

# 2SB1218A

## Silicon PNP epitaxial planer type

For general amplification

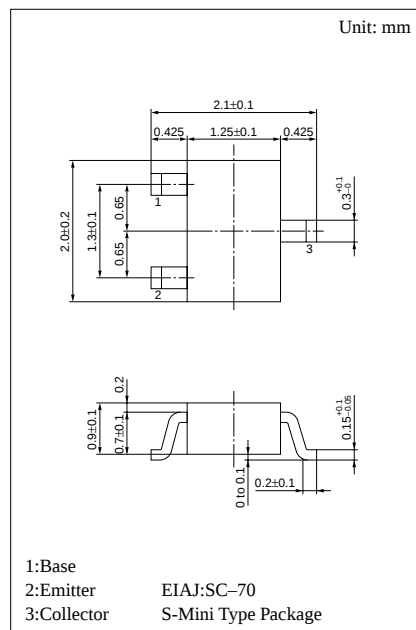
Complementary to 2SD1819A

### Features

- High forward current transfer ratio  $h_{FE}$ .
- S-Mini 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    | $V_{CBO}$ | -45        | V    |
| Collector to emitter voltage | $V_{CEO}$ | -45        | V    |
| Emitter to base voltage      | $V_{EBO}$ | -7         | V    |
| Peak collector current       | $I_{CP}$  | -200       | mA   |
| Collector current            | $I_C$     | -100       | mA   |
| Collector power dissipation  | $P_C$     | 150        | mW   |
| Junction temperature         | $T_j$     | 150        | °C   |
| Storage temperature          | $T_{stg}$ | -55 ~ +150 | °C   |



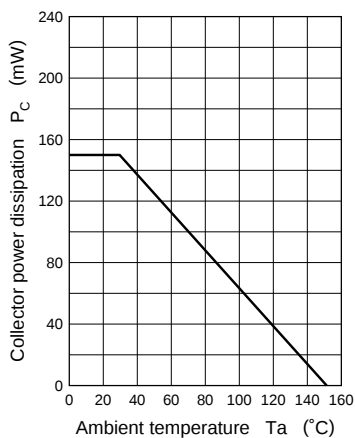
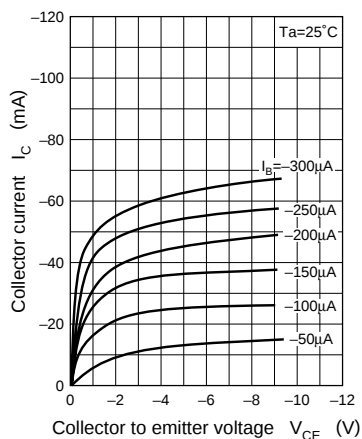
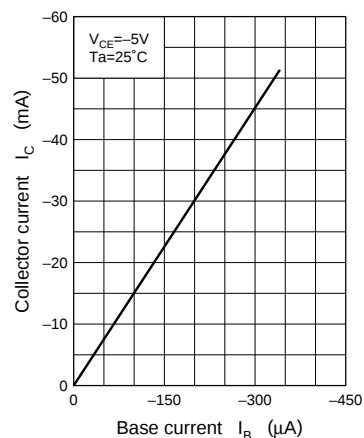
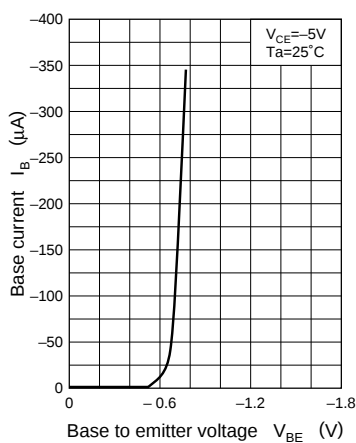
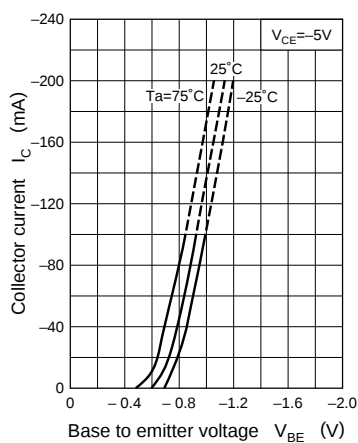
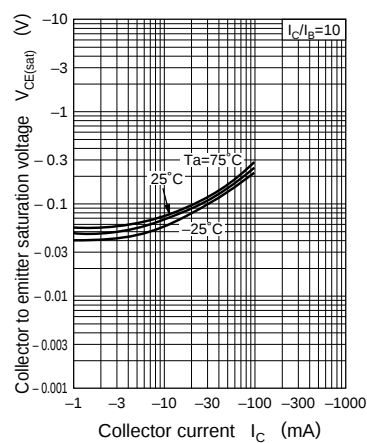
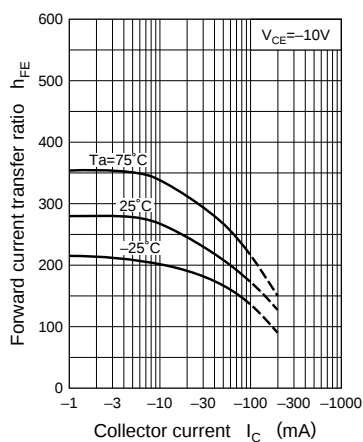
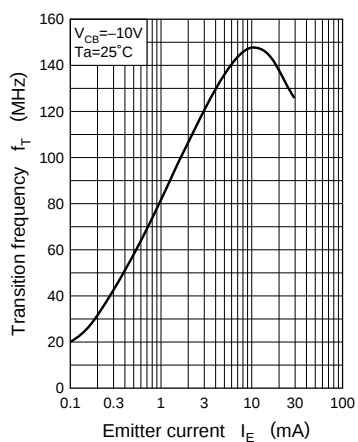
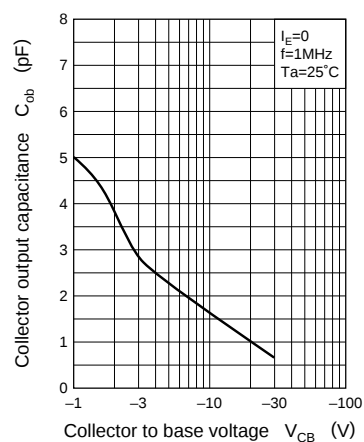
Marking symbol : B

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

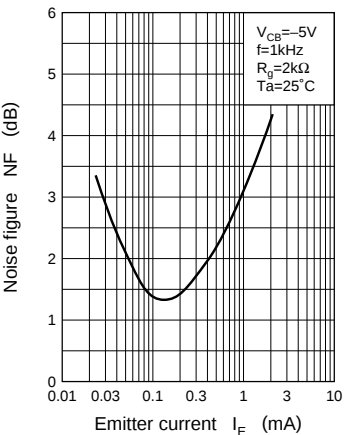
| Parameter                               | Symbol        | Conditions                             | min | typ  | max  | Unit |
|-----------------------------------------|---------------|----------------------------------------|-----|------|------|------|
| Collector cutoff current                | $I_{CBO}$     | $V_{CB} = -20V, I_E = 0$               |     |      | -0.1 | μA   |
|                                         | $I_{CEO}$     | $V_{CE} = -10V, I_B = 0$               |     |      | -100 | μA   |
| Collector to base voltage               | $V_{CBO}$     | $I_C = -10\mu A, I_E = 0$              | -45 |      |      | V    |
| Collector to emitter voltage            | $V_{CEO}$     | $I_C = -2mA, I_B = 0$                  | -45 |      |      | V    |
| Emitter to base voltage                 | $V_{EBO}$     | $I_E = -10\mu A, I_C = 0$              | -7  |      |      | V    |
| Forward current transfer ratio          | $h_{FE}^*$    | $V_{CE} = -10V, I_C = -2mA$            | 160 |      | 460  |      |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -100mA, I_B = -10mA$            |     | -0.3 | -0.5 | V    |
| Transition frequency                    | $f_T$         | $V_{CB} = -10V, I_E = 1mA, f = 200MHz$ |     | 80   |      | MHz  |
| Collector output capacitance            | $C_{ob}$      | $V_{CB} = -10V, I_E = 0, f = 1MHz$     |     | 2.7  |      | pF   |

\* $h_{FE}$  Rank classification

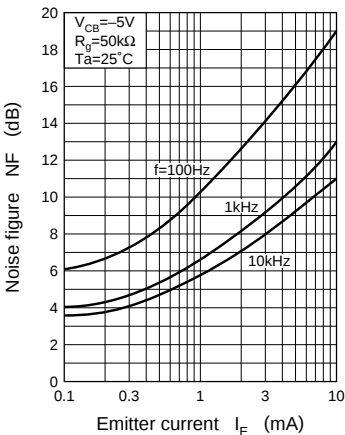
| Rank           | Q         | R         | S         |
|----------------|-----------|-----------|-----------|
| $h_{FE}$       | 160 ~ 260 | 210 ~ 340 | 290 ~ 460 |
| Marking Symbol | BQ        | BR        | BS        |

$P_C - T_a$  $I_C - V_{CE}$  $I_C - I_B$  $I_B - V_{BE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $C_{ob} - V_{CB}$ 

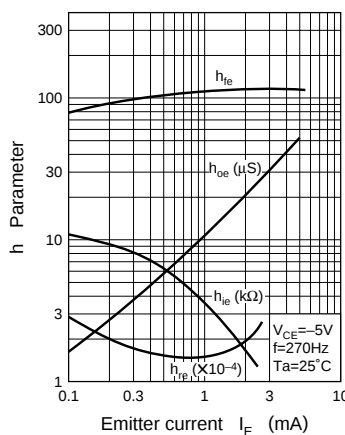
NF —  $I_E$



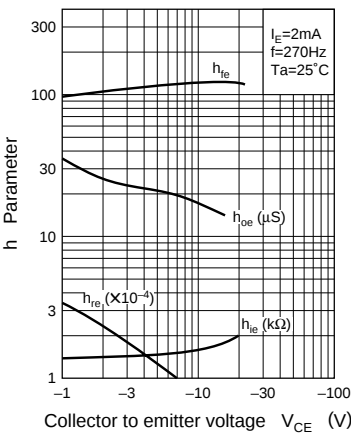
NF —  $I_E$



h Parameter —  $I_E$



h Parameter —  $V_{CE}$



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