

2SC3130

Silicon NPN epitaxial planer type

For high-frequency amplification/oscillation/mixing

■ Features

- High transition frequency f_T .
- Small collector output capacitance C_{ob} and common base reverse transfer capacitance C_{rb} .
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

■ Absolute Maximum Ratings (Ta=25°C)

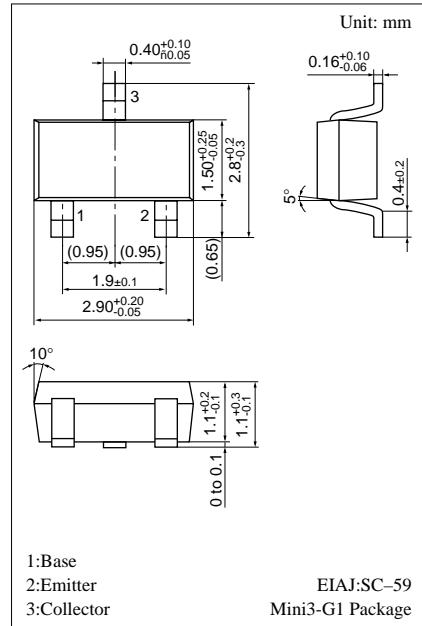
| Parameter | Symbol | Ratings | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage | V_{CBO} | 15 | V |
| Collector to emitter voltage | V_{CEO} | 10 | V |
| Emitter to base voltage | V_{EBO} | 3 | V |
| Collector current | I_C | 50 | mA |
| Collector power dissipation | P_C | 150 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | °C |

■ Electrical Characteristics (Ta=25°C)

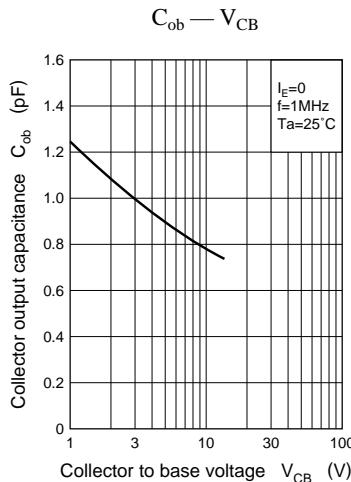
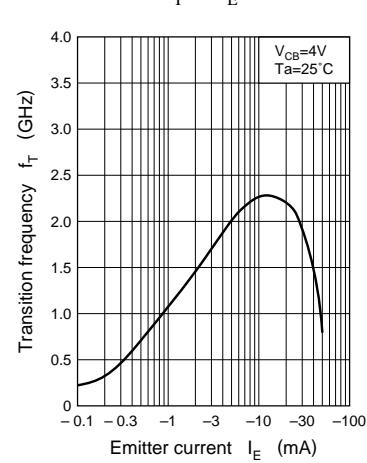
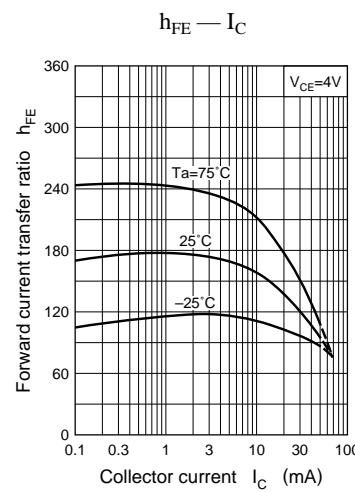
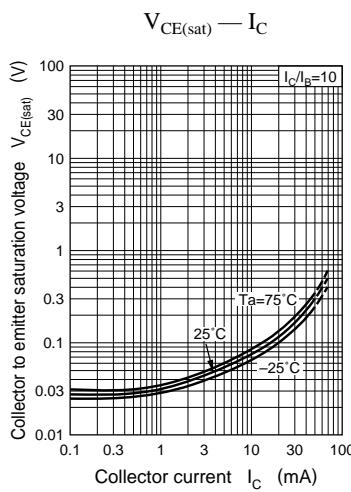
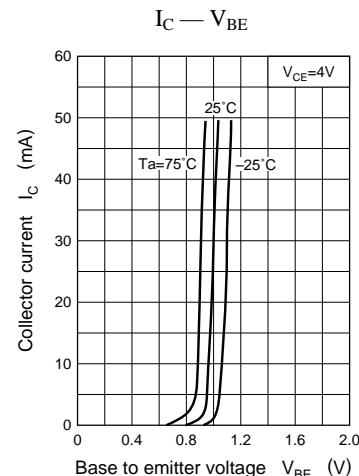
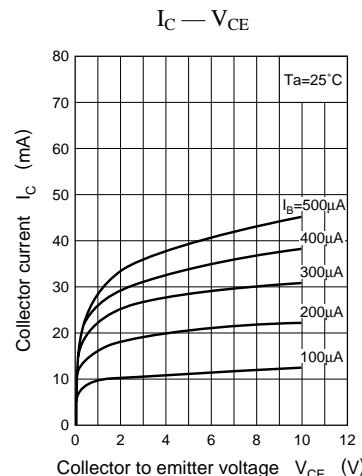
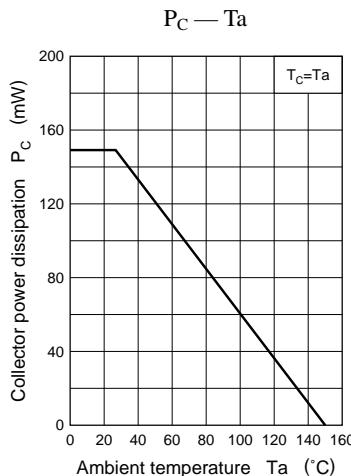
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|--------------------|--|------|------|-----|------|
| Collector cutoff current | I_{CBO} | $V_{CB} = 10V, I_E = 0$ | | | 1 | μA |
| Collector to emitter voltage | V_{CEO} | $I_C = 2mA, I_B = 0$ | 10 | | | V |
| Emitter to base voltage | V_{EBO} | $I_E = 10μA, I_C = 0$ | 3 | | | V |
| Forward current transfer ratio | h_{FE}^* | $V_{CE} = 4V, I_C = 5mA$ | 75 | 200 | 400 | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 20mA, I_B = 4mA$ | | | 0.5 | V |
| Transition frequency | f_T | $V_{CB} = 4V, I_E = -5mA, f = 200MHz$ | 1.4 | 1.9 | 2.5 | GHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 4V, I_E = 0, f = 1MHz$ | | 1.4 | | pF |
| Base time constant | $r_{bb} \cdot C_C$ | $V_{CB} = 4V, I_E = -5mA, f = 31.9MHz$ | 11 | | | ps |
| Common emitter reverse transfer capacitance | C_{rb} | $V_{CB} = 4V, I_E = 0, f = 1MHz$ | | 0.45 | | pF |
| h_{FE} ratio | Δh_{FE} | $V_{CE} = 4V, I_C = 100μA$ $V_{CE} = 4V, I_C = 5mA$ | 0.75 | | 1.6 | |

* h_{FE} Rank classification

| Rank | P | Q | R |
|----------------|----------|-----------|-----------|
| h_{FE} | 75 ~ 130 | 110 ~ 220 | 200 ~ 400 |
| Marking Symbol | 1SP | 1SQ | 1SR |



Marking symbol : 1S



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