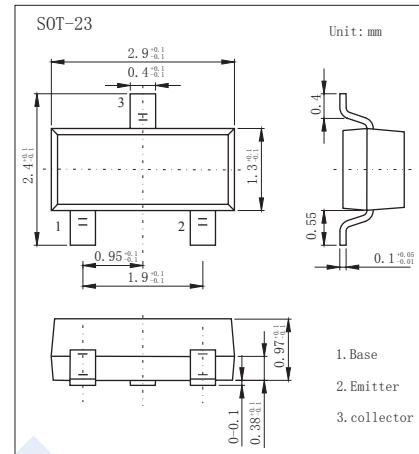


NPN Transistors

2SC4209

■ Features

- Collector Current Capability $I_C=300\text{mA}$
- Collector Emitter Voltage $V_{CE0}=80\text{V}$
- Complementary to 2SA1620

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

| Parameter | Symbol | Rating | Unit |
|--------------------------------|-----------|------------|------------------|
| Collector - Base Voltage | V_{CB0} | 80 | V |
| Collector - Emitter Voltage | V_{CE0} | 80 | |
| Emitter - Base Voltage | V_{EB0} | 5 | |
| Collector Current - Continuous | I_C | 300 | mA |
| Base Current | I_B | 60 | |
| Collector Power Dissipation | P_C | 200 | mW |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55 to 150 | |

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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---|------|-----|-----|---------------|
| Collector- base breakdown voltage | V_{CB0} | $I_C = 100\ \mu\text{A}, I_E = 0$ | 80 | | | V |
| Collector- emitter breakdown voltage | V_{CE0} | $I_C = 5\ \text{mA}, I_B = 0$ | 80 | | | |
| Emitter - base breakdown voltage | V_{EB0} | $I_E = 100\ \mu\text{A}, I_C = 0$ | 5 | | | |
| Collector-base cut-off current | I_{CBO} | $V_{CB} = 35\text{V}, I_E = 0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 5\text{V}, I_C = 0$ | | | 0.1 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 200\text{mA}, I_B = 10\text{mA}$ | | | 0.5 | V |
| Base - emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 200\text{mA}, I_B = 10\text{mA}$ | | | 1.2 | |
| Base - emitter voltage | V_{BE} | $V_{CE} = 2\text{V}, I_C = 5\text{mA}$ | 0.55 | | 0.8 | |
| DC current gain | h_{FE} | $V_{CE} = 2\text{V}, I_C = 50\text{mA}$ | 70 | | 240 | |
| | | $V_{CE} = 2\text{V}, I_C = 200\text{mA}$ | 40 | | | |
| Collector output capacitance | C_{ob} | $V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$ | | 10 | | pF |
| Transition frequency | f_T | $V_{CE} = 10\text{V}, I_C = 10\text{mA}$ | | 100 | | MHz |

■ Classification of $h_{FE}(1)$

| Type | 2SC4209-O | 2SC4209-Y |
|---------|-----------|-----------|
| Range | 70-140 | 120-240 |
| Marking | CO | CY |

NPN Transistors

2SC4209

■ Typical Characteristics

