

RoHS Compliant Product

FEATURES

Power dissipation

$P_{CM} : 500mW (T_{amb}=25^{\circ}C)$

Collector current

$I_{CM} : -1 A$

Collector-base voltage

$V_{B(BR)CBO} : -25 V$

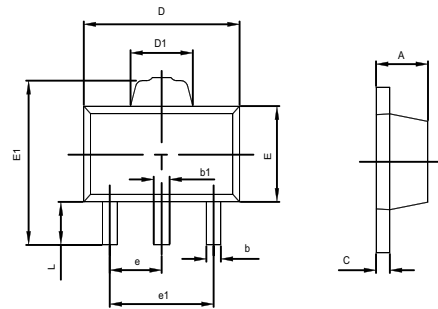
Operating and storage junction temperature range

$T_J, T_{stg} : -55^{\circ}C \text{ to } +150^{\circ}C$

SOT-89



- 1.BASE
- 2.COLLECTOR
- 3.EMITTER



| Symbol | Dimensions in Millimeters | | Dimensions in Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 1.400 | 1.600 | 0.055 | 0.063 |
| b | 0.320 | 0.520 | 0.013 | 0.020 |
| b1 | 0.360 | 0.560 | 0.014 | 0.022 |
| c | 0.350 | 0.440 | 0.014 | 0.017 |
| D | 4.400 | 4.600 | 0.173 | 0.181 |
| D1 | 1.400 | 1.800 | 0.055 | 0.071 |
| E | 2.300 | 2.600 | 0.091 | 0.102 |
| E1 | 3.940 | 4.250 | 0.155 | 0.167 |
| e | 1.500TYP | | 0.060TYP | |
| e1 | 2.900 | 3.100 | 0.114 | 0.122 |
| L | 0.900 | 1.100 | 0.035 | 0.043 |

ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified) CLASSIFICATION OF hFE(1)

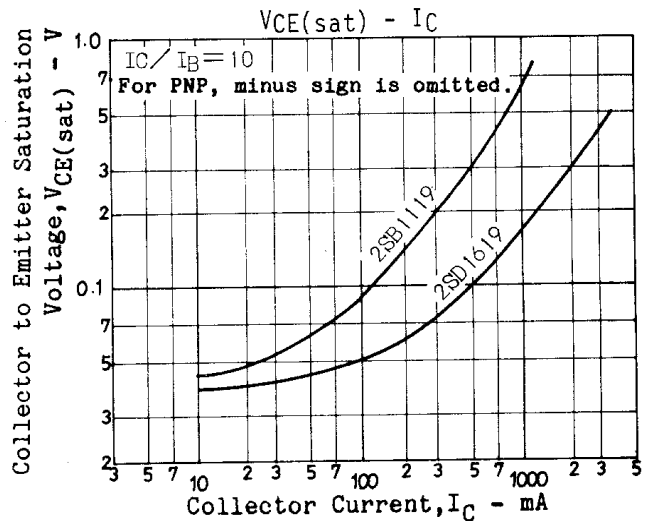
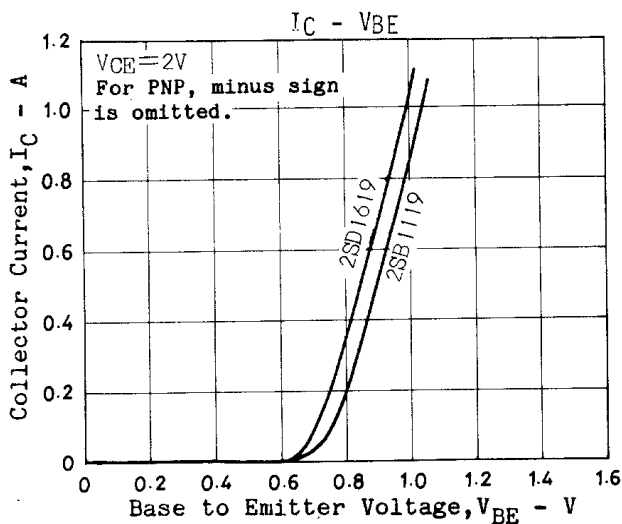
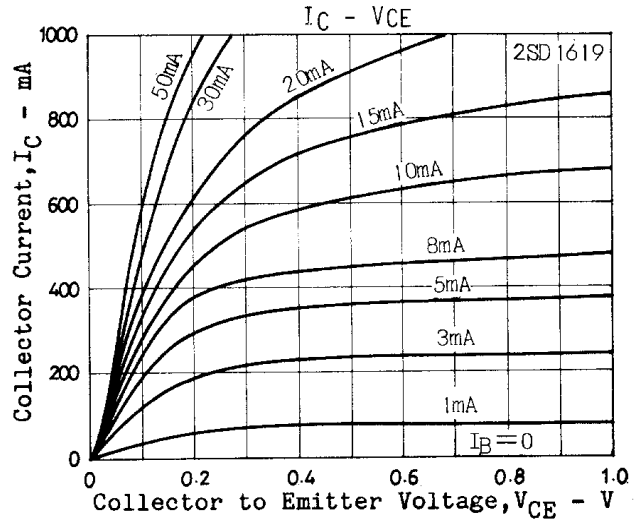
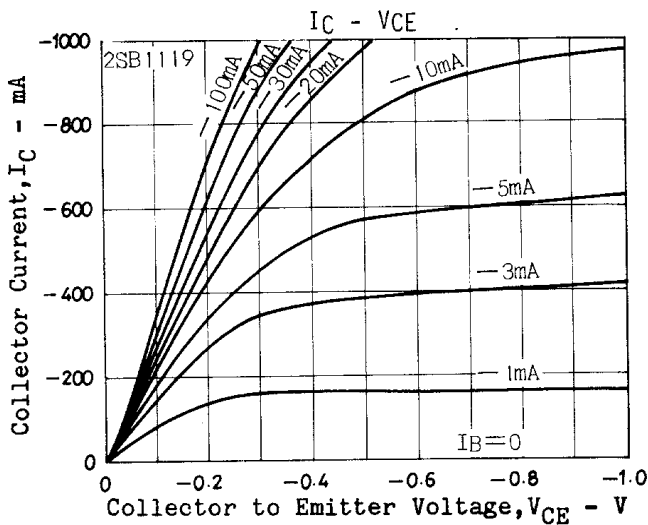
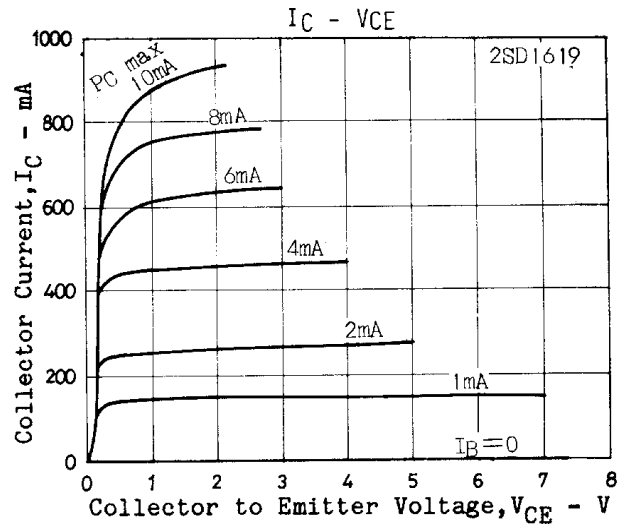
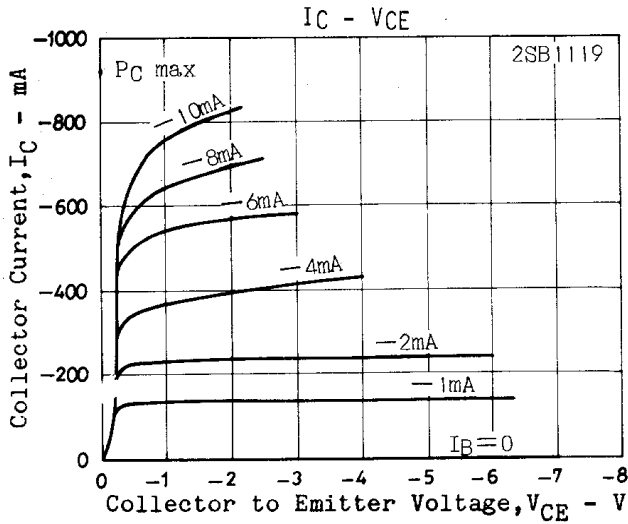
| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|------------------------------|-----|-----|------|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -10 \mu A, I_E = 0$ | -25 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -1 mA, I_B = 0$ | -25 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = -10 \mu A, I_C = 0$ | -5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -20 V, I_E = 0$ | | | -0.1 | μA |
| Collector cut-off current | I_{CEO} | $V_{CE} = -20 V, I_B = 0$ | | | -0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -4 V, I_C = 0$ | | | -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 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -0.5A, I_B = -50mA$ | | | -0.7 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -0.5A, I_B = -50mA$ | | | -1.2 | V |
| Transition frequency | f_T | $V_{CE} = -10V, I_C = -50mA$ | | 180 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -10V, f = 1MHz$ | | 25 | | pF |

Marking 2SB1119 : BB
2SD1619 : DB

CLASSIFICATION OF hFE(1)

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

Electrical characteristic curves



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