

DMC20101

Silicon NPN epitaxial planar type

For general amplification

■ 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

■ Basic Part Number

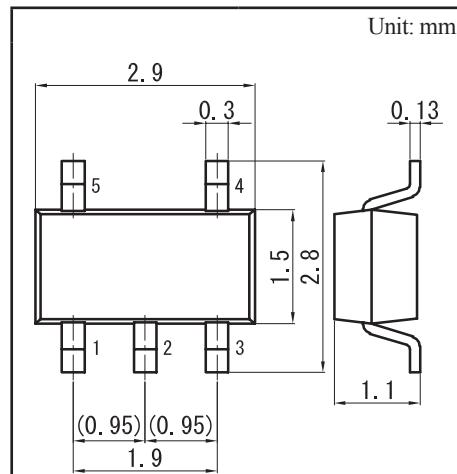
Dual DSC2001 (Common emitter)

■ Packaging

DMC201010R Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)

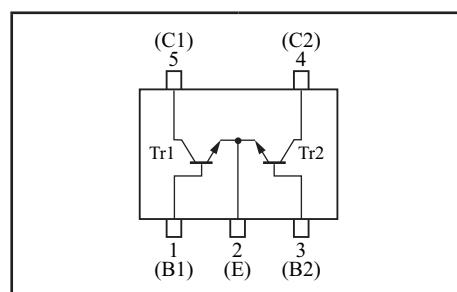
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | | Symbol | Rating | Unit |
|------------|---------------------------------------|------------------|-------------|------|
| Tr1 Tr2 | 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 |
| Overall | Total power dissipation | P _T | 300 | mW |
| | Junction temperature | T _j | 150 | °C |
| | Operating ambient temperature | T _{opr} | -40 to +85 | °C |
| | Storage temperature | T _{stg} | -55 to +150 | °C |



| | |
|---------------------|--------------------|
| 1: Base (Tr1) | 4: Collector (Tr2) |
| 2: Emitter (Common) | 5: Collector (Tr1) |
| 3: Base (Tr2) | |

| | |
|-----------|------------|
| Panasonic | Mini5-G3-B |
| JEITA | SC-74A |
| Code | MO-178 |

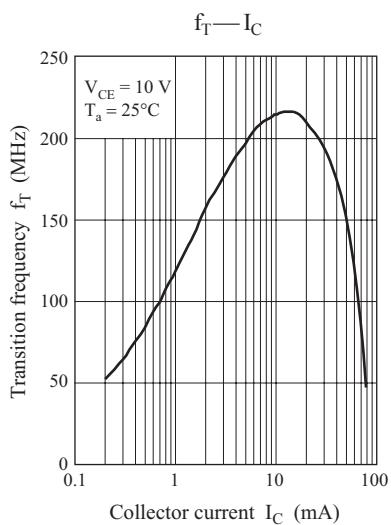
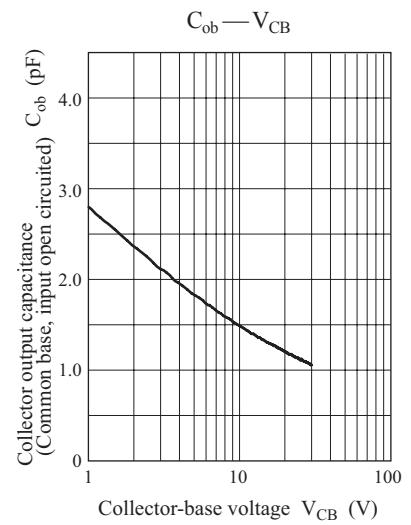
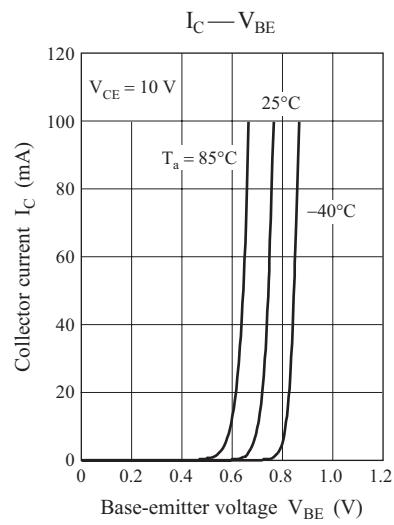
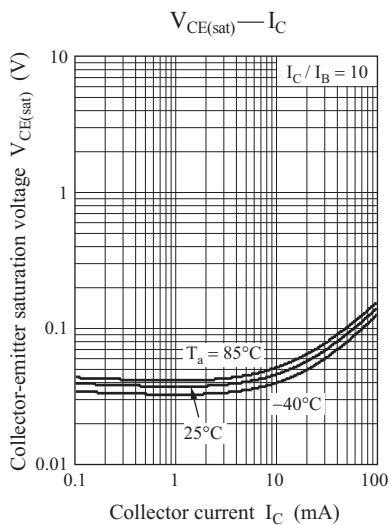
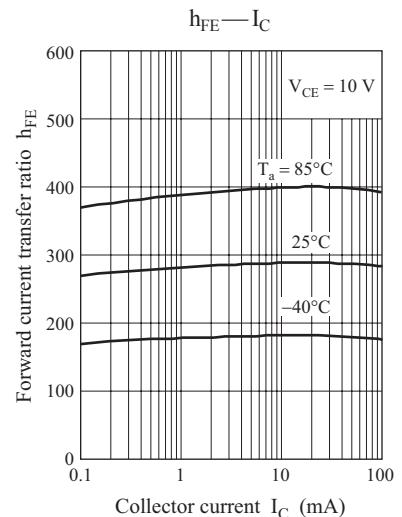
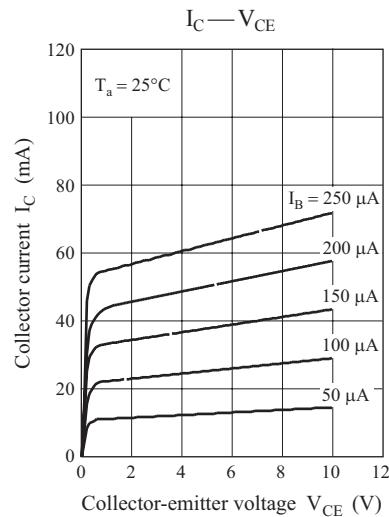
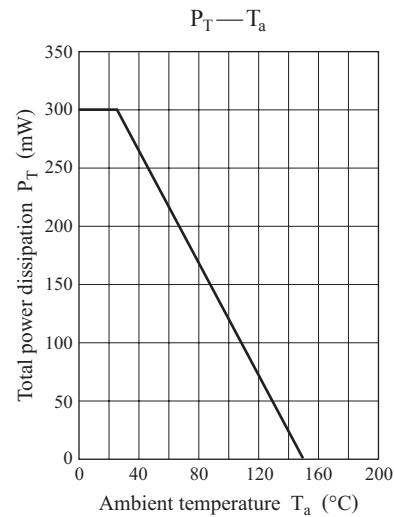


■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---------------------------|-------------------------------------|------|------|-----|---------|
| Collector-base voltage (Emitter open) | V_{CBO} | $I_C = 10 \mu A, I_E = 0$ | 60 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 2 mA, I_B = 0$ | 50 | | | V |
| Emitter-base voltage (Collector open) | V_{EBO} | $I_E = 10 \mu A, I_C = 0$ | 7 | | | 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} | $V_{CE} = 10 V, I_B = 0$ | | | 100 | μA |
| Forward current transfer ratio | h_{FE} | $V_{CE} = 10 V, I_C = 2 mA$ | 210 | | 460 | — |
| h_{FE} ratio *1 | h_{FE} (Small/Large) | $V_{CE} = 10 V, I_C = 2 mA$ | 0.50 | 0.99 | | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 100 mA, I_B = 10 mA$ | | 0.13 | 0.3 | V |
| Transition frequency | f_T | $V_{CE} = 10 V, I_C = 2 mA$ | | 150 | | MHz |
| Collector output capacitance (Common base, input open circuited) | C_{ob} | $V_{CB} = 10 V, I_E = 0, f = 1 MHz$ | | 1.5 | | pF |

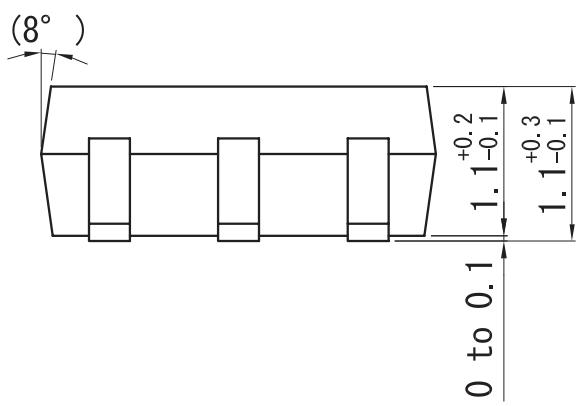
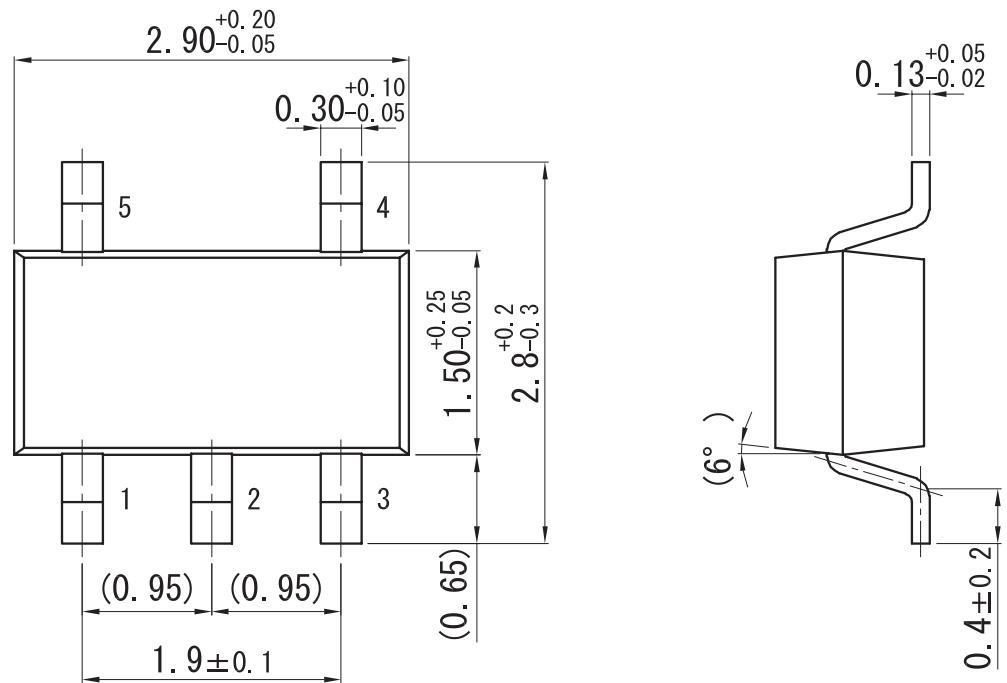
Note 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *1: Ratio between 2 elements

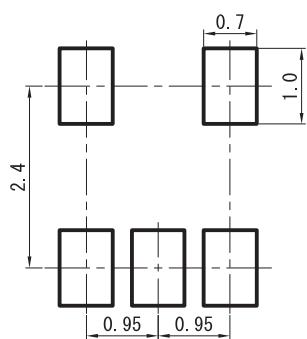


Mini5-G3-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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