

Transistors

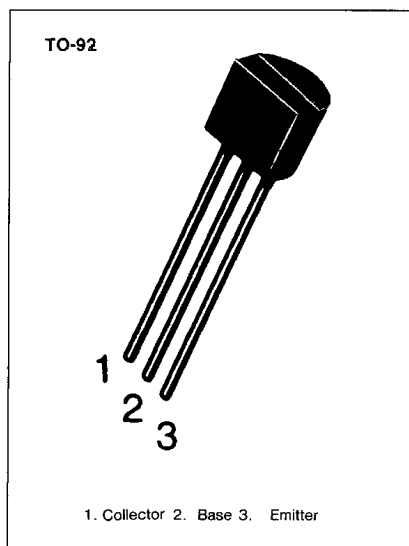
BC338

SWITCHING AND AMPLIFIER APPLICATIONS

- SUITABLE FOR AF-DRIVER STAGES AND LOW POWER OUTPUT STAGES
- Complement to BC327/BC328

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

| Characteristic | Symbol | Rating | Unit |
|---------------------------|-----------|---------|------------------|
| Collector Emitter Voltage | V_{CES} | 30 | V |
| Collector Emitter Voltage | V_{CEO} | 25 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Collector Current (DC) | I_C | 800 | mA |
| Collector Dissipation | P_C | 625 | mW |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -55~150 | $^\circ\text{C}$ |



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

| Characteristic | Symbol | Test Condition | Min | Typ | Max | Unit |
|--------------------------------------|-----------------------|--|-----------|-----|-----|------|
| Collector Emitter Breakdown Voltage | BV_{CEO} | $I_C = 10\text{mA}, I_B = 0$ | 25 | | | V |
| Collector Emitter Breakdown Voltage | BV_{CES} | $I_C = 0.1\text{mA}, I_B = 0$ | 30 | | | V |
| Emitter Base Breakdown Voltage | BV_{EBO} | $I_E = 0.1\text{mA}, I_C = 0$ | 5 | | | V |
| Collector Cutoff Current | I_{CES} | $V_{CE} = 25\text{V}, I_B = 0$ | | 2 | 100 | nA |
| DC Current Gain | h_{FE} h_{FE2} | $V_{CE} = 1\text{V}, I_C = 100\text{mA}$ $V_{CE} = 1\text{V}, I_C = 300\text{mA}$ | 100 60 | | 630 | |
| Collector Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 500\text{mA}, I_B = 50\text{mA}$ | | | 0.7 | V |
| Base Emitter On Voltage | $V_{BE(on)}$ | $V_{CE} = 1\text{V}, I_C = 300\text{mA}$ | | | 1.2 | V |
| Current Gain Bandwidth Product | f_T | $V_{CE} = 5\text{V}, I_C = 10\text{mA}$ | | 100 | | MHz |
| Collector Base Capacitance | C_{CBO} | $V_{CB} = 10\text{V}, f = 1\text{MHz}$ | | 12 | | pF |

h_{FE} CLASSIFICATION

| Classification | 16 | 25 | 40 |
|----------------|---------|---------|---------|
| h_{FE} | 100-250 | 160-400 | 250-630 |
| h_{FE2} | 60- | 100- | 170- |

