

TO-220-3L Plastic-Encapsulate Transistors

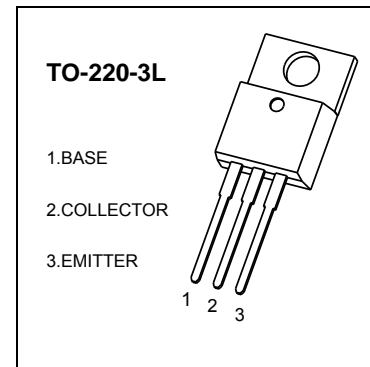
2SB772 TRANSISTOR (PNP)

FEATURES

- Low Speed Switching

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

| Symbol | Parameter | Value | Unit |
|-----------------|---|---------|-----------------------------|
| V_{CBO} | Collector-Base Voltage | -40 | V |
| V_{CEO} | Collector-Emitter Voltage | -30 | V |
| V_{EBO} | Emitter-Base Voltage | -6 | V |
| I_C | Collector Current -Continuous | -3 | A |
| P_C | Collector Power Dissipation | 2 | W |
| $R_{\theta JA}$ | Thermal Resistance, junction to Ambient | 62.5 | $^{\circ}\text{C}/\text{W}$ |
| T_j | Junction Temperature | 150 | $^{\circ}\text{C}$ |
| T_{stg} | Storage Temperature | -55-150 | $^{\circ}\text{C}$ |



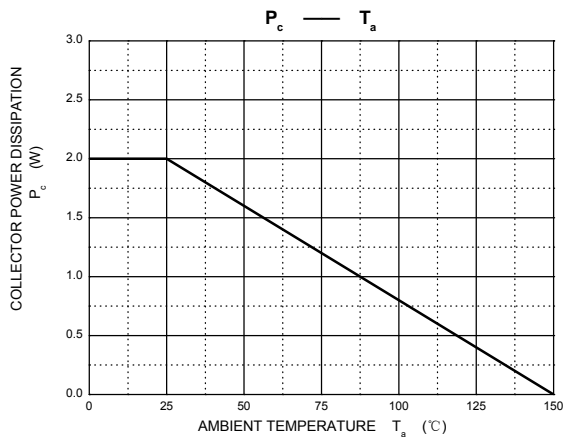
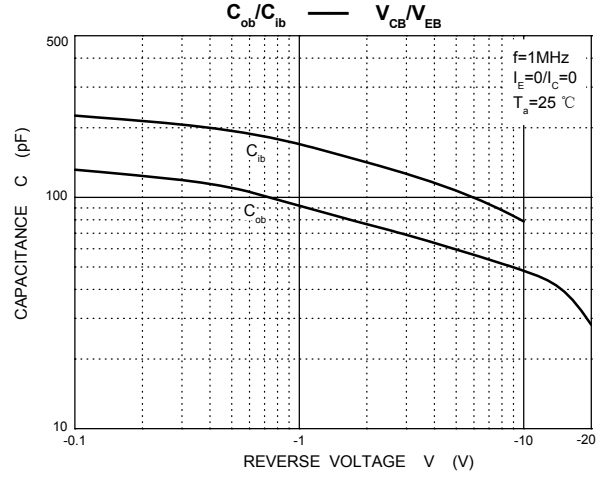
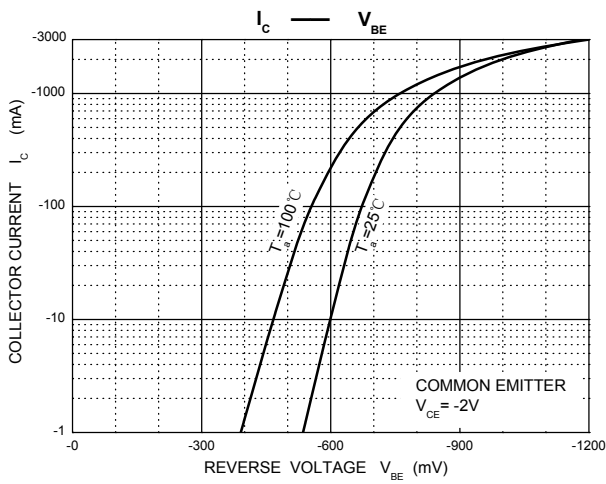
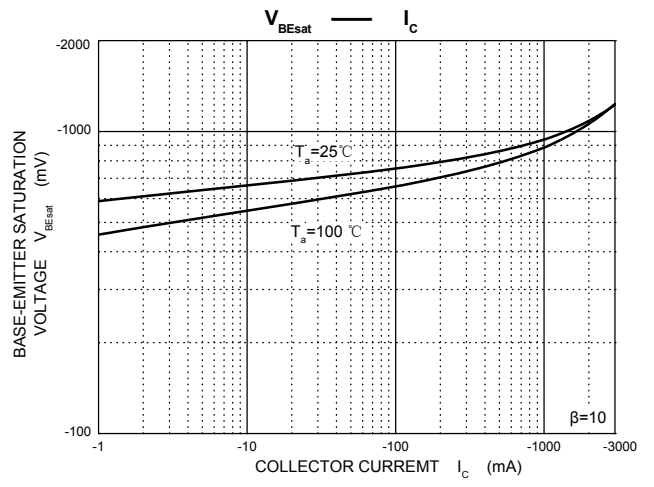
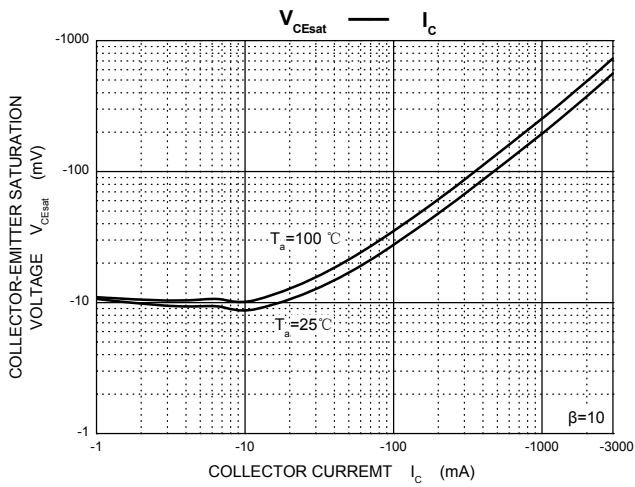
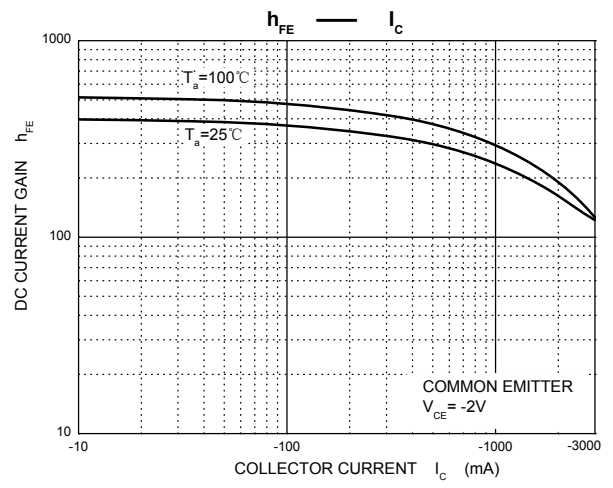
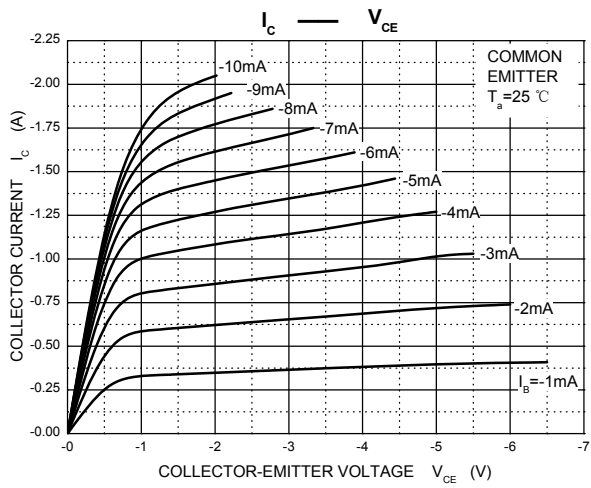
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---|-----|-----|------|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=-100\mu\text{A}, I_E=0$ | -40 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=-10\text{mA}, I_B=0$ | -30 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=-100\mu\text{A}, I_C=0$ | -6 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=-40\text{V}, I_E=0$ | | | -1 | μA |
| Collector cut-off current | I_{CEO} | $V_{CE}=-30\text{V}, I_B=0$ | | | -10 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=-6\text{V}, I_C=0$ | | | -1 | μA |
| DC current gain | h_{FE} | $V_{CE}=-2\text{V}, I_C=-1\text{A}$ | 60 | | 400 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=-2\text{A}, I_B=-0.2\text{A}$ | | | -0.5 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=-2\text{A}, I_B=-0.2\text{A}$ | | | -1.5 | V |
| Transition frequency | f_T | $V_{CE}=-5\text{V}, I_C=-0.1\text{A}$ $f=10\text{MHz}$ | 50 | 80 | | MHz |

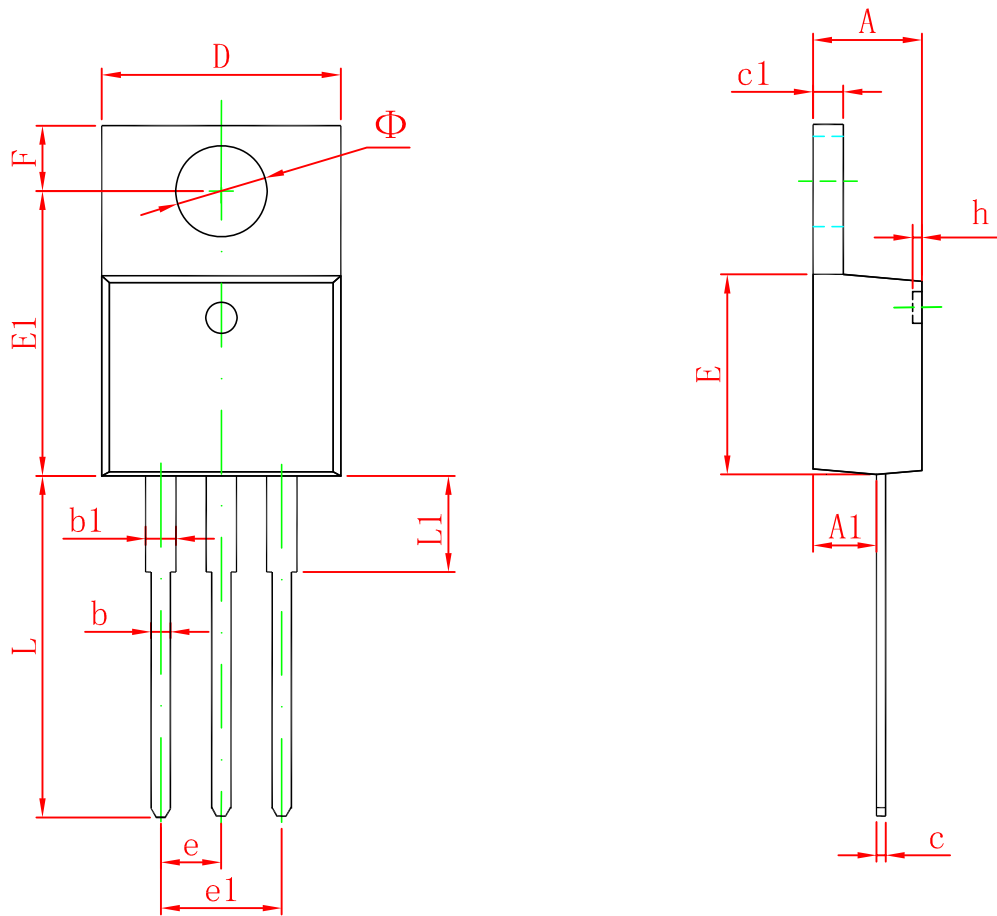
CLASSIFICATION OF h_{FE}

| Rank | R | O | Y | GR |
|-------|--------|---------|---------|---------|
| Range | 60-120 | 100-200 | 160-320 | 200-400 |

Typical Characteristics



TO-220-3L Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 4.470 | 4.670 | 0.176 | 0.184 |
| A1 | 2.520 | 2.820 | 0.099 | 0.111 |
| b | 0.710 | 0.910 | 0.028 | 0.036 |
| b1 | 1.170 | 1.370 | 0.046 | 0.054 |
| c | 0.310 | 0.530 | 0.012 | 0.021 |
| c1 | 1.170 | 1.370 | 0.046 | 0.054 |
| D | 10.010 | 10.310 | 0.394 | 0.406 |
| E | 8.500 | 8.900 | 0.335 | 0.350 |
| E1 | 12.060 | 12.460 | 0.475 | 0.491 |
| e | 2.540 TYP | | 0.100 TYP | |
| e1 | 4.980 | 5.180 | 0.196 | 0.204 |
| F | 2.590 | 2.890 | 0.102 | 0.114 |
| h | 0.000 | 0.300 | 0.000 | 0.012 |
| L | 13.400 | 13.800 | 0.528 | 0.543 |
| L1 | 3.560 | 3.960 | 0.140 | 0.156 |
| Φ | 3.735 | 3.935 | 0.147 | 0.155 |