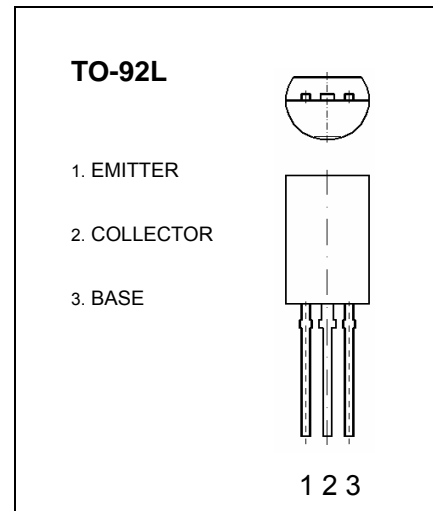


深圳市晶泰源电子有限公司

2SA1013 TRANSISTOR (PNP)

FEATURE

- High voltage: $V_{CEO} = -160V$
- Large continuous collector current capability
- Complementary to 2SC2383



MAXIMUM RATINGS ($T_A = 25^\circ C$ unless otherwise noted)

| Symbol | Parameter | Value | Units |
|-----------|-------------------------------|-------------|------------|
| V_{CBO} | Collector-Base Voltage | -160 | V |
| V_{CEO} | Collector-Emitter Voltage | -160 | V |
| V_{EBO} | Emitter-Base Voltage | -6 | V |
| I_C | Collector Current -Continuous | -1 | A |
| P_C | Collector Power Dissipation | 0.9 | W |
| T_j | Junction Temperature | 150 | $^\circ C$ |
| T_{stg} | Storage Temperature | -55 to +150 | $^\circ C$ |

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

| Parameter | Symbol | Test conditions | MIN | MAX | UNIT |
|--------------------------------------|---------------|------------------------------------|------|-------|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -100\mu A, I_E = 0$ | -160 | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -1mA, I_B = 0$ | -160 | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = -10\mu A, I_C = 0$ | -6 | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -150V, I_E = 0$ | | -1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -6V, I_C = 0$ | | -1 | μA |
| DC current gain | h_{FE} | $V_{CE} = -5V, I_C = -200mA$ | 60 | 320 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -500mA, I_B = -50mA$ | | -1.5 | V |
| Base-emitter voltage | V_{BE} | $I_C = -5mA, V_{CE} = -5V$ | | -0.75 | V |
| Transition frequency | f_T | $V_{CE} = -5V, I_C = -200mA$ | 15 | | MHz |
| Collector Output capacitance | C_{ob} | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | | 35 | pF |

CLASSIFICATION OF h_{FE}

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