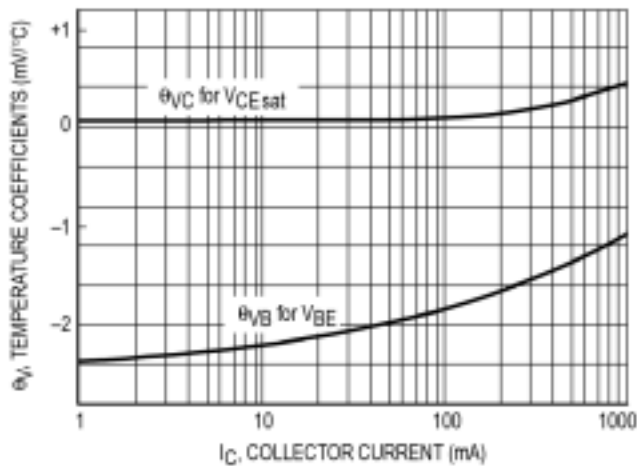
BC337



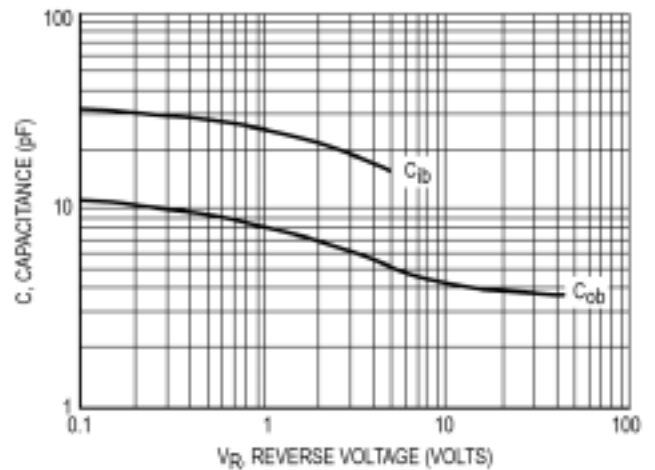
Saturation Region



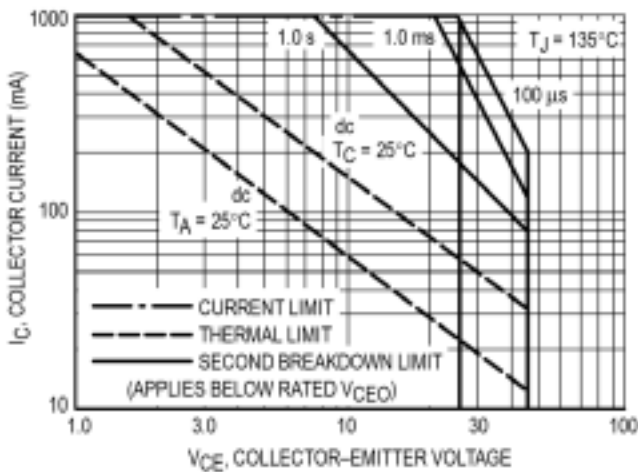
"On" Voltages



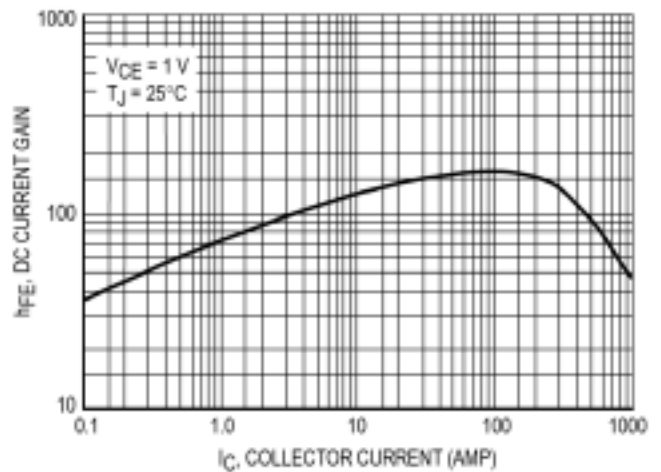
Temperature Coefficients



Capacitances



Active Region — Safe Operating Area



DC Current Gain



TM

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