# DSC5A01

## Silicon NPN epitaxial planar type

For low frequency amplification
DSC2A01 in SMini3 type package

### ■ Features

- High forward current transfer ratio $h_{FE}$ with excellent linearity
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

### ■ Packaging

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

### ■ Package

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

### ■ Marking Symbol: C8

### ■ Absolute Maximum Ratings $T_a = 25°C$

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-base voltage (Emitter open) | $V_{CBO}$ | 50 | V |
| Collector-emitter voltage (Base open) | $V_{CEO}$ | 40 | V |
| Emitter-base voltage (Collector open) | $V_{EBO}$ | 15 | V |
| Collector current | $I_C$ | 50 | mA |
| Peak collector current | $I_{CP}$ | 100 | mA |
| Collector power dissipation | $P_C$ | 150 | mW |
| Junction temperature | $T_j$ | 150 | °C |
| Storage temperature | $T_{stg}$ | –55 to +150 | °C |

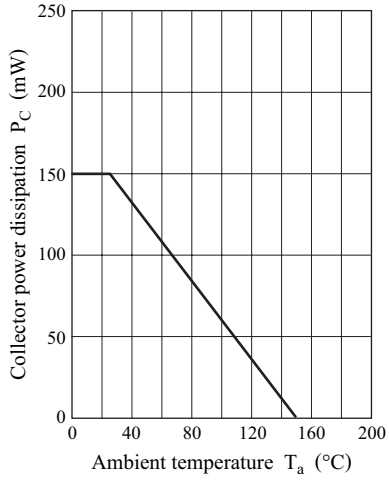
### ■ Electrical Characteristics $T_a = 25°C \pm 3°C$

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector-base voltage (Emitter open) | $V_{CBO}$ | $I_C = 10\ \mu A$, $I_E = 0$ | 50 | | | V |
| Collector-emitter voltage (Base open) | $V_{CEO}$ | $I_C = 1$ mA, $I_B = 0$ | 40 | | | V |
| Emitter-base voltage (Collector open) | $V_{EBO}$ | $I_E = 10\ \mu A$, $I_C = 0$ | 15 | | | V |
| Collector-base cutoff current (Emitter open) | $I_{CBO}$ | $V_{CB} = 20$ V, $I_E = 0$ | | | 0.1 | μA |
| Collector-emitter cutoff current (Base open) | $I_{CEO}$ | $V_{CE} = 20$ V, $I_B = 0$ | | | 1 | μA |
| Forward current transfer ratio * | $h_{FE}$ | $V_{CE} = 10$ V, $I_C = 2$ mA | 400 | | 2000 | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10$ mA, $I_B = 1$ mA | | 0.05 | 0.20 | V |
| Transition frequency | $f_T$ | $V_{CE} = 10$ V, $I_C = 2$ mA | | 150 | | MHz |

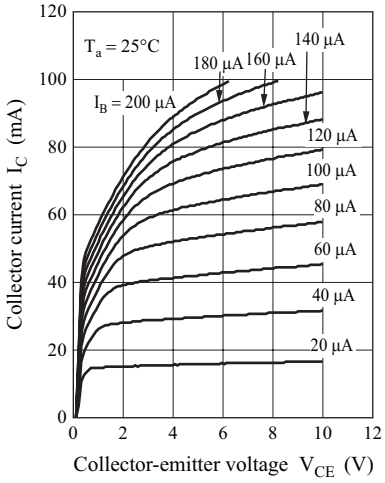
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

| Code | R | S | T |
|---|---|---|---|
| Rank | R | S | T |
| $h_{FE}$ | 400 to 800 | 600 to 1200 | 1000 to 2000 |
| Marking Symbol | C8R | C8S | C8T |

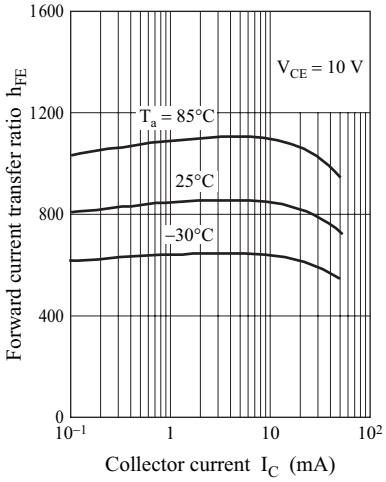
$P_C$ — $T_a$



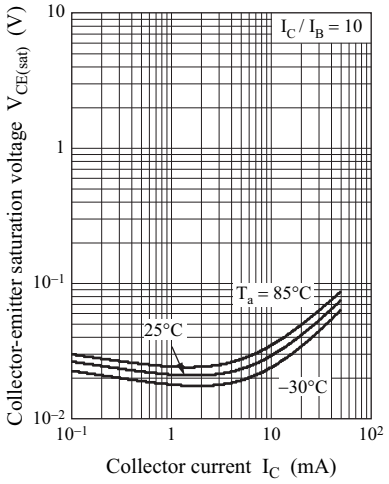

$I_C$ — $V_{CE}$



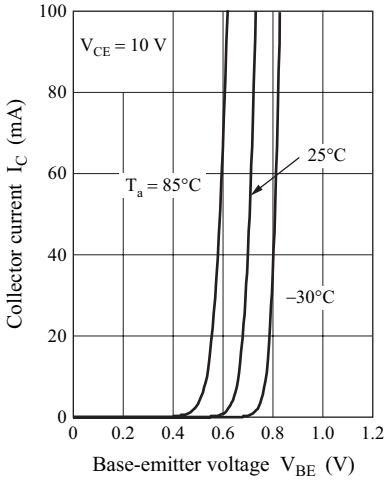

$h_{FE}$ — $I_C$



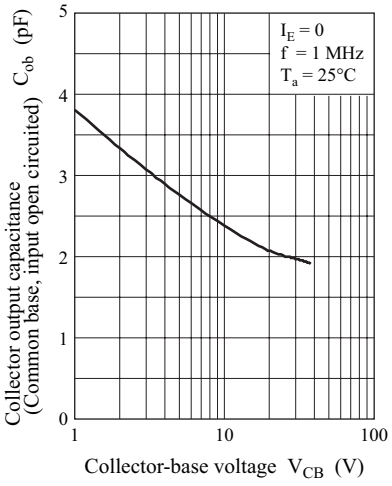

$V_{CE(sat)}$ — $I_C$



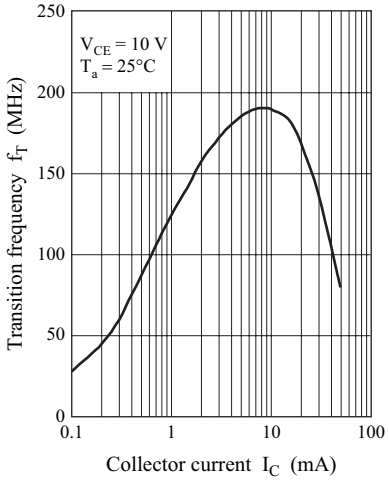

$I_C$ — $V_{BE}$




$C_{ob}$ — $V_{CB}$

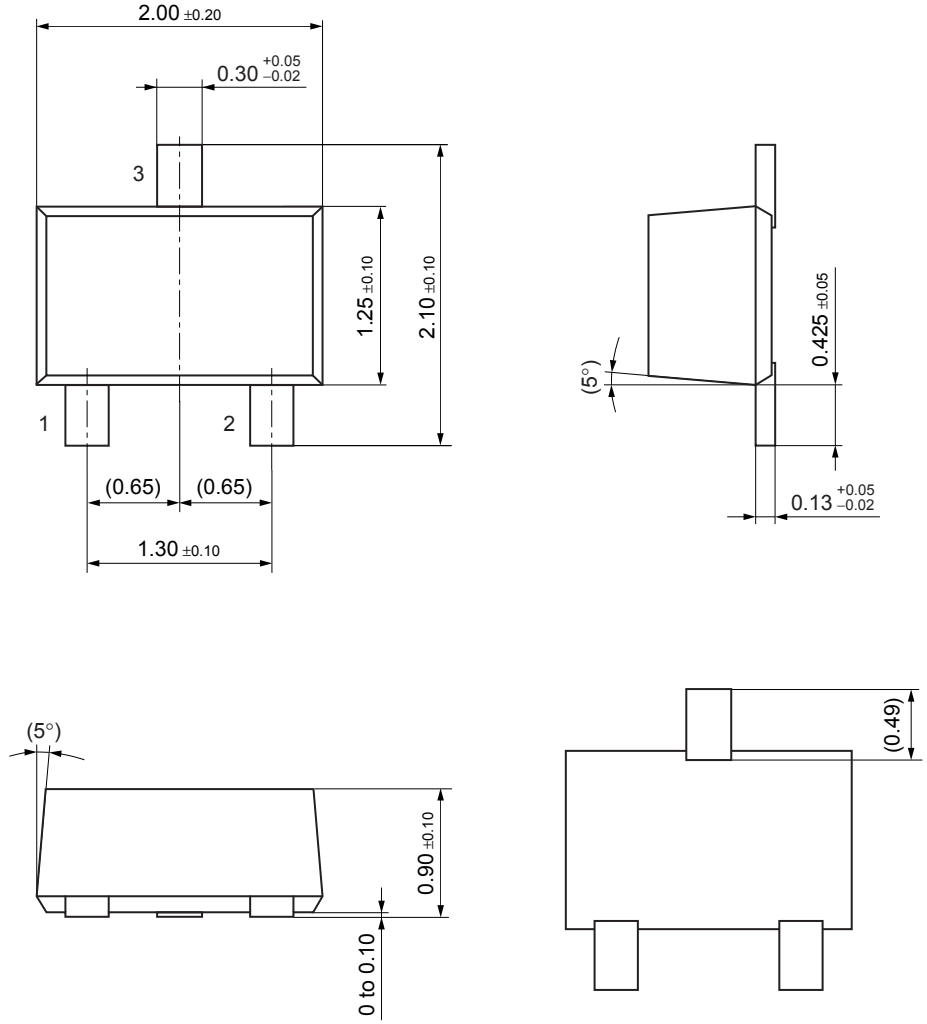



$f_T$ — $I_C$



# SMini3-F2-B

Unit: mm



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