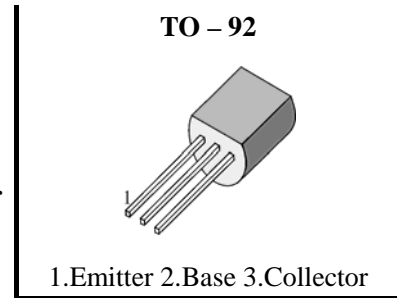


NPN General Purpose Amplifier

FEATURES & USE

High Collector Breakdown Voltage; Low Noise;
Complementary to 2N5401

This device is designed as a general purpose amplifier and switch for applications requiring high voltages.



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

| Symbol | Parameter | Ratings | Units |
|-----------|---------------------------|-----------|--------------------|
| V_{CBO} | Collector-Base Voltage | 180 | V |
| V_{CEO} | Collector-Emitter Voltage | 160 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_c | Collector Current | 600 | mA |
| T_j | Junction Temperature | 150 | $^{\circ}\text{C}$ |
| T_{STG} | Storage Temperature | -55 - 150 | $^{\circ}\text{C}$ |

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

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|---------------|--------------------------------------|-------------------------------------|------|------|------|-------|
| BV_{CBO} | Collector-Base Breakdown Voltage | $I_c=100\ \mu\text{A}, I_E=0$ | 180 | | | V |
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_c=1\text{mA}, I_B=0$ | 160 | | | V |
| BV_{EBO} | Emitter-Base Breakdown Voltage | $I_E=100\ \mu\text{A}, I_c=0$ | 5 | | | V |
| I_{CBO} | Collector Cut-off Current | $V_{CB}=120\text{V}, I_E=0$ | | | 200 | nA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB}=4\text{V}, I_c=0$ | | | 200 | nA |
| h_{FE} | DC Current Gain | $V_{CE}=5\text{V}, I_c=10\text{mA}$ | 80 | | 300 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_c=50\text{mA}, I_B=5\text{mA}$ | | | 0.25 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_c=50\text{mA}, I_B=5\text{mA}$ | | | 1.0 | V |

h_{FE} Classification

| Classification | A | B1 | B2 | C1 | C2 | C3 |
|----------------|--------|---------|---------|---------|---------|---------|
| h_{FE} | 50-100 | 100-150 | 150-200 | 200-230 | 230-250 | 250-300 |