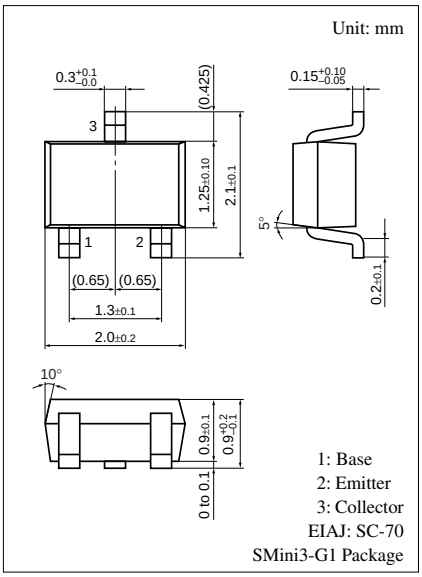
# 2SB1219, 2SB1219A

## Silicon PNP epitaxial planar type

For general amplification

Complementary to 2SD1820 and 2SD1820A




Marking symbol: C (2SB1219)
D (2SB1219A)

### ■ Features

- Large collector current $I_C$
- S-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing

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

| Parameter | | Symbol | Rating | Unit |
|---|---|---|---|---|
| Collector to base voltage | 2SB1219 | $V_{CBO}$ | −30 | V |
| | 2SB1219A | | −60 | |
| Collector to emitter voltage | 2SB1219 | $V_{CEO}$ | −25 | V |
| | 2SA1219A | | −50 | |
| Emitter to base voltage | | $V_{EBO}$ | −5 | V |
| Peak collector current | | $I_{CP}$ | −1 | A |
| Collector current | | $I_C$ | − 0.5 | A |
| Collector power dissipation | | $P_C$ | 150 | mW |
| Junction temperature | | $T_j$ | 150 | °C |
| Storage temperature | | $T_{stg}$ | −55 to +150 | °C |

### ■ Electrical Characteristics $T_a = 25°C$

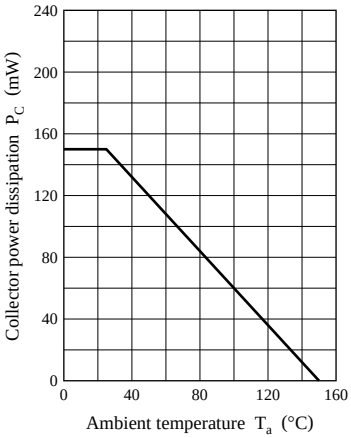
| Parameter | | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Collector cutoff current | | $I_{CBO}$ | $V_{CB} = -20$ V, $I_E = 0$ | | | − 0.1 | μA |
| Collector to base voltage | 2SB1219 | $V_{CBO}$ | $I_C = -10$ μA, $I_E = 0$ | −30 | | | V |
| | 2SB1219A | | | −60 | | | |
| Collector to emitter voltage | 2SB1219 | $V_{CEO}$ | $I_C = -2$ mA, $I_B = 0$ | −25 | | | V |
| | 2SA1219A | | | −50 | | | |
| Emitter to base voltage | | $V_{EBO}$ | $I_E = -10$ μA, $I_C = 0$ | −5 | | | V |
| Forward current transfer ratio *1 | | $h_{FE1}$ *2 | $V_{CE} = -10$ V, $I_C = -150$ mA | 85 | | 340 | |
| | | $h_{FE2}$ | $V_{CE} = -10$ V, $I_C = -500$ mA | 40 | | | |
| Collector to emitter saturation voltage *1 | | $V_{CE(sat)}$ | $I_C = -300$ mA, $I_B = -30$ mA | | − 0.35 | − 0.6 | V |
| Base to emitter saturation voltage *1 | | $V_{BE(sat)}$ | $I_C = -300$ mA, $I_B = -30$ mA | | −1.1 | −1.5 | V |
| Transition frequency | | $f_T$ | $V_{CB} = -10$ V, $I_E = 50$ mA, f = 200 MHz | | 200 | | MHz |
| Collector output capacitance | | $C_{ob}$ | $V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz | | 6 | 15 | pF |

Note) *1: Pulse measurement

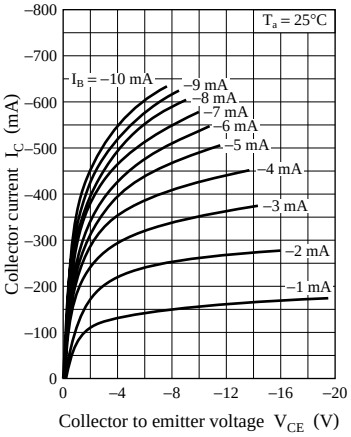
*2: $h_{FE}$ Rank classification

| Rank | | Q | R | S |
|---|---|---|---|---|
| $h_{FE1}$ | | 85 to 170 | 120 to 240 | 170 to 340 |
| Marking symbol | 2SB1219 | CQ | CR | CS |
| | 2SB1219A | DQ | DR | DS |

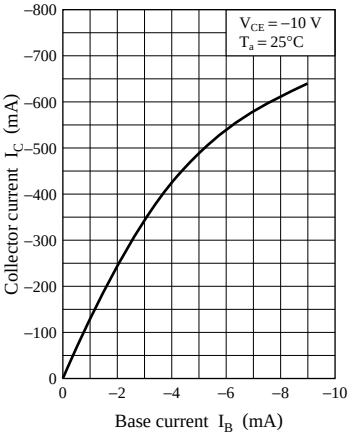
$P_C$ — $T_a$



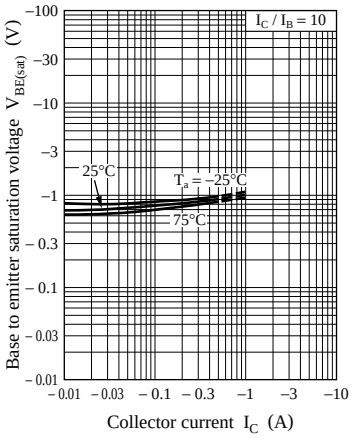

$I_C$ — $V_{CE}$



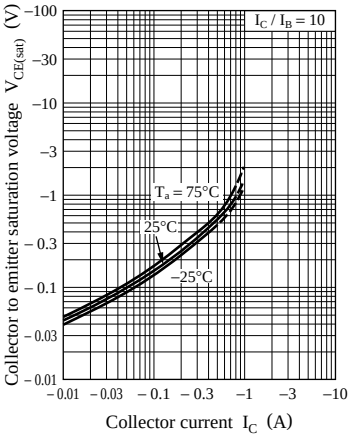

$I_C$ — $I_B$



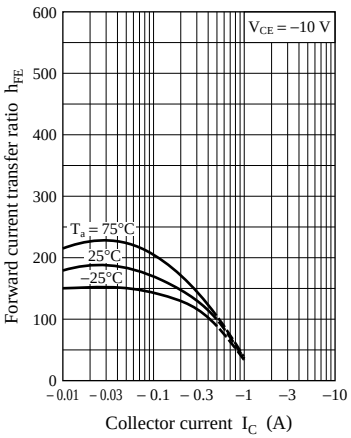

$V_{BE(sat)}$ — $I_C$



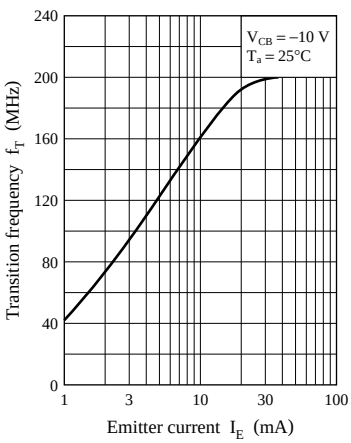

$V_{CE(sat)}$ — $I_C$



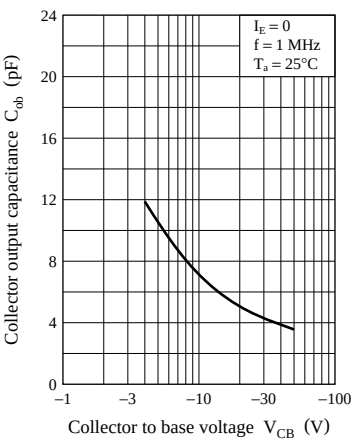

$h_{FE}$ — $I_C$



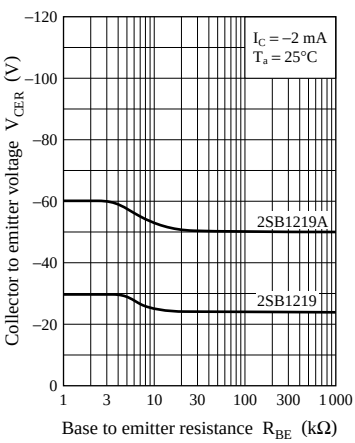

$f_T$ — $I_E$




$C_{ob}$ — $V_{CB}$




$V_{CER}$ — $R_{BE}$



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