

# 2SB1036

## Silicon PNP epitaxial planer type

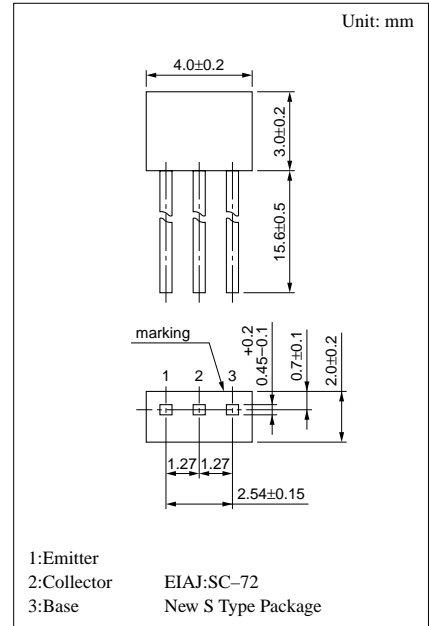
For low-frequency and low-noise amplification

### ■ Features

- Optimum for high-density mounting.
- Allowing supply with the radial taping.
- Low noise voltage NV.

### ■ Absolute Maximum Ratings (Ta=25°C)

| Parameter                    | Symbol    | Ratings    | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage    | $V_{CBO}$ | -120       | V    |
| Collector to emitter voltage | $V_{CEO}$ | -120       | V    |
| Emitter to base voltage      | $V_{EBO}$ | -5         | V    |
| Peak collector current       | $I_{CP}$  | -50        | mA   |
| Collector current            | $I_C$     | -20        | mA   |
| Collector power dissipation  | $P_C$     | 300        | mW   |
| Junction temperature         | $T_j$     | 150        | °C   |
| Storage temperature          | $T_{stg}$ | -55 ~ +150 | °C   |



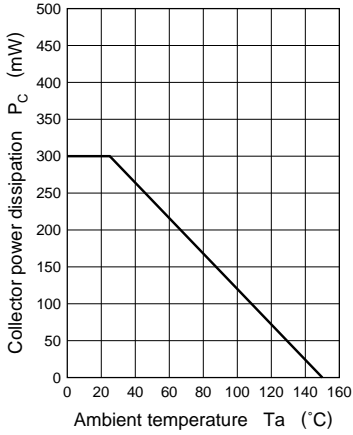
### ■ Electrical Characteristics (Ta=25°C)

| Parameter                               | Symbol        | Conditions   | min  | typ | max  | Unit |
|---|---------------|--|------|-----|------|------|
| Collector cutoff current                | $I_{CBO}$     | $V_{CB} = -50V, I_E = 0$   |      |     | -100 | nA   |
|   | $I_{CEO}$     | $V_{CE} = -50V, I_B = 0$   |      |     | -1   | μA   |
| Collector to base voltage               | $V_{CBO}$     | $I_C = -10\mu A, I_E = 0$  | -120 |     |      | V    |
| Collector to emitter voltage            | $V_{CEO}$     | $I_C = -1mA, I_B = 0$  | -120 |     |      | V    |
| Emitter to base voltage                 | $V_{EBO}$     | $I_E = -10\mu A, I_C = 0$  | -5   |     |      | V    |
| Forward current transfer ratio          | $h_{FE}^*$    | $V_{CE} = -5V, I_C = -2mA$   | 180  |     | 520  |      |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -20mA, I_B = -2mA$  |      |     | -0.6 | V    |
| Transition frequency                    | $f_T$         | $V_{CB} = -5V, I_E = 2mA, f = 200MHz$  |      | 200 |      | MHz  |
| Noise voltage                           | NV            | $V_{CE} = -40V, I_C = -1mA, G_v = 80dB, R_g = 100k\Omega, \text{Function} = \text{FLAT}$ |      |     | 150  | mV   |

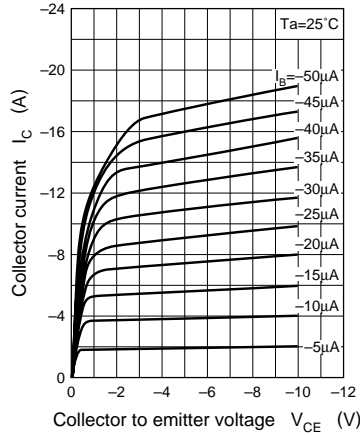
\* $h_{FE}$  Rank classification

| Rank     | R         | S         |
|----------|-----------|-----------|
| $h_{FE}$ | 180 ~ 360 | 260 ~ 520 |

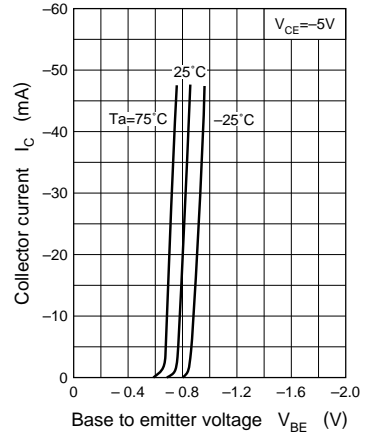
$P_C - T_a$



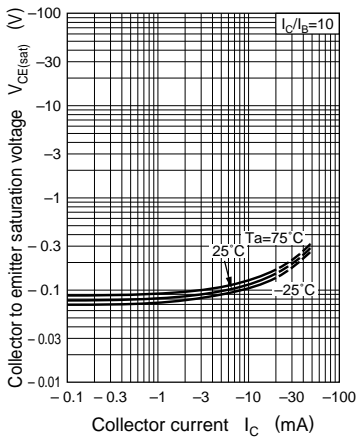
$I_C - V_{CE}$



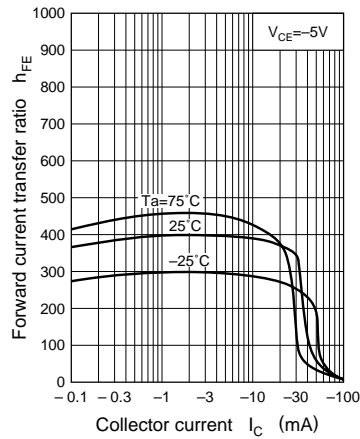
$I_C - V_{BE}$



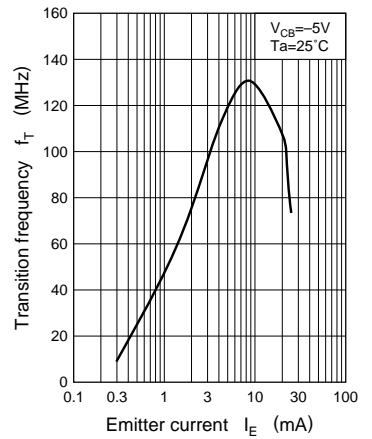
$V_{CE(sat)} - I_C$



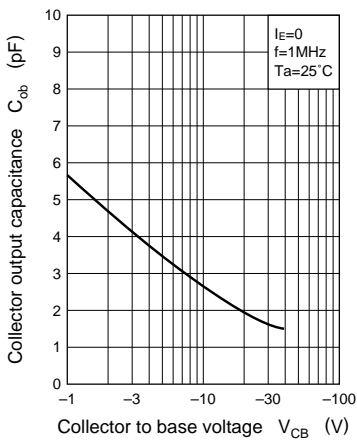
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



$NV - I_C$

