

TRANSISTOR (NPN)

FEATURES

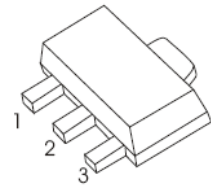
- Small Flat Package
- Complementary to 2SA1204
- High DC Current Gain

APPLICATIONS

- Audio Frequency 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_{CB0} | Collector-Base Voltage | 35 | V |
| V_{CEO} | Collector-Emitter Voltage | 30 | 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 | $V_{(BR)CBO}$ | $I_C=1\text{mA}, I_E=0$ | 35 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=10\text{mA}, I_B=0$ | 30 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=1\text{mA}, I_C=0$ | 5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=35\text{V}, I_E=0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=5\text{V}, I_C=0$ | | | 0.1 | μA |
| DC current gain | $h_{FE(1)}$ | $V_{CE}=1\text{V}, I_C=100\text{mA}$ | 100 | | 320 | |
| | $h_{FE(2)}$ | $V_{CE}=1\text{V}, I_C=700\text{mA}$ | 35 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=500\text{mA}, I_B=20\text{mA}$ | | | 0.5 | V |
| Base-emitter voltage | V_{BE} | $V_{CE}=1\text{V}, I_C=10\text{mA}$ | 0.5 | | 0.8 | V |
| Transition frequency | f_T | $V_{CE}=5\text{V}, I_C=10\text{mA}$ | | 120 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ | | 13 | | pF |

CLASSIFICATION OF $h_{FE(1)}$

| RANK | O | Y |
|---------|-----------|-----------|
| RANGE | 100 - 200 | 160 - 320 |
| MARKING | PO1 | PY1 |