2SA1309A

Silicon PNP epitaxial planar type

For low-frequency amplification Complementary to 2SC3311A

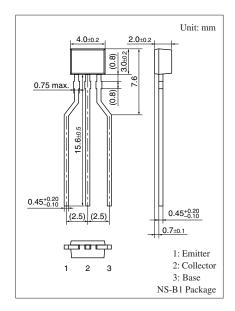
■ Features

Transistors

- High forward current transfer ratio h_{FE}
- Allowing supply with the radial taping
- Optimum for high-density mounting

■ Absolute Maximum Ratings $T_a = 25$ °C

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|------------------|-------------|------|
| Collector-base voltage (Emitter open) | V _{CBO} | -60 | V |
| Collector-emitter voltage (Base open) | V _{CEO} | -50 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | -7 | V |
| Collector current | I_C | -100 | mA |
| Peak collector current | I_{CP} | -200 | mA |
| Collector power dissipation | P _C | 300 | mW |
| Junction temperature | T_{j} | 150 | °C |
| Storage temperature | T _{stg} | -55 to +150 | °C |



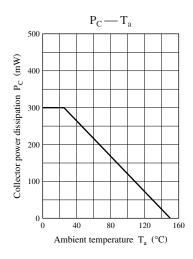
■ Electrical Characteristics $T_a = 25$ °C ± 3 °C

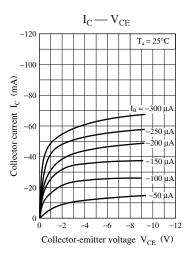
| Parameter | Symbol | Conditions | Min | Тур | Max | Unit |
|----------------------------------------------|----------------------|-------------------------------------------------------------------|-----|-----|-------|------|
| Collector-base voltage (Emitter open) | V _{CBO} | $I_C = -10 \mu A, I_E = 0$ | -60 | | | V |
| Collector-emitter voltage (Base open) | V _{CEO} | $I_C = -2 \text{ mA}, I_B = 0$ | -50 | | | V |
| Emitter-base voltage (Collector open) | V_{EBO} | $I_E = -10 \ \mu A, I_C = 0$ | -7 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = -10 \text{ V}, I_E = 0$ | | | -100 | nA |
| Collector-emitter cutoff current (Base open) | I_{CEO} | $V_{CE} = -10 \text{ V}, I_B = 0$ | | | -1 | μΑ |
| Forward current transfer ratio * | h_{FE} | $V_{CE} = -10 \text{ V}, I_{C} = -2 \text{ mA}$ | 160 | | 460 | _ |
| Collector-emitter saturation voltage | V _{CE(sat)} | $I_C = -50 \text{ mA}, I_B = -5 \text{ mA}$ | | | - 0.3 | V |
| Transition frequency | f_T | $V_{CB} = -10 \text{ V}, I_E = 1 \text{ mA}, f = 200 \text{ MHz}$ | | 80 | | MHz |
| Collector output capacitance | Cob | $V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ | | 3.5 | | pF |
| (Common base, input open circuited) | | | | | | |

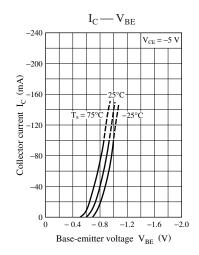
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

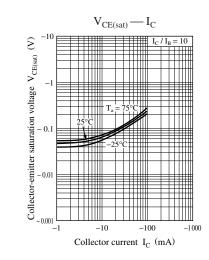
2. *: Rank classification

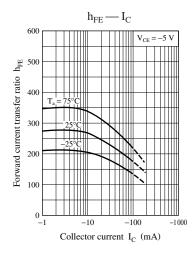
| Rank | Q | R | S | No rank |
|-------------------|------------|------------|------------|------------|
| h_{FE} | 160 to 260 | 210 to 340 | 290 to 460 | 160 to 460 |

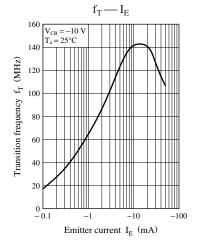


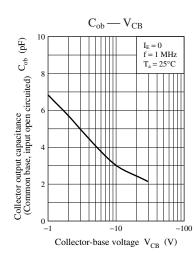












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