Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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# DSC2G03

## Silicon NPN epitaxial planar type

For high-frequency amplification

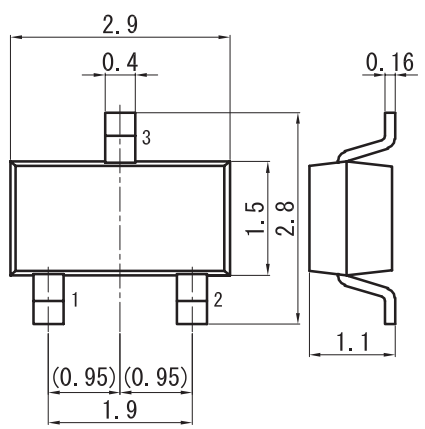
### ■ Features

- High transition frequency $f_T$
- Halogen-free / RoHS compliant
  (EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

### ■ Marking Symbol: C6

### ■ Packaging

DSC2G03×0L Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)




1: Base
2: Emitter
3: Collector

| Panasonic | Mini3-G3-B |
|---|---|
| JEITA | SC-59A |
| Code | TO-236AA/SOT-23 |

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

| 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) | $V_{EBO}$ | 3 | V |
| Collector current | $I_C$ | 50 | mA |
| Collector power dissipation | $P_C$ | 200 | mW |
| Junction temperature | $T_j$ | 150 | °C |
| Operating ambient temperature | $T_{opr}$ | –40 to +85 | °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) | $V_{CBO}$ | $I_C$ = 100 μA, $I_E$ = 0 | 30 | | | V |
| Emitter-base voltage (Collector open) | $V_{EBO}$ | $I_E$ = 10 μA, $I_C$ = 0 | 3 | | | V |
| Base-emitter voltage | $V_{BE}$ | $V_{CE}$ = 10 V, $I_C$ = 2 mA | | 740 | | mV |
| Forward current transfer ratio | $h_{FE}$ | $V_{CE}$ = 10 V, $I_C$ = 2 mA | 25 | | 250 | — |
| Transition frequency *1, 2 | $f_T$ | $V_{CE}$ = 10 V, $I_C$ = 15 mA | 800 | | 1 600 | MHz |
| Reverse transfer capacitance (Common emitter) | $C_{re}$ | $V_{CE}$ = 10 V, $I_C$ = 1 mA , f = 10.7 MHz | | 0.9 | | pF |
| Reverse transfer capacitance (Common base) | $C_{rb}$ | $V_{CB}$ = 6 V, $I_C$ = 0 , f = 1 MHz | | 0.7 | | pF |
| Power gain | PG | $V_{CE}$ = 10 V, $I_C$ = 1 mA , f = 200 MHz | | 20 | | dB |

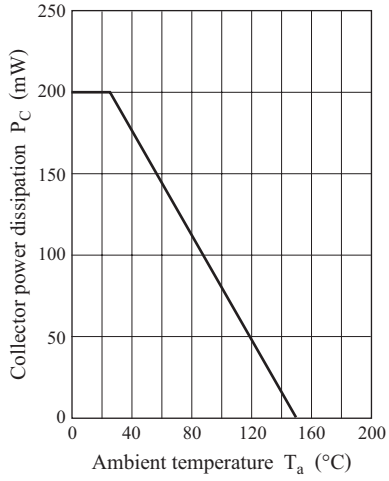
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. ∗1: Pulse measurement
   ∗2: Rank classification

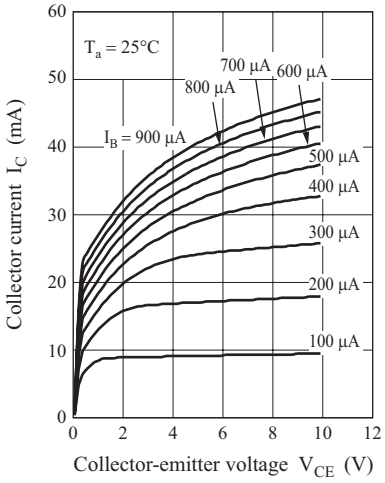
| Code | T | S | 0 |
|---|---|---|---|
| Rank | T | S | No-rank |
| $f_T$ | 800 to 1 400 | 1 000 to 1 600 | 800 to 1 600 |
| Marking Symbol | C6T | C6S | C6 |

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

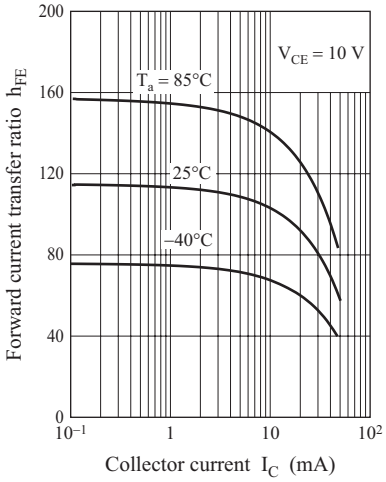
$P_C$ — $T_a$



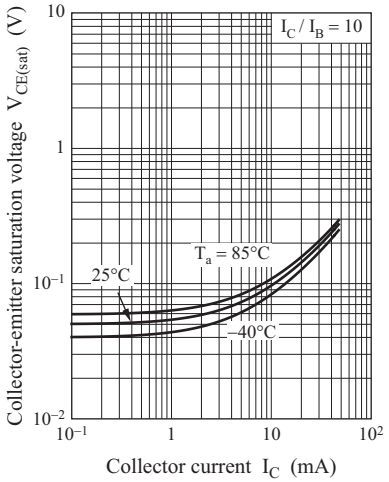

$I_C$ — $V_{CE}$



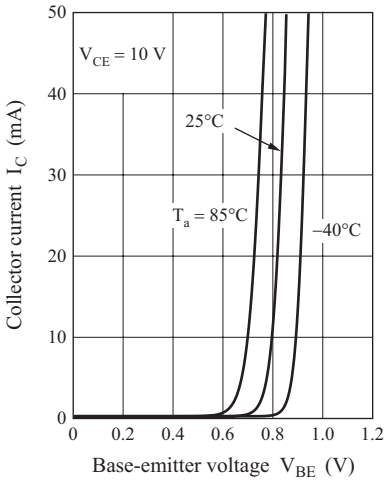

$h_{FE}$ — $I_C$



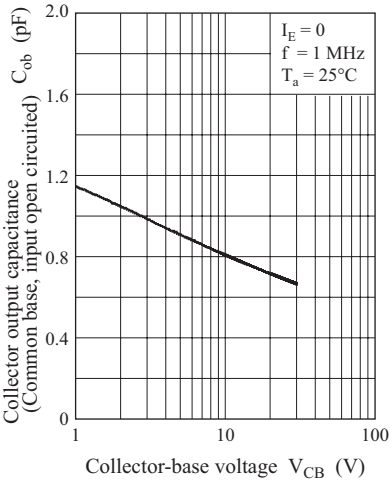

$V_{CE(sat)}$ — $I_C$



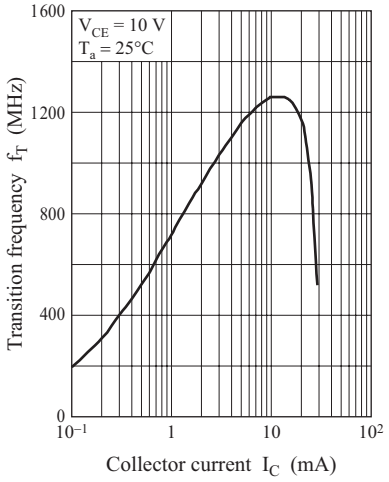

$I_C$ — $V_{BE}$




$C_{ob}$ — $V_{CB}$

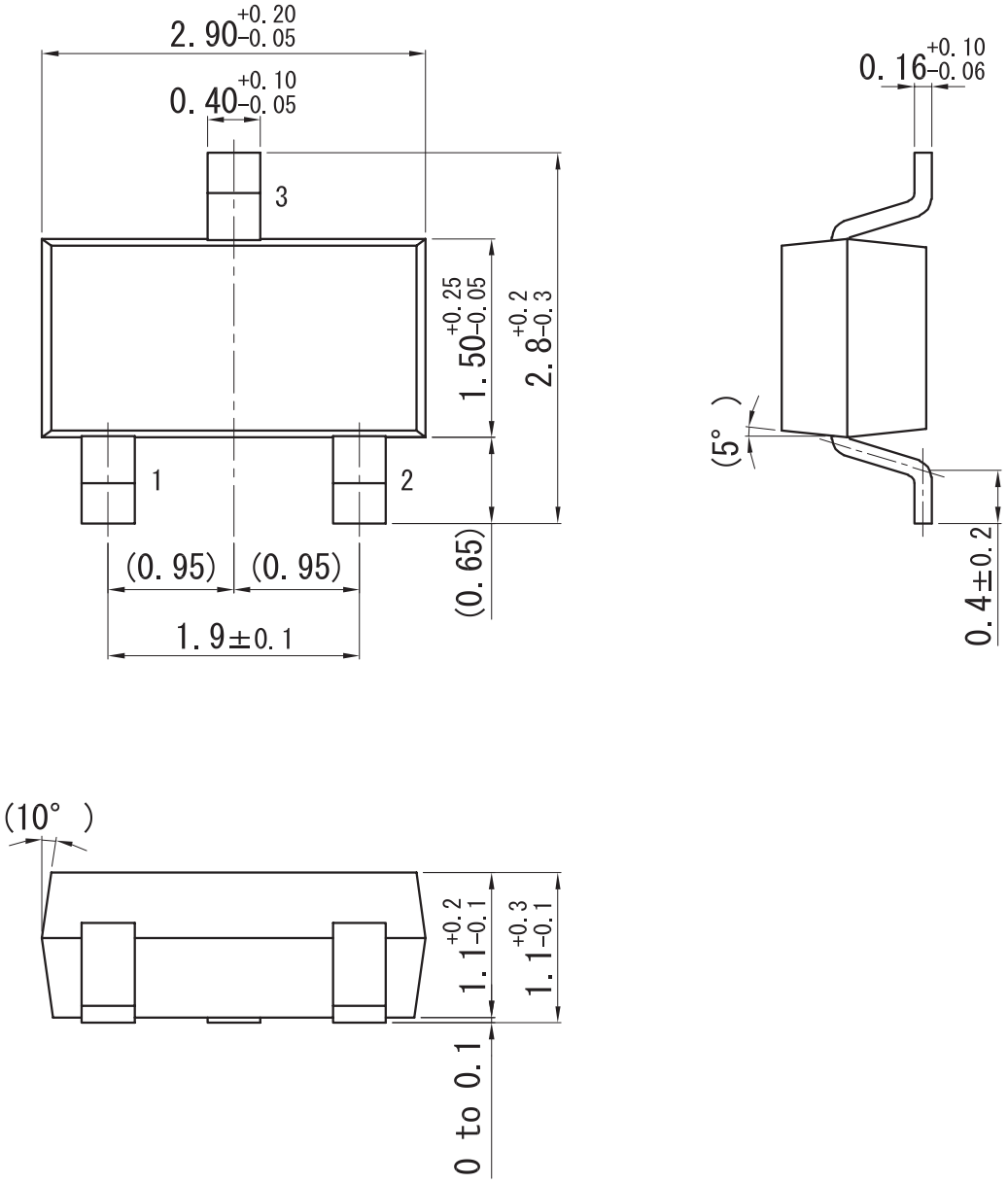



$f_T$ — $I_C$

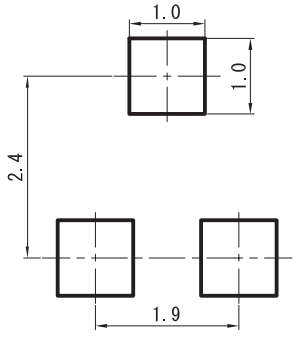


## Mini3-G3-B

Unit: mm




■ Land Pattern (Reference) (Unit: mm)



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