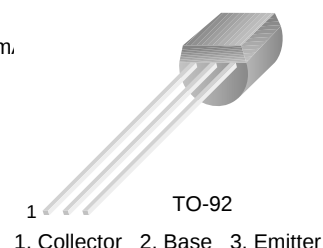


# BC337A

## NPN Medium Power Transistor

- This device is designed for general purpose amplifier application at collector currents to 800m.
- Sourced from process 38.



### Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

| Symbol         | Parameter                                        | Value     | Units            |
|----------------|--------------------------------------------------|-----------|------------------|
| $V_{CEO}$      | Collector-Emitter Voltage                        | 60        | V                |
| $V_{CES}$      | Collector-Emitter Voltage                        | 60        | V                |
| $V_{EBO}$      | Emitter-Base Voltage                             | 5         | V                |
| $I_C$          | Collector Current (DC)                           | 800       | mA               |
| $T_J, T_{STG}$ | Operating and Storage Junction Temperature Range | -55 ~ 150 | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

#### NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol          | Parameter                                                   | Max.       | Units                      |
|-----------------|-------------------------------------------------------------|------------|----------------------------|
| $P_D$           | Total Device Dissipation<br>Derate above $25^\circ\text{C}$ | 625<br>5.0 | mW<br>mW/ $^\circ\text{C}$ |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case                        | 83.3       | $^\circ\text{C}/\text{W}$  |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient                     | 200        | $^\circ\text{C}/\text{W}$  |

\*Device mounted on FR-4 PCB 1.6" X 1.6" X 0.06".

### Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

| Symbol        | Parameter                            | Test Condition                                                                       | Min.      | Typ. | Max.     | Units         |
|---------------|--------------------------------------|--------------------------------------------------------------------------------------|-----------|------|----------|---------------|
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C = 10\text{mA}$                                                                  | 60        |      |          | V             |
| $BV_{CES}$    | Collector-Emitter Cutoff Voltage     | $I_C = 100\mu\text{A}$                                                               | 60        |      |          | V             |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage       | $I_E = 100\mu\text{A}$                                                               | 5         |      |          | V             |
| $I_{EBO}$     | Emitter Cut-off Current              | $V_{EB} = 5\text{V}$                                                                 |           |      | 10       | $\mu\text{A}$ |
| $I_{CBO}$     | Collector Cut-off Current            | $V_{CB} = 20\text{V}, T = 25^\circ\text{C}$<br>$T = 150^\circ\text{C}$               |           |      | 0.1<br>5 | $\mu\text{A}$ |
| $h_{FE}$      | DC Current Gain                      | $V_{CE} = 1\text{V}, I_C = 100\text{mA}$<br>$V_{CE} = 1\text{V}, I_C = 500\text{mA}$ | 100<br>40 | 400  |          |               |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 500\text{mA}, I_B = 50\text{mA}$                                              |           |      | 0.7      | V             |
| $V_{BE(on)}$  | Base-Emitter On Voltage              | $V_{CE} = 5\text{V}, I_C = 2\text{mA}$                                               |           |      | 1.2      | V             |

#### Notes:

1. These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3. These ratings are based on a maximum junction temperature of 150degrees C.

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