

2SD1992A

Silicon NPN epitaxial planer type

For general amplification

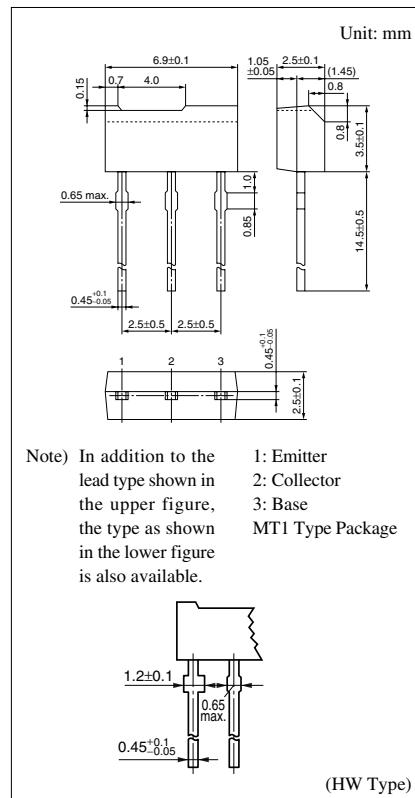
Complementary to 2SB1321A

■ Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Allowing supply with the radial taping

■ 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} | 7 | V |
| Peak collector current | I_{CP} | 1 | A |
| Collector current | I_C | 500 | mA |
| Collector power dissipation | P_C | 600 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |



■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

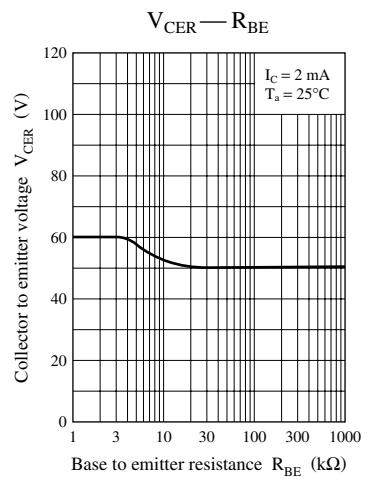
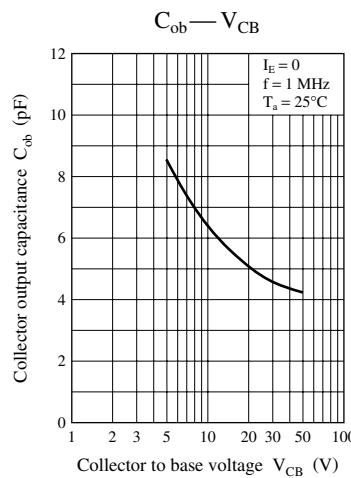
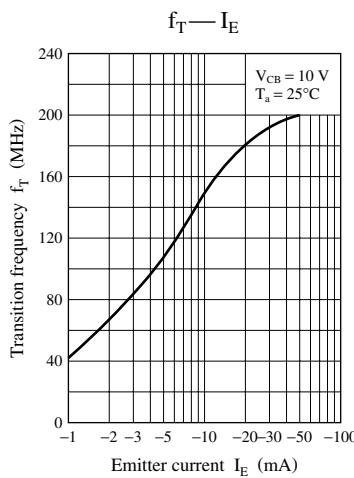
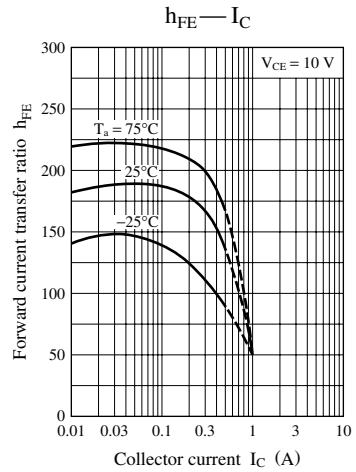
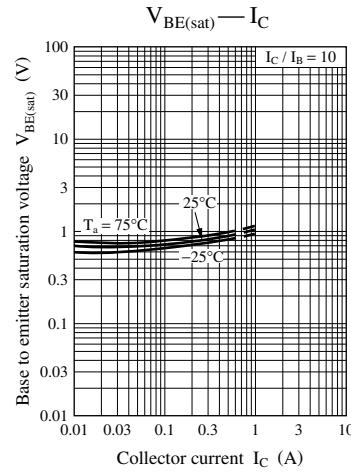
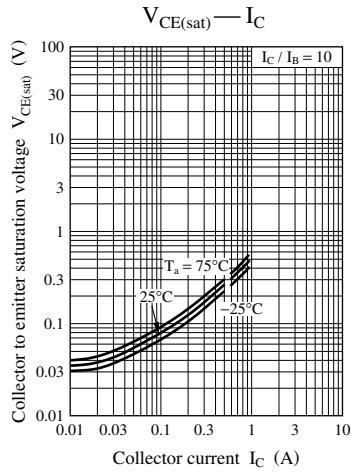
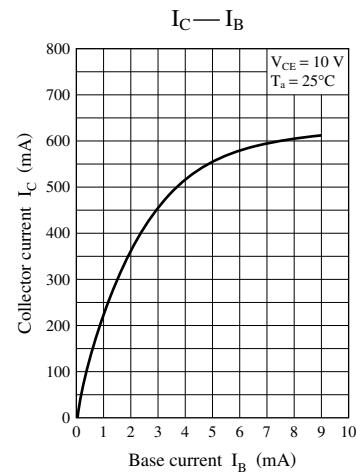
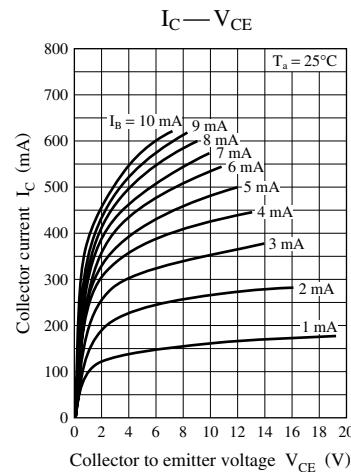
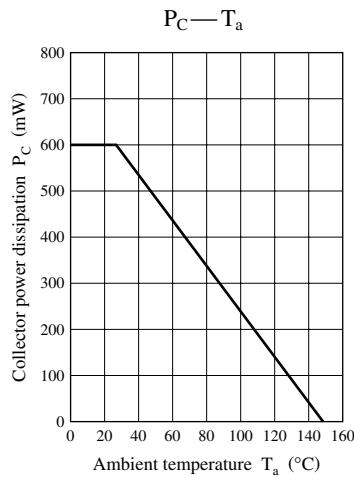
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|-------------------------|---|-----|------|-----|------|
| Collector cutoff current | I_{CBO} | $V_{CB} = 20\text{ V}$, $I_E = 0$ | | | 0.1 | µA |
| | I_{CEO} | $V_{CE} = 20\text{ V}$, $I_B = 0$ | | | 1 | µA |
| Collector to base voltage | V_{CBO} | $I_C = 10\text{ }\mu\text{A}$, $I_E = 0$ | 60 | | | V |
| Collector to emitter voltage | V_{CEO} | $I_C = 2\text{ mA}$, $I_B = 0$ | 50 | | | V |
| Emitter to base voltage | V_{EBO} | $I_E = 10\text{ }\mu\text{A}$, $I_C = 0$ | 7 | | | V |
| Forward current transfer ratio | h_{FE1} ^{*2} | $V_{CE} = 10\text{ V}$, $I_C = 10\text{ mA}$ | 85 | | 340 | |
| | h_{FE2} ^{*1} | $V_{CE} = 10\text{ V}$, $I_C = 500\text{ mA}$ | 40 | 90 | | |
| Collector to emitter saturation voltage ^{*1} | $V_{CE(sat)}$ | $I_C = 300\text{ mA}$, $I_B = 30\text{ mA}$ | | 0.35 | 0.6 | V |
| Transition frequency | f_T | $V_{CB} = 10\text{ V}$, $I_E = -10\text{ mA}$, $f = 200\text{ MHz}$ | 200 | | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$ | | 6 | 15 | pF |

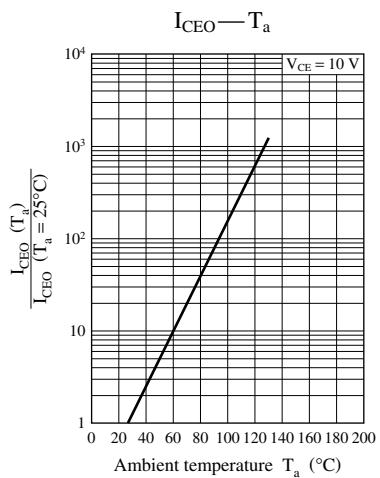
Note) *1: Pulse measurement

*2: Rank classification

| Rank | Q | R | S | No-rank |
|-----------|-----------|------------|------------|-----------|
| h_{FE1} | 85 to 170 | 120 to 240 | 170 to 340 | 85 to 340 |

Product of no-rank is not classified and have no indication for rank.





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