

TRANSISTOR (NPN)

FEATURES

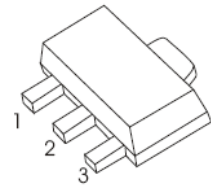
- Small Flat Package
- High Transition Frequency
- High Voltage
- Complementary to 2SA1201

APPLICATIONS

- Power Amplifier and Voltage Amplifier

SOT-89-3L

1. BASE
2. COLLECTOR
3. EMITTER



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------------|---------------------------------------------|----------|-----------------------------|
| V_{CBO} | Collector-Base Voltage | 120 | V |
| V_{CEO} | Collector-Emitter Voltage | 120 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current | 800 | mA |
| P_C | Collector Power Dissipation | 500 | mW |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 250 | $^{\circ}\text{C}/\text{W}$ |
| 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 specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|-------------------------------------------|-----|-----|-----|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=1\text{mA}, I_E=0$ | 120 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=10\text{mA}, I_B=0$ | 120 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=1\text{mA}, I_C=0$ | 5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=120\text{V}, I_E=0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=5\text{V}, I_C=0$ | | | 0.1 | μA |
| DC current gain | h_{FE} | $V_{CE}=5\text{V}, I_C=100\text{mA}$ | 80 | | 240 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$ | | | 1 | V |
| Base-emitter voltage | V_{BE} | $V_{CE}=5\text{V}, I_C=0.5\text{A}$ | | | 1 | V |
| Transition frequency | f_T | $V_{CE}=5\text{V}, I_C=100\text{mA}$ | | 120 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ | | | 30 | pF |

CLASSIFICATION OF h_{FE}

| RANK | O | Y |
|---------|----------|-----------|
| RANGE | 80 - 160 | 120 - 240 |
| MARKING | CO1 | CY1 |