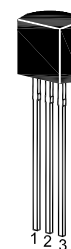


ST 2N5088 / 2N5089

NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into one group according to its DC current gain. As complementary type the PNP transistor 2N5086 and 2N5087 are recommended.



1. Emitter 2. Base 3. Collector
TO-92 Plastic Package

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

| Parameter | Symbol | Value | Unit |
|---------------------------|-----------|---------------|------------------|
| Collector Base Voltage | V_{CBO} | 35 | V |
| Collector Emitter Voltage | V_{CEO} | 30 | V |
| Emitter Base Voltage | V_{EBO} | 4.5 | V |
| Collector Current | I_C | 50 | mA |
| Power Dissipation | P_{tot} | 500 | mW |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 55 to + 150 | $^\circ\text{C}$ |

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

| Parameter | Symbol | Min. | Max. | Unit | |
|--|---------------|----------|------|------|---|
| DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 0.1\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 1\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$ | 2N5088 | h_{FE} | 300 | 900 | - |
| | 2N5089 | h_{FE} | 400 | 1200 | - |
| | 2N5088 | h_{FE} | 300 | - | - |
| | 2N5089 | h_{FE} | 400 | - | - |
| | 2N5088 | h_{FE} | 300 | - | - |
| | 2N5089 | h_{FE} | 400 | - | - |
| Collector Base Cutoff Current at $V_{CB} = 35\text{ V}$ | I_{CBO} | - | 50 | nA | |
| Emitter Base Cutoff Current at $V_{EB} = 4.5\text{ V}$ | I_{EBO} | - | 50 | nA | |
| Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$ | $V_{(BR)CBO}$ | 35 | - | V | |
| Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$ | $V_{(BR)CEO}$ | 30 | - | V | |
| Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$ | $V_{(BR)EBO}$ | 4.5 | - | V | |
| Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$ | $V_{CE(sat)}$ | - | 0.5 | V | |
| Base Emitter Voltage at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$ | $V_{BE(on)}$ | - | 0.8 | V | |
| Gain Bandwidth Product at $V_{CE} = 5\text{ V}$, $I_C = 0.5\text{ mA}$ | f_T | 50 | - | MHz | |
| Collector Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$ | C_{ob} | - | 4 | pF | |

