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2SD0968, 2SD0968A (2SD968, 2SD968A)

Silicon NPN epitaxial planer type

For low-frequency driver amplification

Complementary to 2SB0789 (2SB789) and 2SB0789A (2SB789A)

Features

- High collector to emitter voltage V_{CEO} .
- Large collector power dissipation P_C .
- Mini Power 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} | 100 | V |
| 2SD0968 | | | |
| 2SD0968A | | 120 | |
| Collector to emitter voltage | V_{CEO} | 100 | V |
| 2SD0968 | | | |
| 2SD0968A | | 120 | |
| Emitter to base voltage | V_{EBO} | 5 | V |
| Peak collector current | I_{CP} | 1 | A |
| Collector current | I_C | 0.5 | A |
| Collector power dissipation | P_C^* | 1 | W |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | °C |

* Printed circuit board: Copper foil area of 1cm² or more, and the board thickness of 1.7mm for the collector portion

Electrical Characteristics (Ta=25°C)

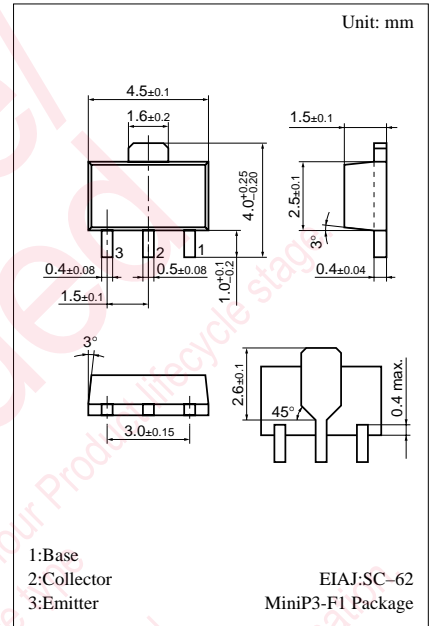
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|----------------|---|-----|------|-----|------|
| Collector to emitter voltage | V_{CEO} | $I_C = 100\mu A, I_B = 0$ | 100 | | | V |
| | | | 120 | | | |
| Emitter to base voltage | V_{EBO} | $I_E = 10\mu A, I_C = 0$ | 5 | | | V |
| Forward current transfer ratio | h_{FE1}^{*1} | $V_{CE} = 10V, I_C = 150mA^{*2}$ | 90 | | 220 | |
| | h_{FE2} | $V_{CE} = 5V, I_C = 500mA^{*2}$ | 50 | 100 | | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 500mA, I_B = 50mA^{*2}$ | | 0.2 | 0.6 | 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 | $V_{CB} = 10V, I_E = -50mA, f = 200MHz$ | | 120 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | | 11 | 20 | pF |

*1 h_{FE1} Rank classification

| Rank | Q | R |
|----------------|----------------|-----------|
| h_{FE1} | 90 ~ 155 | 130 ~ 220 |
| Marking Symbol | 2SD0968 WQ | WR |
| | 2SD0968A VQ | VR |

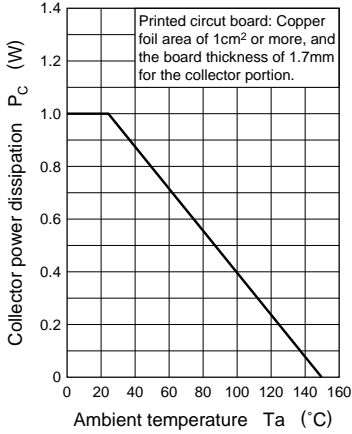
*2 Pulse measurement

Note.) The Part numbers in the Parenthesis show conventional part number.

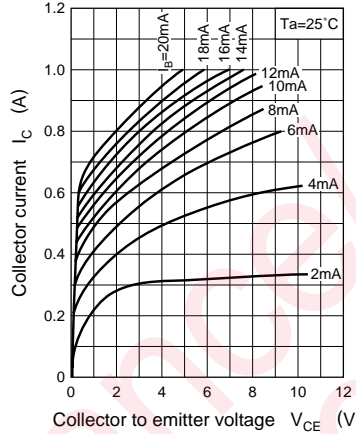


Marking symbol : W(2SD0968)
V(2SD0968A)

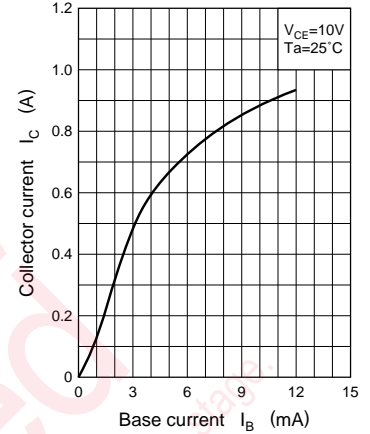
$P_C - T_a$



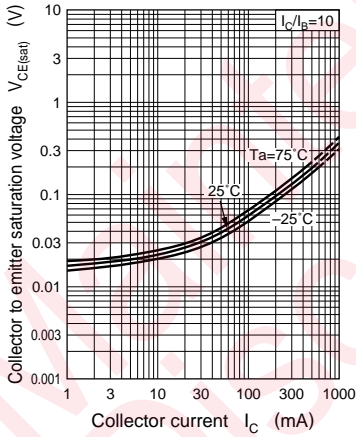
$I_C - V_{CE}$



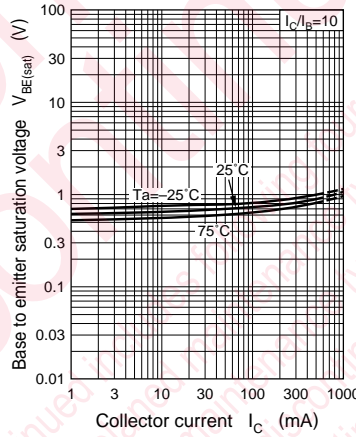
$I_C - I_B$



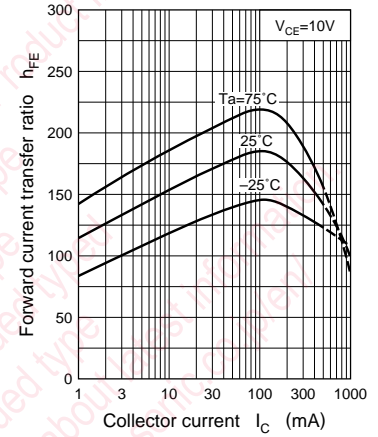
$V_{CE(sat)} - I_C$



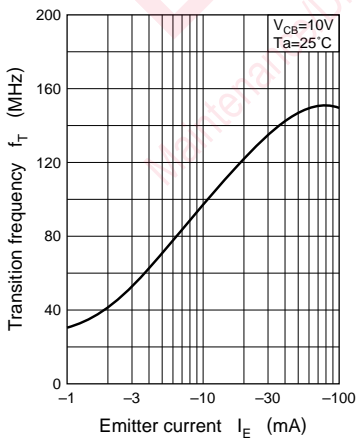
$V_{BE(sat)} - I_C$



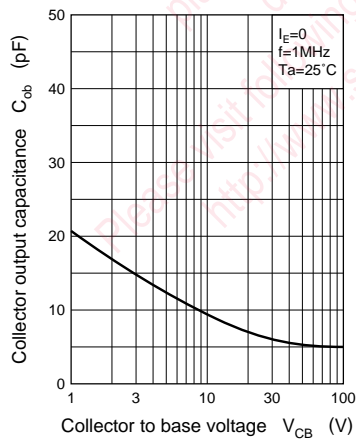
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



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