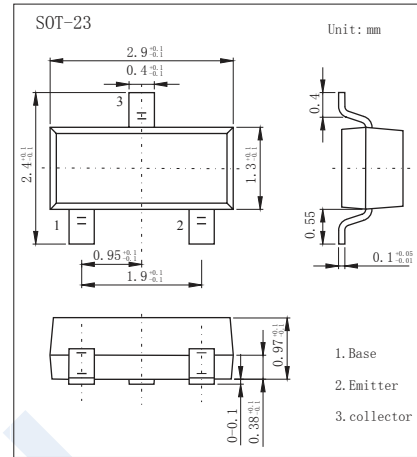


NPN Transistors

2SC945

■ Features

- Collector current up to 150mA
- High h_{FE} linearity
- Complementary to 2SA733



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|------------------------------|-----------|-------------|------------------|
| Collector to base voltage | V_{CBO} | 60 | V |
| Collector to emitter voltage | V_{CEO} | 50 | V |
| Emitter to base voltage | V_{EBO} | 5 | V |
| Collector current (DC) | I_C | 150 | mA |
| Power dissipation | P_C | 200 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|-------------------------------------|---------------|---|-----|-----|-----|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=100\ \mu\text{A}, I_E=0$ | 60 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=1\text{mA}, I_B=0$ | 50 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=100\ \mu\text{A}, I_C=0$ | 5 | | | V |
| Collector cutoff current | I_{CBO} | $V_{CB} = 60\text{V}, I_E = 0$ | | | 0.1 | μA |
| Emitter cutoff current | I_{EBO} | $V_{EB} = 5.0\text{V}, I_C = 0$ | | | 0.1 | μA |
| DC current gain | h_{FE} | $V_{CE} = 6.0\text{V}, I_C = 1.0\text{mA}$ | 130 | | 400 | |
| | | $V_{CE} = 6.0\text{V}, I_C = 0.1\text{mA}$ | 40 | | | |
| Collector saturation voltage | $V_{CE(sat)}$ | $I_C=100\text{mA}, I_B=10\text{mA}$ | | | 0.3 | V |
| Base saturation voltage | $V_{BE(sat)}$ | $I_C=100\text{mA}, I_B=10\text{mA}$ | | | 1.0 | V |
| Collector to base capacitance | C_{ob} | $V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$ | | | 3.0 | pF |
| Noise figure | NF | $V_{CE}=6\text{V}, I_C=0.1\text{mA}, R_G=10\text{k}\Omega, f=1\text{kHz}$ | | 4 | 10 | dB |
| Transition frequency | f_T | $V_{CE}=6\text{V}, I_C=10\text{mA}, f=30\text{MHz}$ | 150 | | | MHz |

■ Classification of $h_{FE}(1)$

| Type | 2SC945-L | 2SC945-H |
|---------|----------|----------|
| Range | 130-200 | 200-400 |
| Marking | CRL | CR |

2SC945

Typical Characteristics

