

DSA7504

Silicon PNP epitaxial planar type

For low frequency amplification

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Halogen-free / RoHS compliant
(EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

■ Marking Symbol: 4F

■ Packaging

DSA7504×0L Embossed type (Thermo-compression sealing): 1 000 pcs / reel (standard)

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

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | -30 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | -20 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | -7 | V |
| Collector current | I_C | -4 | A |
| Peak collector current | I_{CP} | -7 | A |
| Collector power dissipation *1 | P_C | 1 | W |
| 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 | $^\circ\text{C}$ |

Note) *1: Printed circuit board: Copper foil area of 1 cm² or more, and the board thickness of 1.7 mm for the collector portion

Absolute maximum rating without heat sink for P_C is 0.5 W

■ 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} | $I_C = -10 \mu\text{A}$, $I_E = 0$ | -30 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = -1 \text{ mA}$, $I_B = 0$ | -20 | | | 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} | $V_{CB} = -30 \text{ V}$, $I_E = 0$ | | | -0.1 | μA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = -7 \text{ V}$, $I_C = 0$ | | | -0.1 | |
| Forward current transfer ratio *1, 2 | h_{FE} | $V_{CE} = -2 \text{ V}$, $I_C = -2 \text{ A}$ | 120 | | 315 | — |
| Collector-emitter saturation voltage *1 | $V_{CE(sat)}$ | $I_C = -3 \text{ A}$, $I_B = -0.1 \text{ A}$ | | -0.7 | -1.0 | V |
| Transition frequency | f_T | $V_{CE} = -6 \text{ V}$, $I_C = -50 \text{ mA}$ | | 180 | | MHz |
| Collector output capacitance (Common base, input open circuited) | C_{ob} | $V_{CB} = -20 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$ | | 30 | | pF |

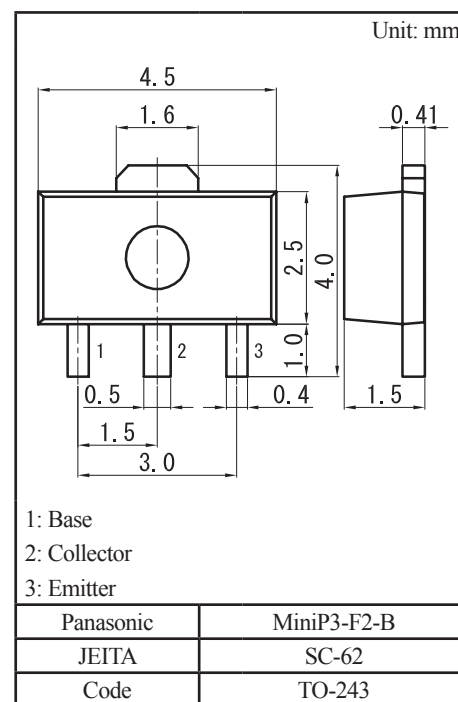
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

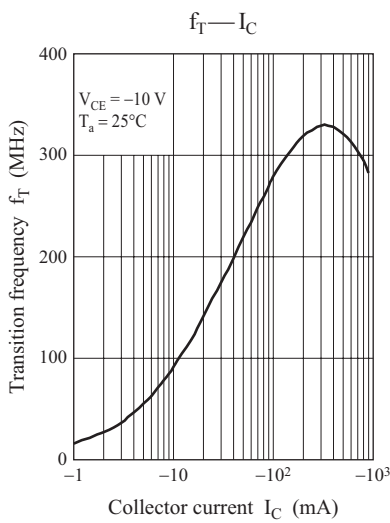
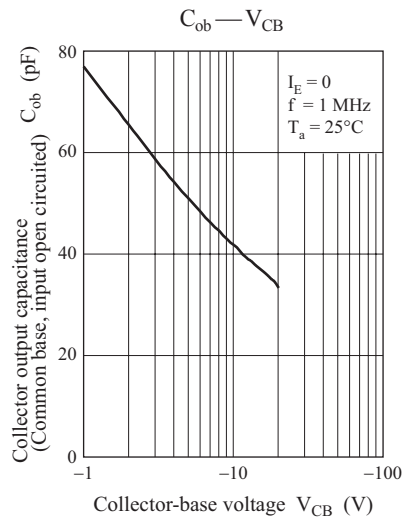
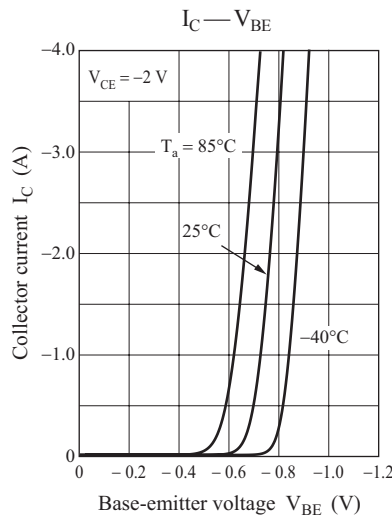
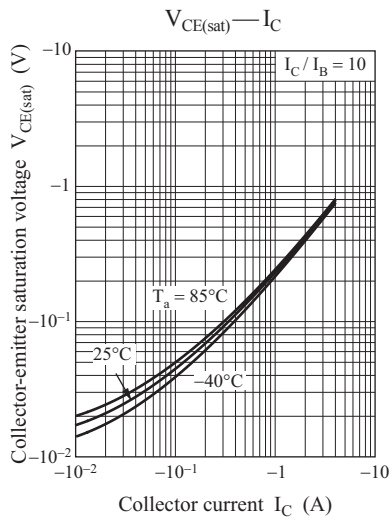
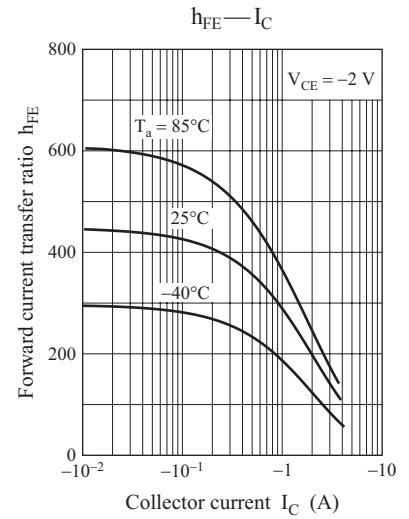
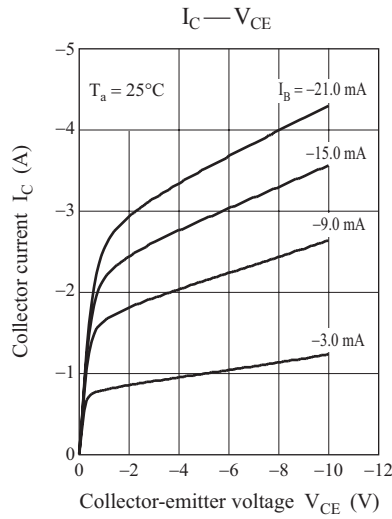
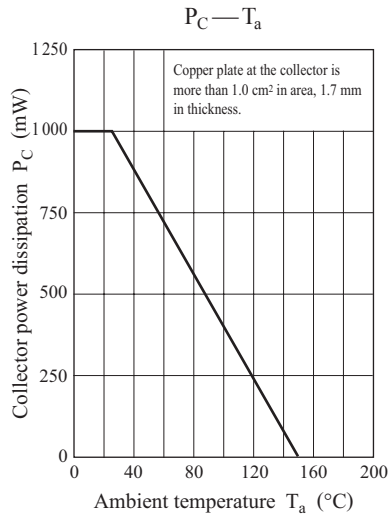
2. *1: Pulse measurement

*2: Rank classification

| Code | Q | R | 0 |
|----------------|------------|------------|------------|
| Rank | Q | R | No-rank |
| h_{FE} | 120 to 205 | 180 to 315 | 120 to 315 |
| Marking Symbol | 4FQ | 4FR | 4F |

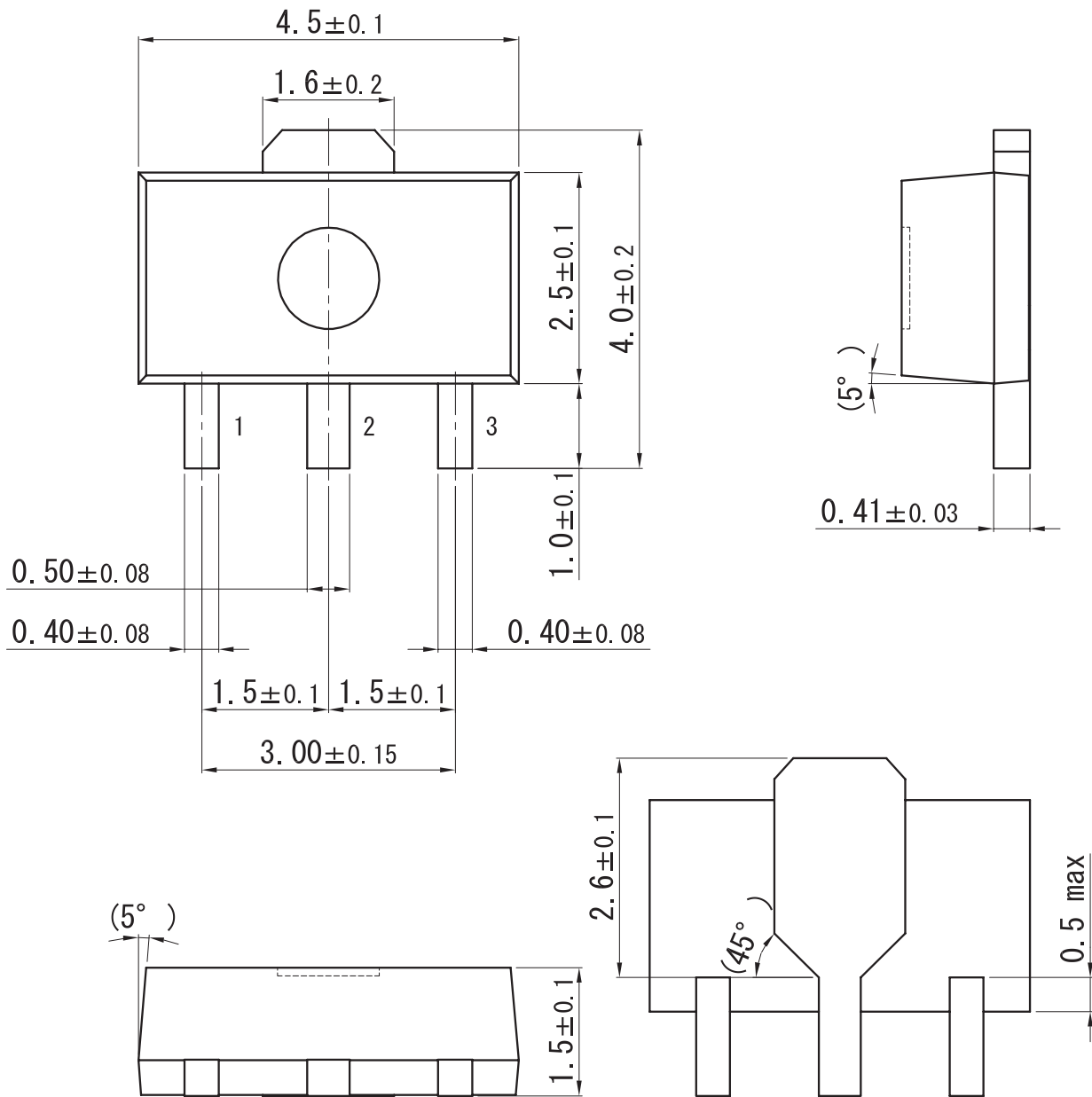
Product of no-rank is not classified and have no marking symbol for rank.



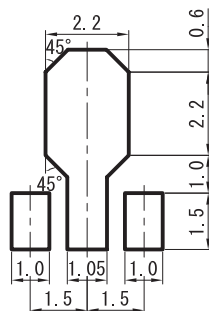


MiniP3-F2-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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