

|  |          |                        |
|--|----------|------------------------|
| <b>SANYO</b>                                 | No.1785A | <b>2SB1119/2SD1619</b> |
| PNP/NPN Epitaxial Planar Silicon Transistors |          |                        |
| LF Amp, Electronic Governor Applications     |          |                        |

**Features**

. Very small size making it easy to provide high-density, small-sized hybrid IC's

( ): 2SB1119

**Absolute Maximum Ratings at Ta=25°C**

|                              |   |             |    |
|------------------------------|---|-------------|----|
| Collector to Base Voltage    | $V_{CBO}$   | (-)25       | V  |
| Collector to Emitter Voltage | $V_{CEO}$   | (-)25       | V  |
| Emitter to Base Voltage      | $V_{EBO}$   | (-)5        | V  |
| Collector Current            | $I_C$   | (-)1        | A  |
| Collector Current(Pulse)     | $I_{CP}$  | (-)2        | A  |
| Collector Dissipation        | $P_C$   | 500         | mW |
|                              | $P_C$ Mounted on ceramic board (250mm <sup>2</sup> x 0.8mm) | 1.3         | W  |
| Junction Temperature         | $T_j$   | 150         | °C |
| Storage Temperature          | $T_{stg}$   | -55 to +150 | °C |

**Electrical Characteristics at Ta=25°C**

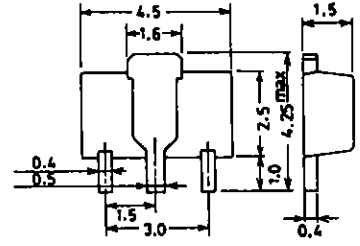
|                          |   | min     | typ     | max    | unit |
|--------------------------|---|---------|---------|--------|------|
| Collector Cutoff Current | $I_{CBO}$ $V_{CB}=(-)20V, I_E=0$          |         |         | (-)0.1 | µA   |
| Emitter Cutoff Current   | $I_{EBO}$ $V_{EB}=(-)4V, I_C=0$           |         |         | (-)0.1 | µA   |
| DC Current Gain          | $h_{FE(1)}$ $V_{CE}=(-)2V, I_C=(-)50mA$   | 100*    |         | 560*   |      |
|                          | $h_{FE(2)}$ $V_{CE}=(-)2V, I_C=(-)1A$     | 40      |         |        |      |
| Gain-Bandwidth Product   | $f_T$ $V_{CE}=(-)10V, I_C=(-)50mA$        |         | 180     |        | MHz  |
| C-E Saturation Voltage   | $V_{CE(sat)}$ $I_C=(-)500mA, I_B=(-)50mA$ |         | 0.1     | 0.3    | V    |
|                          |   |         | (-0.15) | (-0.7) | V    |
| B-E Saturation Voltage   | $V_{BE(sat)}$ $I_C=(-)500mA, I_B=(-)50mA$ | (-)0.85 | (-)1.2  |        | V    |
| C-B Breakdown Voltage    | $V_{(BR)CBO}$ $I_C=(-)10µA, I_E=0$        | (-)25   |         |        | V    |
| C-E Breakdown Voltage    | $V_{(BR)CEO}$ $I_C=(-)1mA, R_{BE}=∞$      | (-)25   |         |        | V    |
| E-B Breakdown Voltage    | $V_{(BR)EBO}$ $I_E=(-)10µA, I_C=0$        | (-)5    |         |        | V    |
| Output Capacitance       | $c_{ob}$ $V_{CB}=(-)10V, f=1MHz$          |         | 15      |        | pF   |
|                          |   |         | (25)    |        | pF   |

\*:The 2SB1119/2SD1619 are classified by 50mA  $h_{FE}$  as follows:

|     |   |     |     |   |     |     |   |     |     |   |     |
|-----|---|-----|-----|---|-----|-----|---|-----|-----|---|-----|
| 100 | R | 200 | 140 | S | 280 | 200 | T | 400 | 280 | U | 560 |
|-----|---|-----|-----|---|-----|-----|---|-----|-----|---|-----|

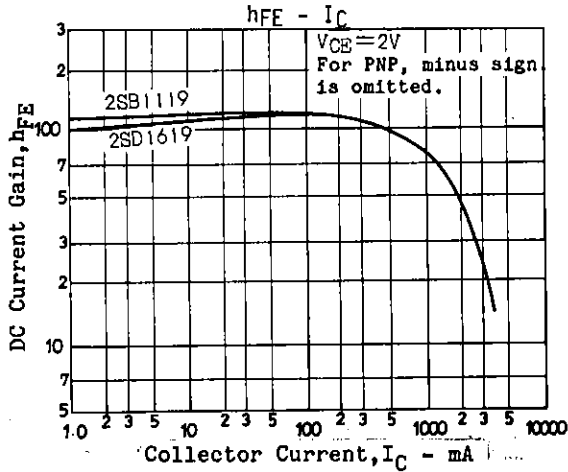
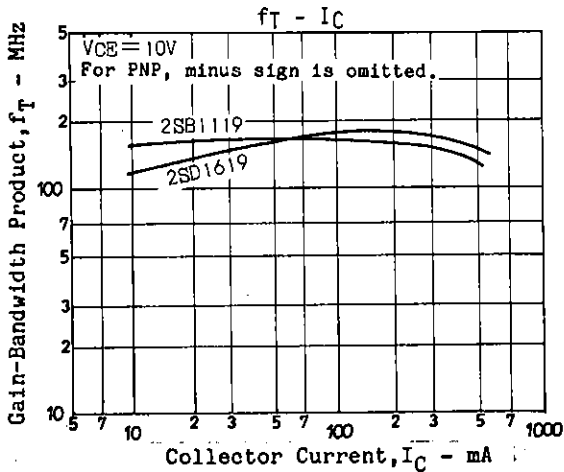
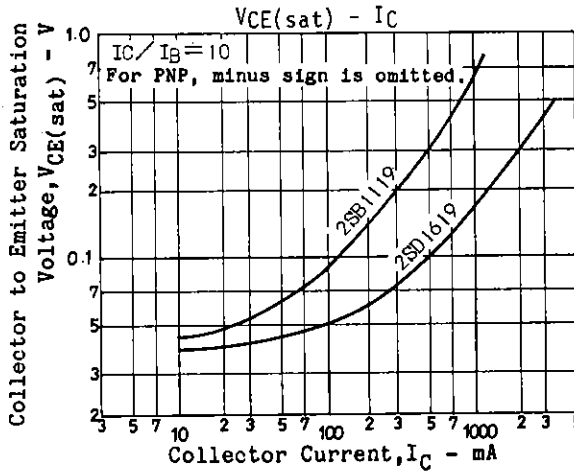
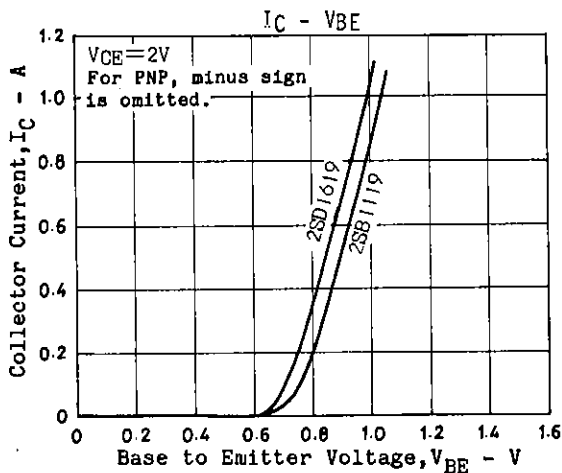
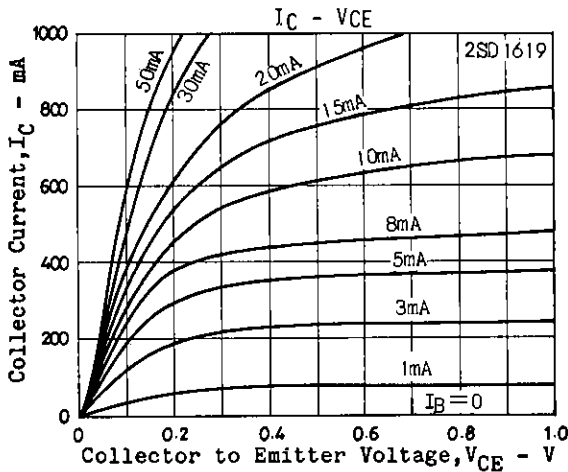
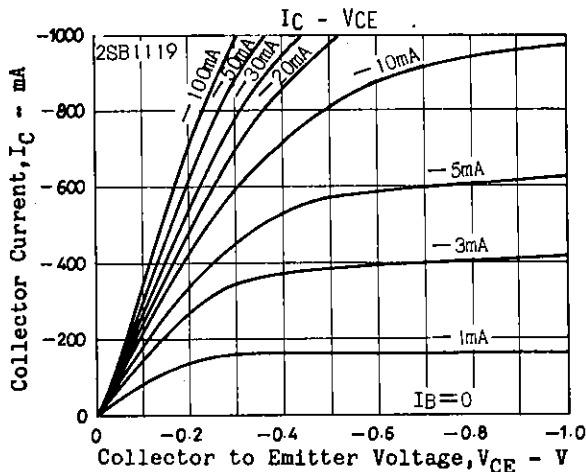
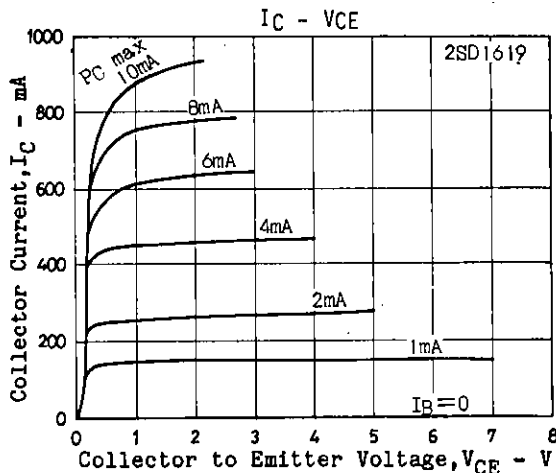
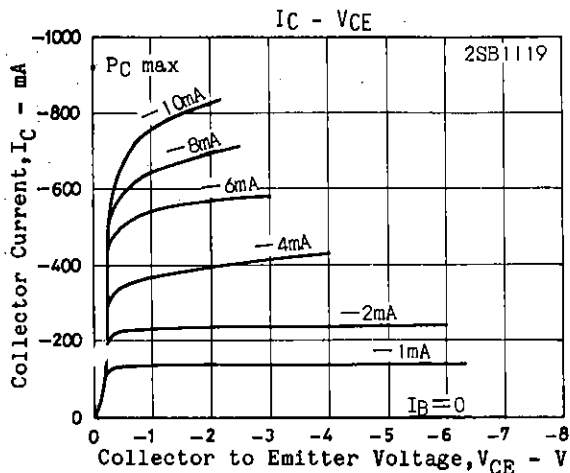
Marking 2SB1119:BB  
 2SD1619:DB  
 $h_{FE}$  rank :R,S,T,U

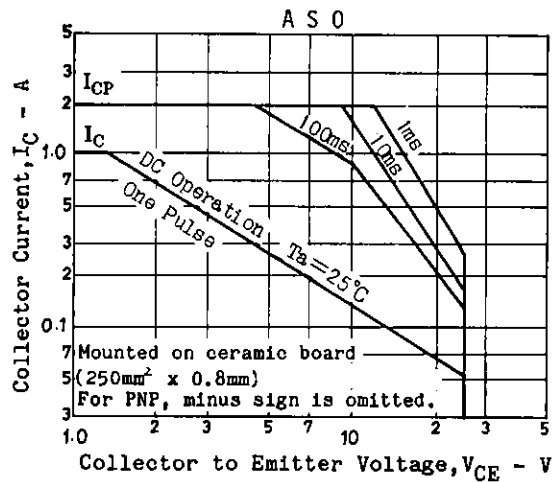
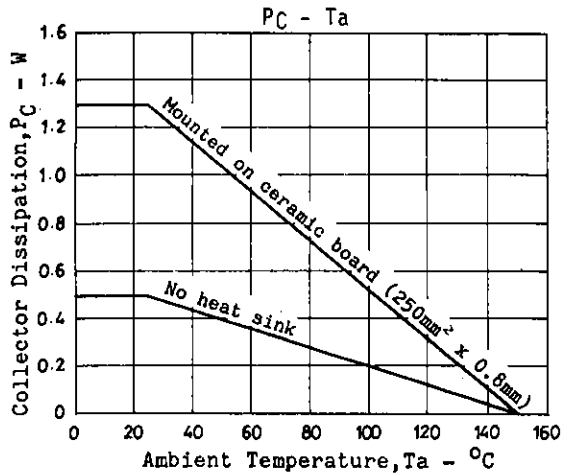
**Package Dimensions 2038**  
(unit:mm)



E: Emitter  
 C: Collector  
 B: Base  
 SANYO: PCP  
 (Bottom View)

2SB1119/2SD1619





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