

# DSC5F01

## Silicon NPN epitaxial planar type

For high-frequency amplification  
DSC2F01 in SMini3 type package

### ■ Features

- High forward current transfer ratio  $h_{FE}$  with excellent linearity
- High transition frequency  $f_T$
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

### ■ Packaging

Embossed type (Thermo-compression sealing): 3000 pcs / reel (standard)

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

| Parameter                             | Symbol    | Rating      | Unit             |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | $V_{CBO}$ | 15          | V                |
| Collector-emitter voltage (Base open) | $V_{CEO}$ | 10          | V                |
| Emitter-base voltage (Collector open) | $V_{EBO}$ | 3           | V                |
| Collector current                     | $I_C$     | 50          | mA               |
| Collector power dissipation           | $P_C$     | 150         | mW               |
| Junction temperature                  | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature                   | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

### ■ Package

- Code  
SMini3-F2-B
- Pin Name
  1. Base
  2. Emitter
  3. Collector

### ■ Marking Symbol: C7

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

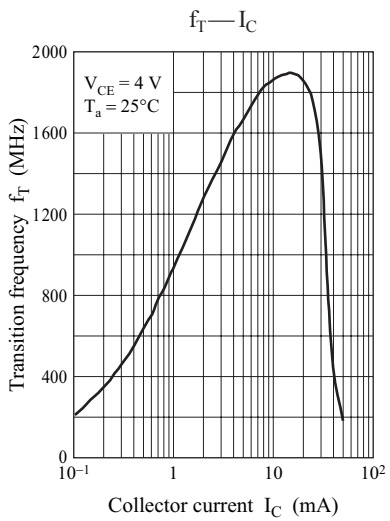
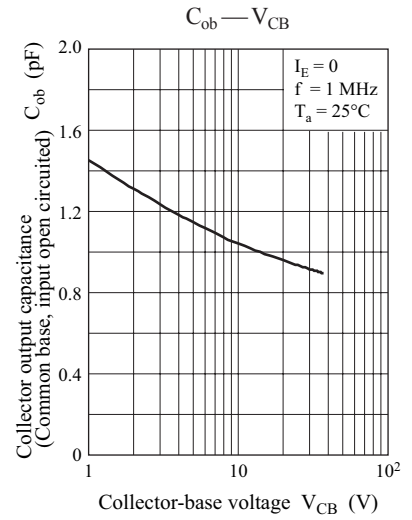
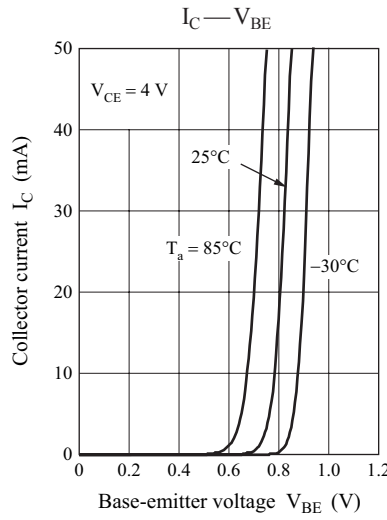
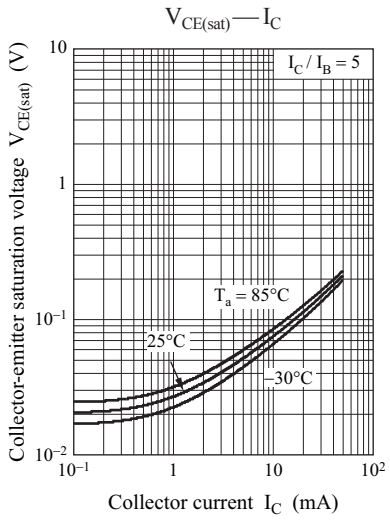
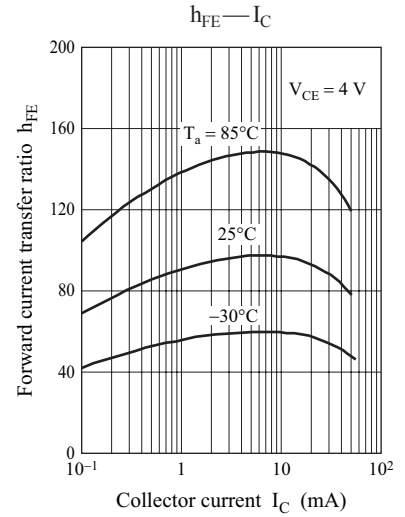
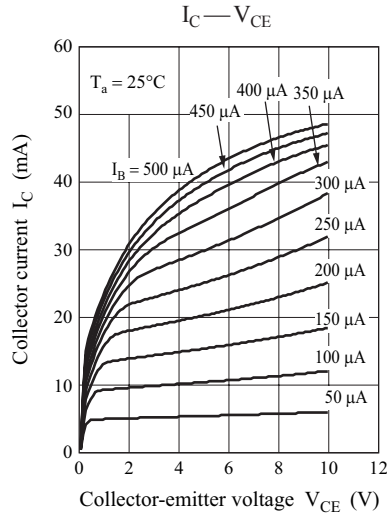
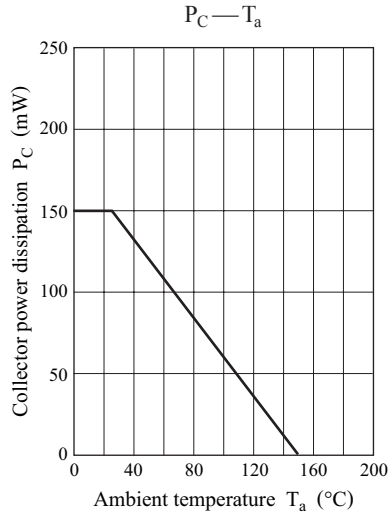
| Parameter   | Symbol              | Conditions   | Min | Typ | Max | Unit          |
|---|---------------------|--|-----|-----|-----|---------------|
| Collector-emitter voltage (Base open)                               | $V_{CEO}$           | $I_C = 2 \text{ mA}, I_B = 0$                                    | 10  |     |     | V             |
| Emitter-base voltage (Collector open)                               | $V_{EBO}$           | $I_E = 10 \mu\text{A}, I_C = 0$                                  | 3   |     |     | V             |
| Collector-base cutoff current (Emitter open)                        | $I_{CBO}$           | $V_{CB} = 10 \text{ V}, I_E = 0$                                 |     |     | 1   | $\mu\text{A}$ |
| Forward current transfer ratio *                                    | $h_{FE}$            | $V_{CE} = 4 \text{ V}, I_C = 5 \text{ mA}$                       | 75  |     | 220 | —             |
| Collector-emitter saturation voltage                                | $V_{CE(sat)}$       | $I_C = 20 \text{ mA}, I_B = 4 \text{ mA}$                        |     |     | 0.5 | V             |
| Transition frequency  | $f_T$               | $V_{CE} = 4 \text{ V}, I_C = 5 \text{ mA}$                       |     | 1.9 |     | GHz           |
| Collector output capacitance<br>(Common base, input open circuited) | $C_{ob}$            | $V_{CB} = 4 \text{ V}, I_E = 0, f = 1 \text{ MHz}$               |     | 1.2 |     | pF            |
| Collector-base parameter  | $r_{bb}' \cdot C_C$ | $V_{CE} = 4 \text{ V}, I_C = 5 \text{ mA}, f = 31.9 \text{ MHz}$ |     | 12  |     | ps            |
| Reverse transfer capacitance<br>(Common base)                       | $C_{rb}$            | $V_{CE} = 4 \text{ V}, I_C = 0, f = 1 \text{ MHz}$               |     | 0.6 |     | pF            |

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

2. \*: Rank classification

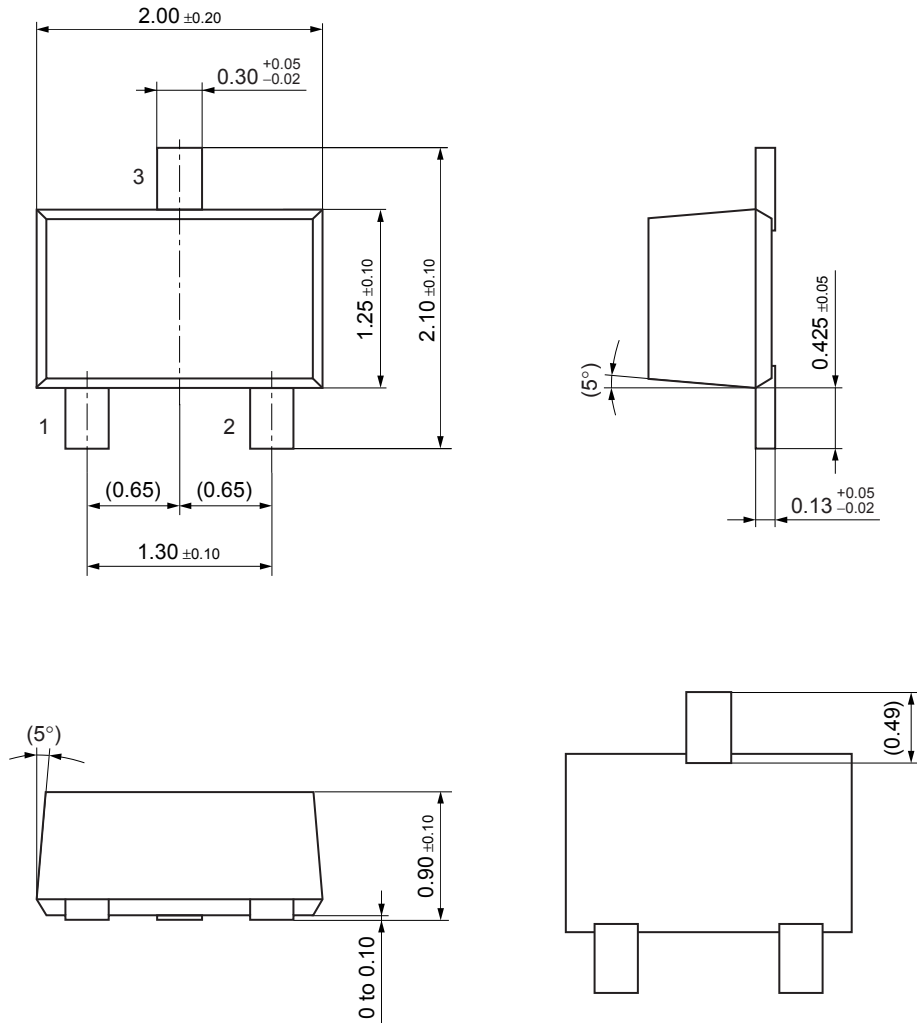
| Code           | P         | Q          | 0         |
|----------------|-----------|------------|-----------|
| Rank           | P         | Q          | No-rank   |
| $h_{FE}$       | 75 to 130 | 110 to 220 | 75 to 220 |
| Marking Symbol | C7P       | C7Q        | C7        |

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



SMini3-F2-B

Unit: mm



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