

2SC1383, 2SC1384

Silicon NPN epitaxial planer type

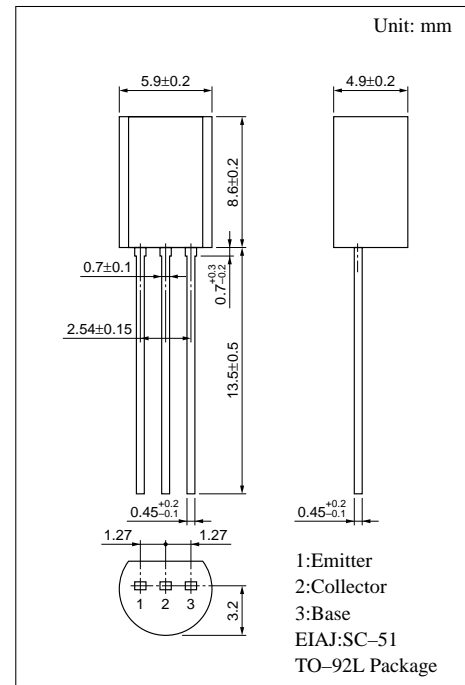
For low-frequency power amplification and driver amplification
Complementary to 2SA683 and 2SA684

Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- Complementary pair with 2SA683 and 2SA684.

Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Ratings | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage | 2SC1383 | 30 | V |
| | 2SC1384 | 60 | |
| Collector to emitter voltage | 2SC1383 | 25 | V |
| | 2SC1384 | 50 | |
| Emitter to base voltage | V_{EBO} | 5 | V |
| Peak collector current | I_{CP} | 1.5 | A |
| Collector current | I_C | 1 | A |
| Collector power dissipation | P_C | 1 | W |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | °C |



Electrical Characteristics (Ta=25°C)

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|----------------|---|-----|------|-----|---------|
| Collector cutoff current | I_{CBO} | $V_{CB} = 20V, I_E = 0$ | | | 0.1 | μA |
| Collector to base voltage | 2SC1383 | $I_C = 10\mu A, I_E = 0$ | 30 | | | V |
| | 2SC1384 | | 60 | | | |
| Collector to emitter voltage | 2SC1383 | $I_C = 2mA, I_B = 0$ | 25 | | | V |
| | 2SC1384 | | 50 | | | |
| Emitter to base voltage | V_{EBO} | $I_E = 10\mu A, I_C = 0$ | 5 | | | V |
| Forward current transfer ratio | h_{FE1}^{*1} | $V_{CE} = 10V, I_C = 500mA^{*2}$ | 85 | 160 | 340 | |
| | h_{FE2} | $V_{CE} = 5V, I_B = 1A^{*2}$ | 50 | 100 | | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 500mA, I_B = 50mA^{*2}$ | | 0.2 | 0.4 | V |
| Base to emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 500mA, I_B = 50mA^{*2}$ | | 0.85 | 1.2 | V |
| Transition frequency | f_T | $V_{CB} = 10V, I_E = -50mA, f = 200MHz$ | | 200 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | | 11 | 20 | pF |

*2 Pulse measurement

*1 h_{FE1} Rank classification

| Rank | Q | R | S |
|-----------|----------|-----------|-----------|
| h_{FE1} | 85 ~ 170 | 120 ~ 240 | 170 ~ 340 |

