

DSC5001

Silicon NPN epitaxial planar type

For general amplification
Complementary to DSA5001
DSC2001 in SMini3 type package

■ Features

- High forward current transfer ratio h_{FE} with excellent linearity
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Halogen-free / RoHS compliant
(EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

■ Marking Symbol: C1

■ Packaging

DSC5001×0L Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 60 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 50 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | 7 | V |
| Collector current | I_C | 100 | mA |
| Peak collector current | I_{CP} | 200 | mA |
| Collector power dissipation | P_C | 150 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Operating ambient temperature | T_{opr} | -40 to +85 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

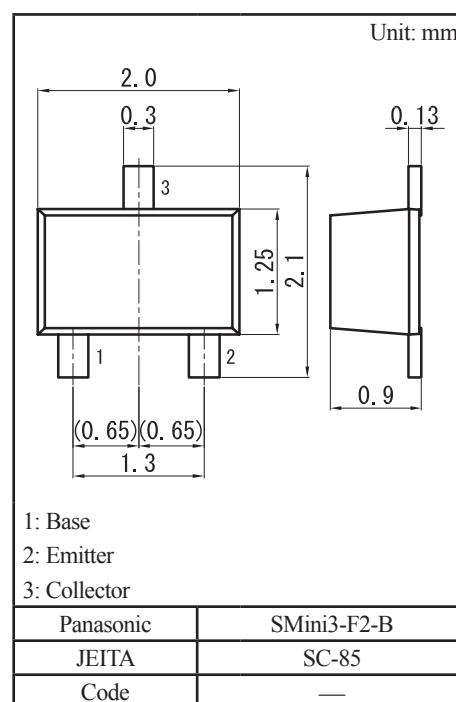
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---------------|---|-----|------|-----|---------------|
| Collector-base voltage (Emitter open) | V_{CBO} | $I_C = 10 \mu\text{A}, I_E = 0$ | 60 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 2 \text{ mA}, I_B = 0$ | 50 | | | V |
| Emitter-base voltage (Collector open) | V_{EBO} | $I_E = 10 \mu\text{A}, I_C = 0$ | 7 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = 20 \text{ V}, I_E = 0$ | | | 0.1 | μA |
| Collector-emitter cutoff current (Base open) | I_{CEO} | $V_{CE} = 10 \text{ V}, I_B = 0$ | | | 100 | μA |
| Forward current transfer ratio *1 | h_{FE} | $V_{CE} = 10 \text{ V}, I_C = 2 \text{ mA}$ | 210 | | 460 | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$ | | 0.13 | 0.3 | V |
| Transition frequency | f_T | $V_{CE} = 10 \text{ V}, I_C = 2 \text{ mA}$ | | 150 | | MHz |
| Collector output capacitance (Common base, input open circuited) | C_{ob} | $V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ | | 1.5 | | pF |

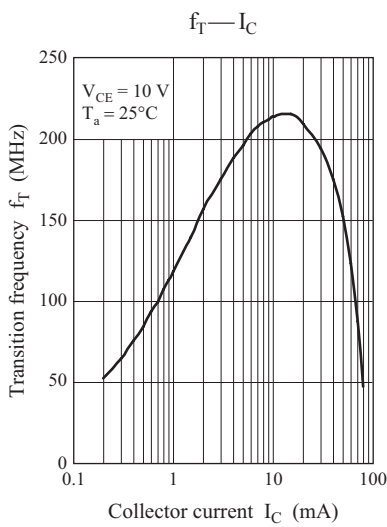
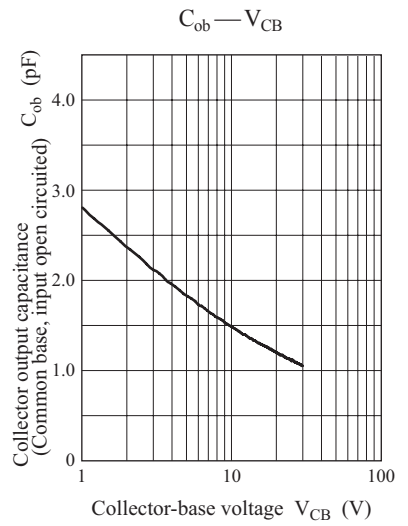
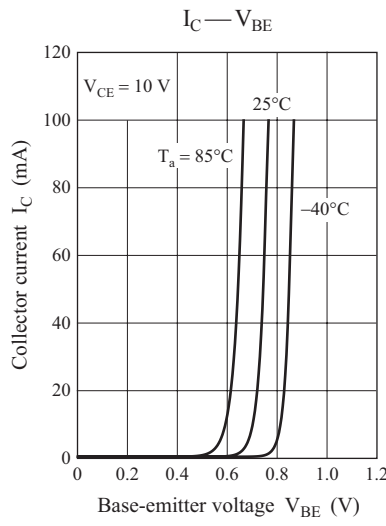
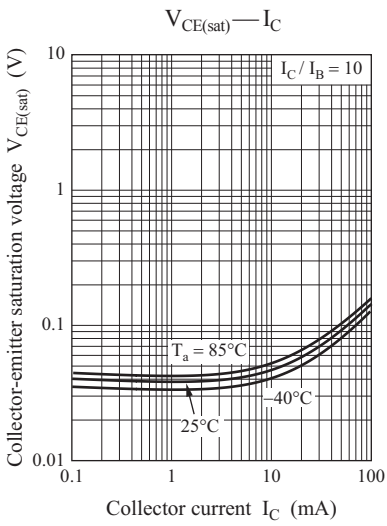
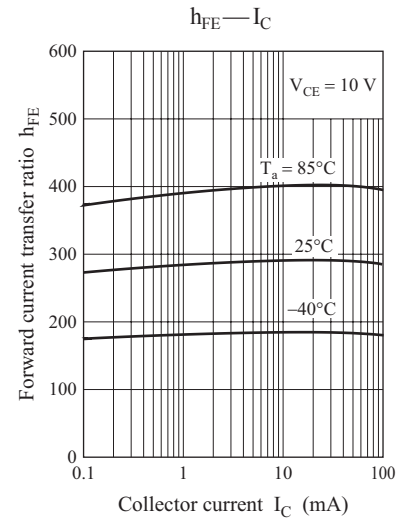
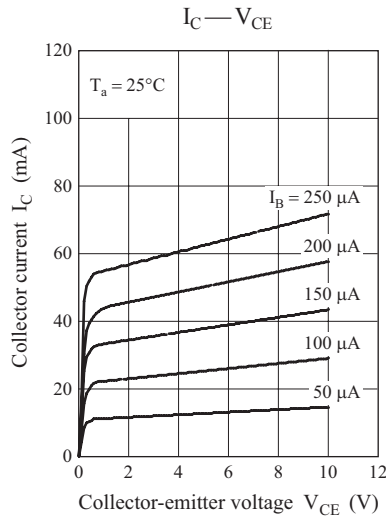
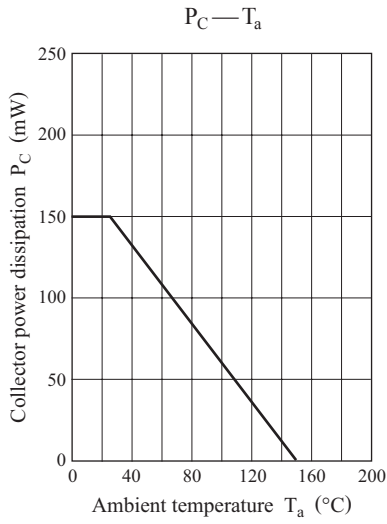
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *1: Rank classification

| Code | R | S | 0 |
|----------------|------------|------------|------------|
| Rank | R | S | No-rank |
| h_{FE} | 210 to 340 | 290 to 460 | 210 to 460 |
| Marking Symbol | C1R | C1S | C1 |

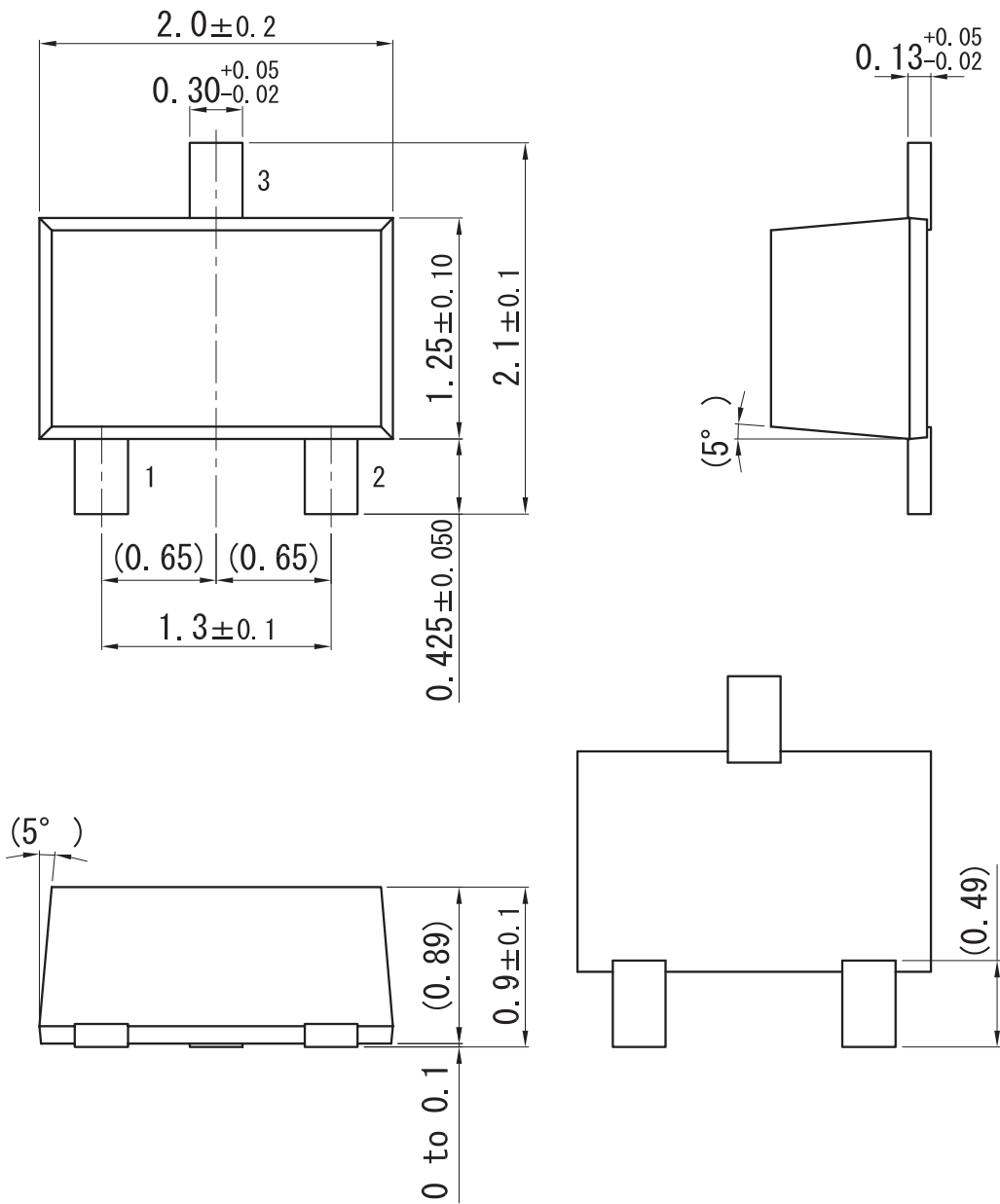
Product of no-rank is not classified and have no marking symbol for rank.



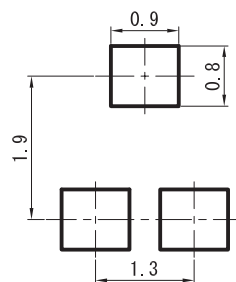


SMini3-F2-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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