

TO-92MOD Plastic-Encapsulate Transistor

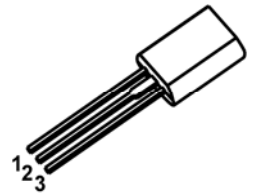
2SA1371 TRANSISTOR (PNP)

FEATURES

- High Breakdown Voltage
- Small Reverse Transition Capacitance and High Frequency

TO – 92MOD

1. EMITTER
2. COLLECTOR
3. BASE



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

| Symbol | Parameter | Value | Unit |
|-----------------|---------------------------------------------|----------|---------------------------|
| V_{CBO} | Collector-Base Voltage | -300 | V |
| V_{CEO} | Collector-Emitter Voltage | -300 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current | -0.1 | A |
| P_C | Collector Power Dissipation | 1 | W |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 125 | $^\circ\text{C}/\text{W}$ |
| 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 | $V_{(BR)CBO}$ | $I_C = -10\mu\text{A}, I_E = 0$ | -300 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -1\text{mA}, I_B = 0$ | -300 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = -10\mu\text{A}, I_C = 0$ | -5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -200\text{V}, I_E = 0$ | | | -0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -4\text{V}, I_C = 0$ | | | -0.1 | μA |
| DC current gain | h_{FE} | $V_{CE} = -10\text{V}, I_C = -10\text{mA}$ | 40 | | 320 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -20\text{mA}, I_B = -2\text{mA}$ | | | -0.6 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -20\text{mA}, I_B = -2\text{mA}$ | | | -1 | V |
| Collector output capacitance | C_{ob} | $V_{CB} = -30\text{V}, I_E = 0, f = 1\text{MHz}$ | | | 5 | pF |
| Transition frequency | f_T | $V_{CE} = -30\text{V}, I_C = -10\text{mA}$ | 100 | | | MHz |

CLASSIFICATION OF h_{FE}

| RANK | C | D | E | F |
|-------|-------|--------|---------|---------|
| RANGE | 40-80 | 60-120 | 100-200 | 160-320 |