

# DSA9001

## Silicon PNP epitaxial planar type

For general amplification  
Complementary to DSC9001  
DSA5001 in SSMini3 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: A1

### ■ Packaging

DSA9001×0L 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           | $P_C$     | 125         | 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 $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

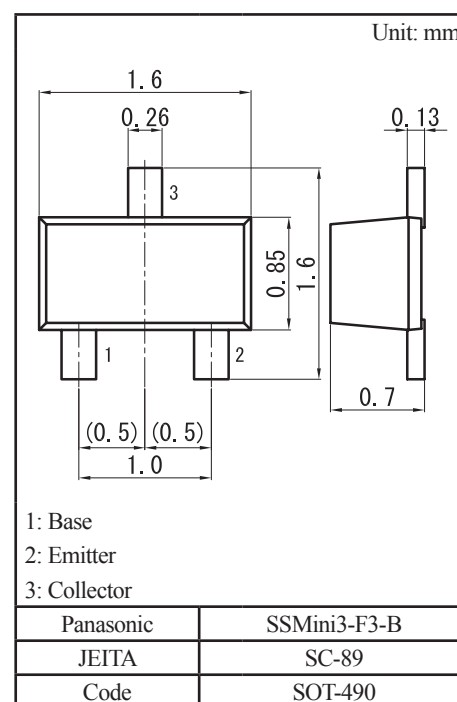
| Parameter                                                           | Symbol        | Conditions                                                 | Min | Typ  | Max  | Unit          |
|---------------------------------------------------------------------|---------------|------------------------------------------------------------|-----|------|------|---------------|
| 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 | $\mu\text{A}$ |
| Collector-emitter cutoff current (Base open)                        | $I_{CEO}$     | $V_{CE} = -10\ \text{V}$ , $I_B = 0$                       |     |      | -100 | $\mu\text{A}$ |
| Forward current transfer ratio *1                                   | $h_{FE}$      | $V_{CE} = -10\ \text{V}$ , $I_C = -2\ \text{mA}$           | 210 |      | 460  | —             |
| Collector-emitter saturation voltage                                | $V_{CE(sat)}$ | $I_C = -100\ \text{mA}$ , $I_B = -10\ \text{mA}$           |     | -0.2 | -0.5 | V             |
| Transition frequency                                                | $f_T$         | $V_{CE} = -10\ \text{V}$ , $I_C = -2\ \text{mA}$           |     | 150  |      | MHz           |
| Collector output capacitance<br>(Common base, input open circuited) | $C_{ob}$      | $V_{CB} = -10\ \text{V}$ , $I_E = 0$ , $f = 1\ \text{MHz}$ |     | 2    |      | pF            |

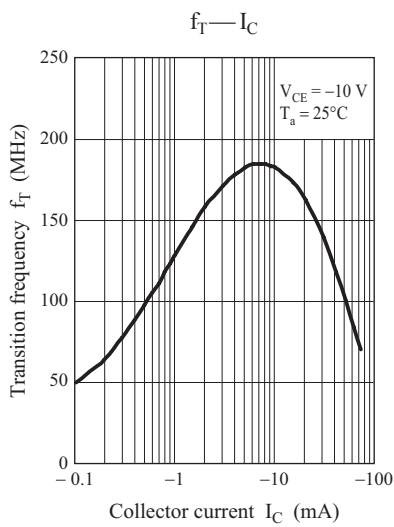
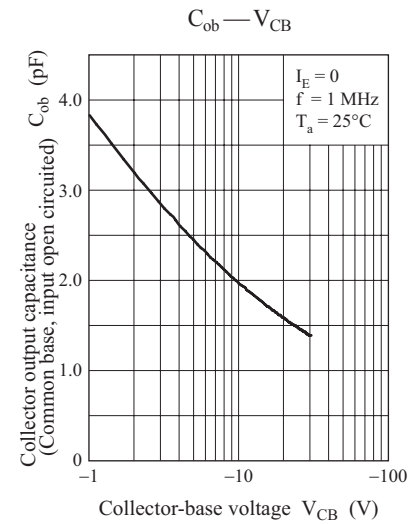
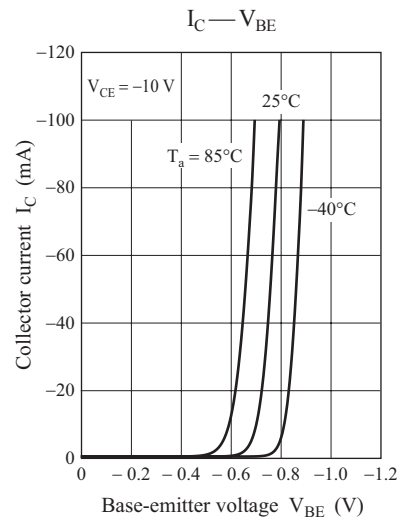
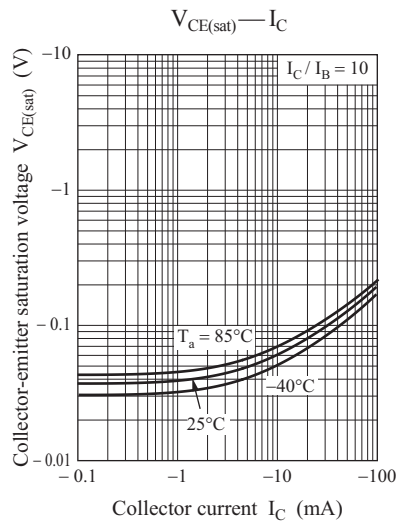
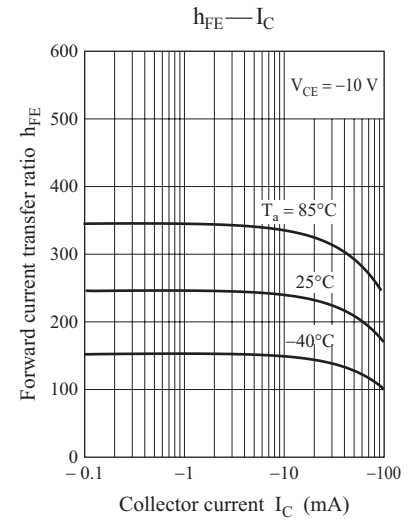
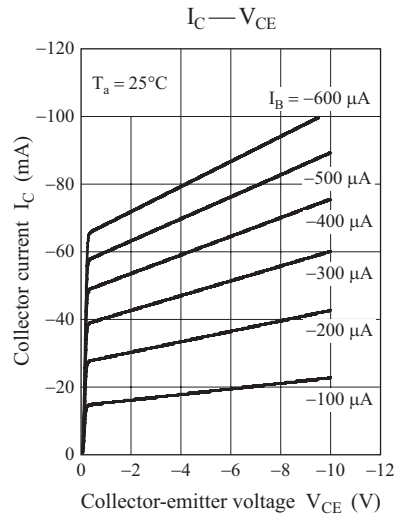
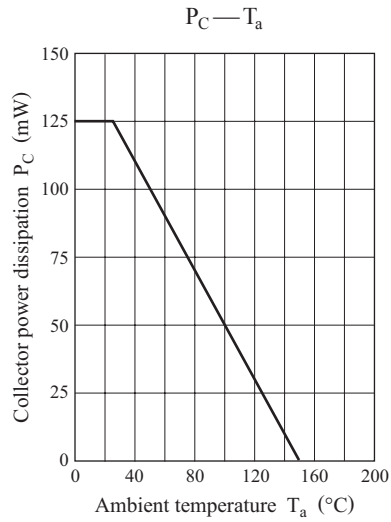
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

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 | A1R        | A1S        | A1         |

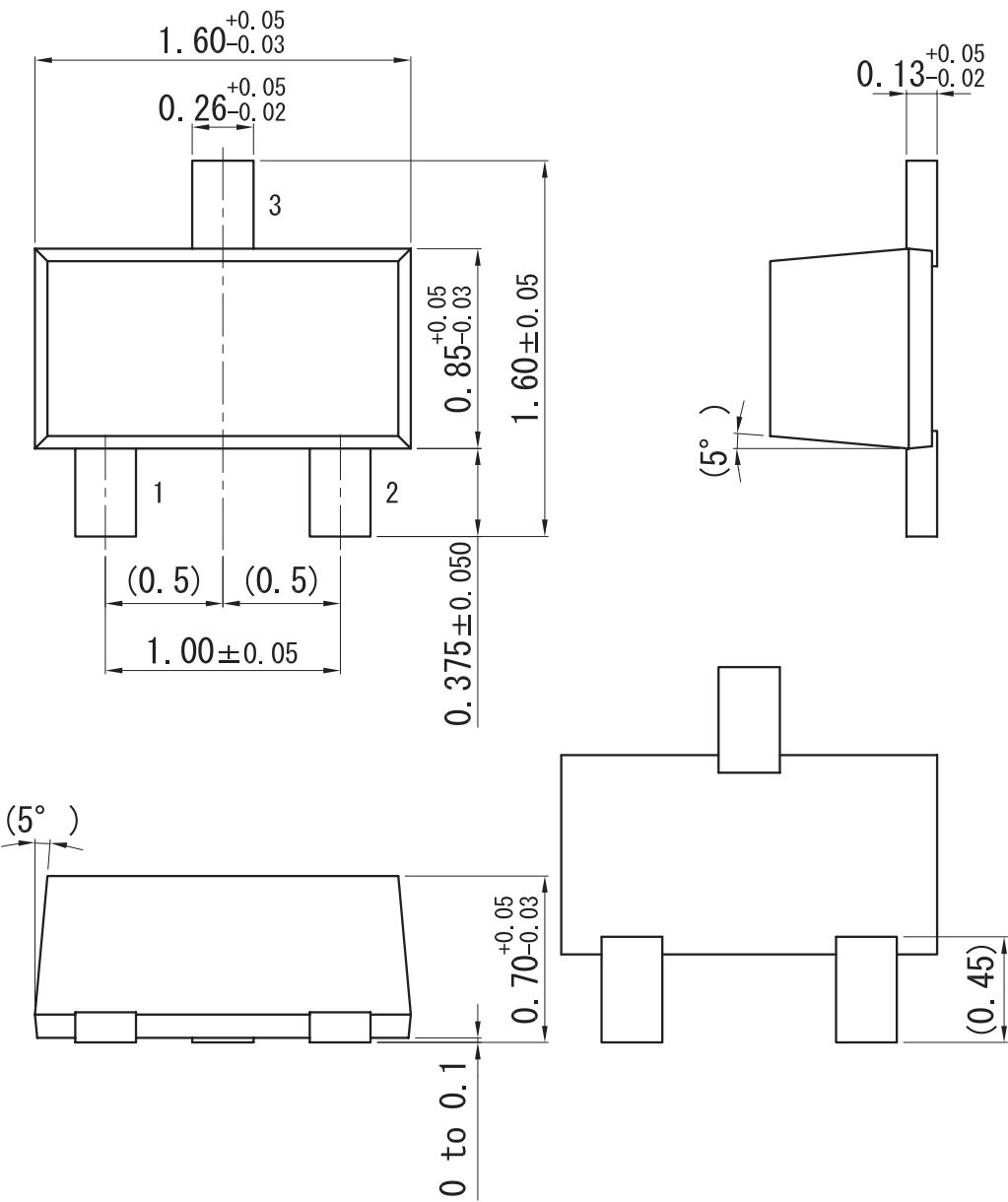
Product of no-rank is not classified and have no marking symbol for rank.



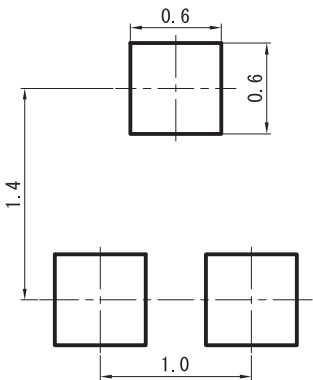


SSMini3-F3-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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