

2SD966

Silicon NPN epitaxial planer type

For low-frequency power amplification

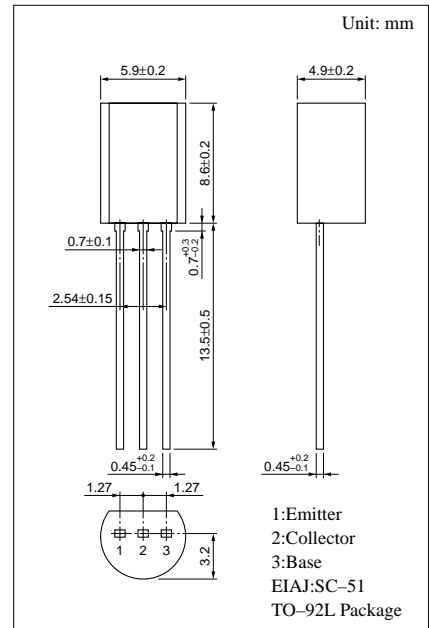
For stroboscope

Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- Satisfactory operation performances at high efficiency with the low-voltage power supply.

Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Ratings | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage | V_{CBO} | 40 | V |
| Collector to emitter voltage | V_{CEO} | 20 | V |
| Emitter to base voltage | V_{EBO} | 7 | V |
| Peak collector current | I_{CP} | 8 | A |
| Collector current | I_C | 5 | 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)

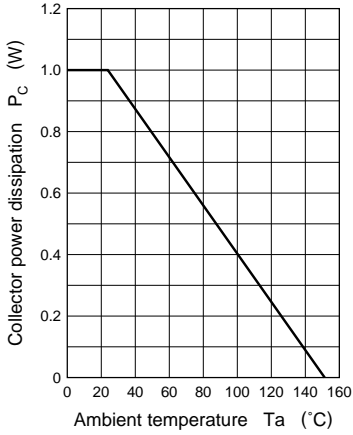
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|---------------|--|-----|-----|-----|---------|
| Collector cutoff current | I_{CBO} | $V_{CB} = 10V, I_E = 0$ | | | 0.1 | μA |
| Emitter cutoff current | I_{EBO} | $V_{EB} = 7V, I_C = 0$ | | | 0.1 | μA |
| Collector to emitter voltage | V_{CEO} | $I_C = 1mA, I_B = 0$ | 20 | | | V |
| Emitter to base voltage | V_{EBO} | $I_E = 10\mu A, I_C = 0$ | 7 | | | V |
| Forward current transfer ratio | h_{FE1} *1 | $V_{CE} = 2V, I_C = 0.5A$ *2 | 230 | | 600 | |
| | h_{FE2} | $V_{CE} = 2V, I_C = 2A$ *2 | 150 | | | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 3A, I_B = 0.1A$ *2 | | | 1 | V |
| Transition frequency | f_T | $V_{CB} = 6V, I_E = -50mA, f = 200MHz$ | | 150 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 20V, I_E = 0, f = 1MHz$ | | | 50 | pF |

*2 Pulse measurement

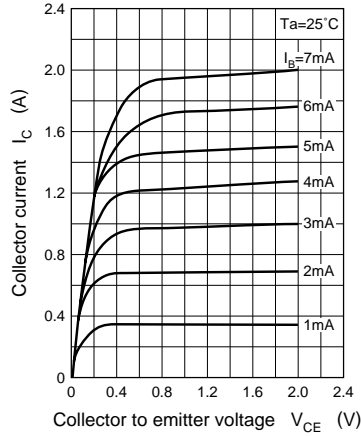
*1 h_{FE1} Rank classification

| Rank | Q | R |
|-----------|-----------|-----------|
| h_{FE1} | 230 ~ 380 | 340 ~ 600 |

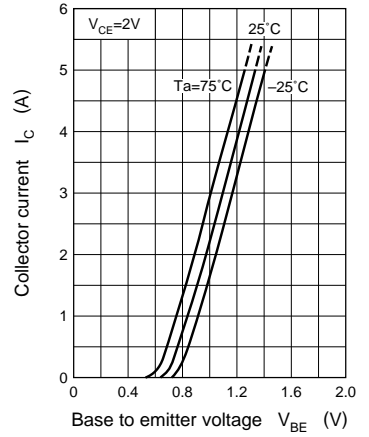
$P_C - T_a$



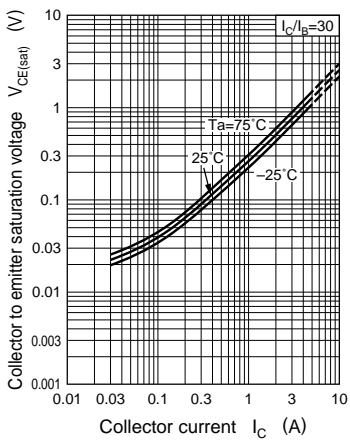
$I_C - V_{CE}$



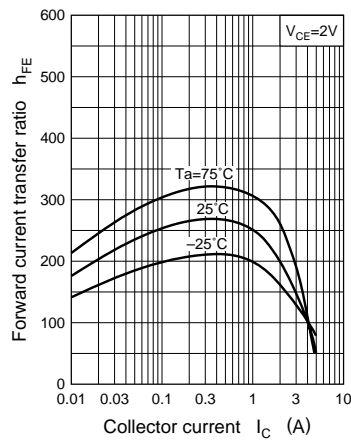
$I_C - V_{BE}$



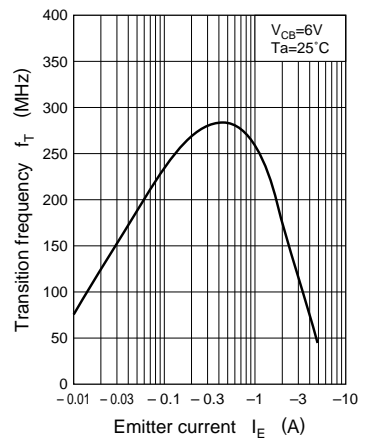
$V_{CE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$

