

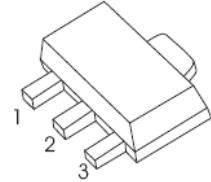
SOT-89-3L Plastic-Encapsulate Transistors

FEATURES

- Complementary to 2SC2873 A
- Small Flat Package
- Power Amplifier and Switching Applications
- Low Saturation Voltage
- High Speed Switching Time

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 | -50 | V |
| V_{CEO} | Collector-Emitter Voltage | -50 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current | -2 | A |
| P_C | Collector Power Dissipation | 900 | 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 | $^\circ\text{C}$ |

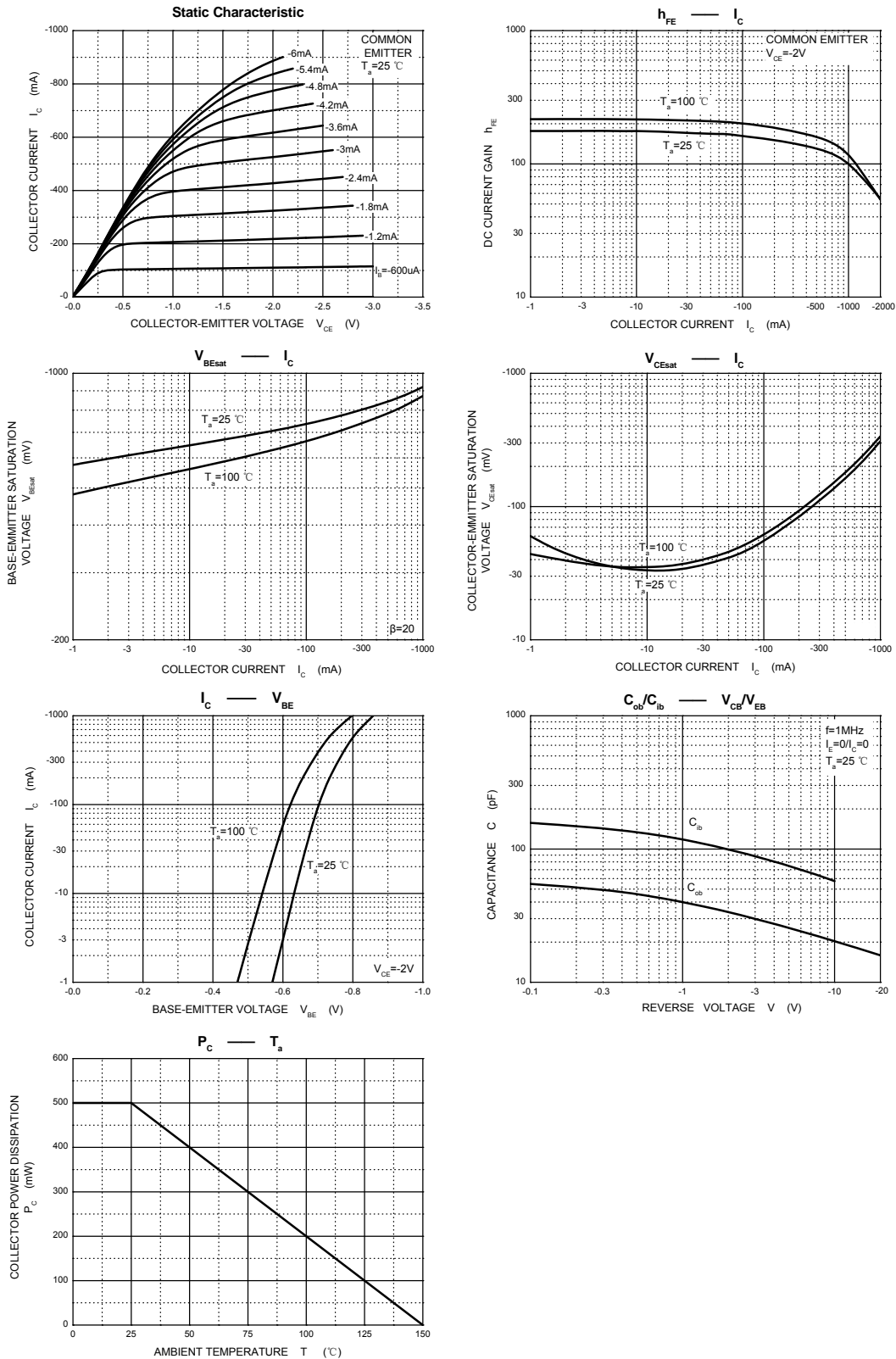
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|-----|------|------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -0.1\text{mA}, I_E = 0$ | -50 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -10\text{mA}, I_B = 0$ | -50 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = -0.1\text{mA}, I_C = 0$ | -5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -50\text{V}, I_E = 0$ | | | -100 | nA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5\text{V}, I_C = 0$ | | | -100 | nA |
| DC current gain | h_{FE} | $V_{CE} = -2\text{V}, I_C = -500\text{mA}$ | 70 | | 240 | |
| | | $V_{CE} = -2\text{V}, I_C = -2\text{A}$ | 20 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -1\text{A}, I_B = -50\text{mA}$ | | | -0.5 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -1\text{A}, I_B = -50\text{mA}$ | | | -1.2 | V |
| Collector output capacitance | C_{ob} | $V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$ | | 40 | | pF |
| Transition frequency | f_T | $V_{CE} = -2\text{V}, I_C = -0.5\text{A}$ | 100 | | | MHz |

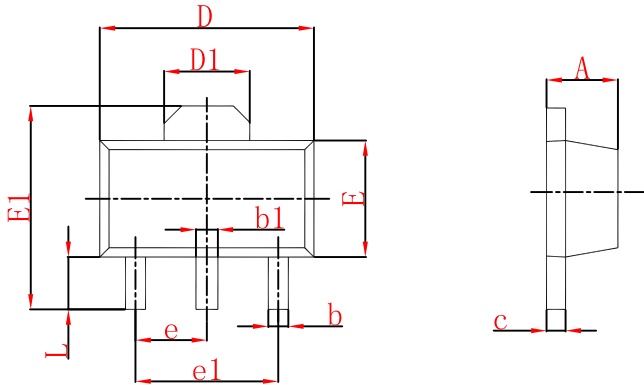
CLASSIFICATION OF h_{FE}

| RANK | O | Y |
|---------|----------|-----------|
| RANGE | 70 - 140 | 120 - 240 |
| MARKING | NO | NY |

Typical Characteristics

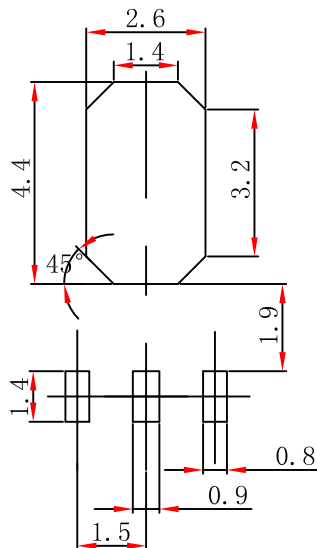


SOT-89-3L Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 1.400 | 1.600 | 0.055 | 0.063 |
| b | 0.320 | 0.520 | 0.013 | 0.020 |
| b1 | 0.400 | 0.580 | 0.016 | 0.023 |
| c | 0.350 | 0.440 | 0.014 | 0.017 |
| D | 4.400 | 4.600 | 0.173 | 0.181 |
| D1 | 1.550 REF. | | 0.061 REF. | |
| E | 2.300 | 2.600 | 0.091 | 0.102 |
| E1 | 3.940 | 4.250 | 0.155 | 0.167 |
| e | 1.500 TYP. | | 0.060 TYP. | |
| e1 | 3.000 TYP. | | 0.118 TYP. | |
| L | 0.900 | 1.200 | 0.035 | 0.047 |

SOT-89-3L Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.