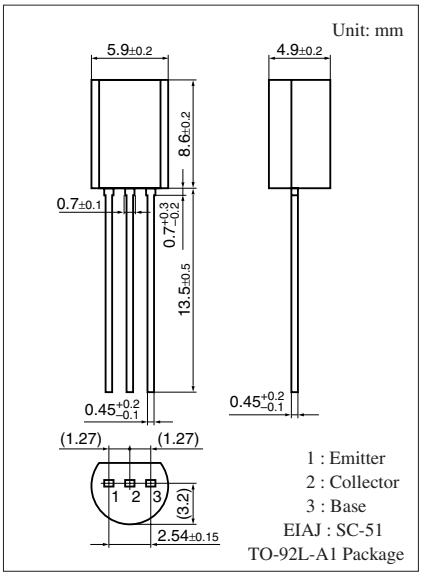
# 2SA1124

## Silicon PNP epitaxial planar type

For low-frequency high breakdown voltage amplification
Complementary to 2SC2632




### ■ Features

- Satisfactory forward current transfer ratio $h_{FE}$ collector current $I_C$ characteristics.
- High collector-emitter voltage (Base open) $V_{CEO}$
- Small collector output capacitance (Common base, input open circuited) $C_{ob}$
- Makes up a complementary pair with 2SC2632, which is optimum for the pre-driver stage of a 40 W to 60 W output amplifier.

### ■ Absolute Maximum Ratings $T_a = 25°C$

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-base voltage (Emitter open) | $V_{CBO}$ | −150 | V |
| Collector-emitter voltage (Base open) | $V_{CEO}$ | −150 | V |
| Emitter-base voltage (Collector open) | $V_{EBO}$ | −5 | V |
| Collector current | $I_C$ | −50 | mA |
| Peak collector current | $I_{CP}$ | −100 | mA |
| Collector power dissipation | $P_C$ | 1 | W |
| Junction temperature | $T_j$ | 150 | °C |
| Storage temperature | $T_{stg}$ | −55 to +150 | °C |

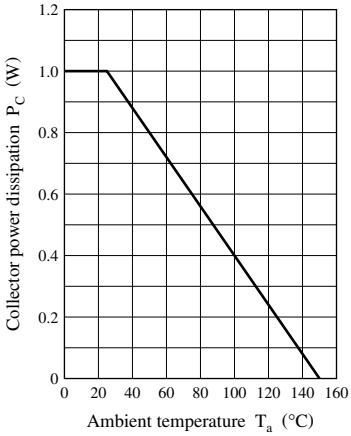
### ■ Electrical Characteristics $T_a = 25°C \pm 3°C$

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector-emitter voltage (Base open) | $V_{CEO}$ | $I_C = -0.1$ mA, $I_B = 0$ | −150 | | | V |
| Emitter-base voltage (Collector open) | $V_{EBO}$ | $I_E = -10$ µA, $I_C = 0$ | −5 | | | V |
| Collector-base cutoff current (Emitter open) | $I_{CBO}$ | $V_{CB} = -100$ V, $I_E = 0$ | | | −1 | µA |
| Forward current transfer ratio * | $h_{FE}$ | $V_{CE} = -5$ V, $I_C = -2$ mA | 130 | | 330 | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -30$ mA, $I_B = -3$ mA | | | −1 | V |
| Transition frequency | $f_T$ | $V_{CB} = -10$ V, $I_E = 10$ mA, f = 200 MHz | | 200 | | MHz |
| Collector output capacitance (Common base, input open circuited) | $C_{ob}$ | $V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz | | | 5 | pF |
| Noise voltage | NV | $V_{CE} = -10$ V, $I_C = -1$ mA, $G_V = 80$ dB $R_g = 100$ kΩ, Function = FLAT | | 150 | 300 | mV |

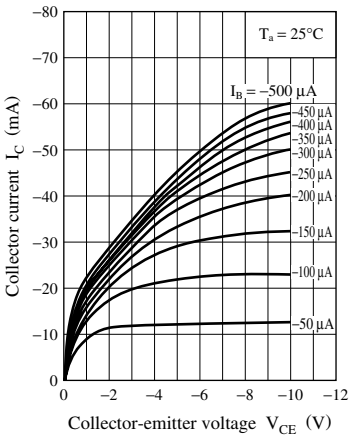
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

| Rank | R | S |
|---|---|---|
| $h_{FE}$ | 130 to 220 | 185 to 330 |

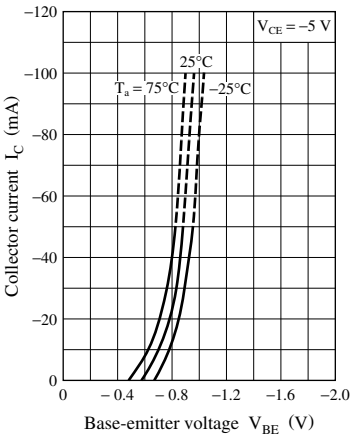
$P_C$ — $T_a$



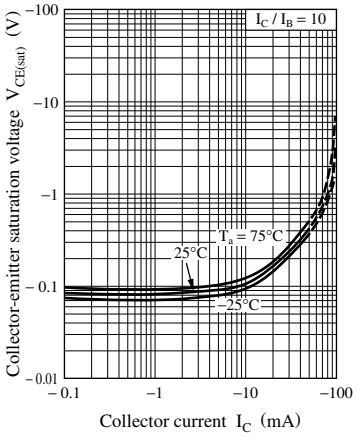

$I_C$ — $V_{CE}$



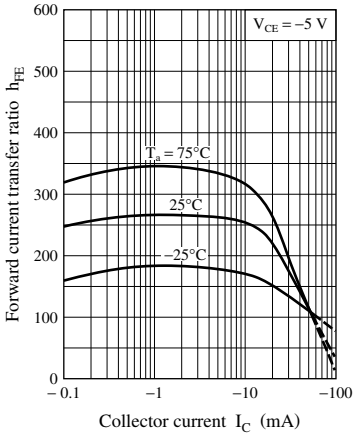

$I_C$ — $V_{BE}$



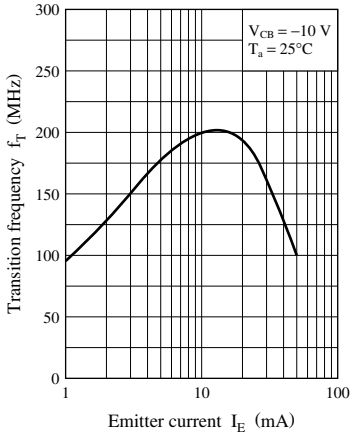

$V_{CE(sat)}$ — $I_C$



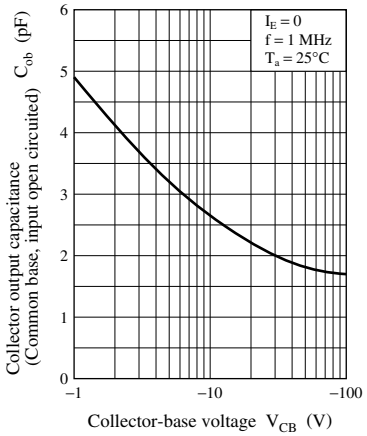

$h_{FE}$ — $I_C$




$f_T$ — $I_E$




$C_{ob}$ — $V_{CB}$



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