

BC337/338

Switching and Amplifier Applications

- Suitable for AF-Driver stages and low power output stages
- Complement to BC327/BC328



NPN Epitaxial Silicon Transistor

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

| Symbol | Parameter | Value | Units |
|-----------|-----------------------------|-----------|------------------|
| V_{CES} | Collector-Emitter Voltage | | |
| | : BC337 | 50 | V |
| | : BC338 | 30 | V |
| V_{CEO} | Collector-Emitter Voltage | | |
| | : BC337 | 45 | V |
| | : BC338 | 25 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current (DC) | 800 | mA |
| P_C | Collector Power Dissipation | 625 | mW |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | -55 ~ 150 | $^\circ\text{C}$ |

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

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|----------------------|--------------------------------------|------------------------------------------------------------------------------|------|------|------|-------|
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_C=10\text{mA}, I_B=0$ | 45 | | | V |
| | | | 25 | | | V |
| BV_{CES} | Collector-Emitter Breakdown Voltage | $I_C=0.1\text{mA}, V_{BE}=0$ | 50 | | | V |
| | | | 30 | | | V |
| BV_{EBO} | Emitter-Base Breakdown Voltage | $I_E=0.1\text{mA}, I_C=0$ | 5 | | | V |
| I_{CES} | Collector Cut-off Current | $V_{CE}=45\text{V}, I_B=0$ $V_{CE}=25\text{V}, I_B=0$ | | 2 | 100 | nA |
| | | | | 2 | 100 | nA |
| h_{FE1} | DC Current Gain | $V_{CE}=1\text{V}, I_C=100\text{mA}$ $V_{CE}=1\text{V}, I_C=300\text{mA}$ | 100 | | 630 | |
| h_{FE2} | | | 60 | | | |
| $V_{CE}(\text{sat})$ | Collector-Emitter Saturation Voltage | $I_C=500\text{mA}, I_B=50\text{mA}$ | | | 0.7 | V |
| $V_{BE}(\text{on})$ | Base Emitter On Voltage | $V_{CE}=1\text{V}, I_C=300\text{mA}$ | | | 1.2 | V |
| f_T | Current Gain Bandwidth Product | $V_{CE}=5\text{V}, I_C=10\text{mA}, f=50\text{MHz}$ | | 100 | | MHz |
| C_{ob} | Output Capacitance | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ | | 12 | | pF |

h_{FE} Classification

| Classification | 16 | 25 | 40 |
|----------------|-----------|-----------|-----------|
| h_{FE1} | 100 ~ 250 | 160 ~ 400 | 250 ~ 630 |
| h_{FE2} | 60- | 100- | 170- |

Package Dimensions

TO-92



Dimensions in Millimeters

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