

DMC5610M

Silicon NPN epitaxial planar type

For digital circuits

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

■ Basic Part Number

Dual DRC2123J (Common emitter)

■ 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} | 50 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 50 | V |
| Collector current | I_C | 100 | mA |
| Total power dissipation | P_T | 150 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

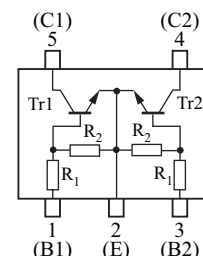
■ Package

- Code
SMini5-F3-B
- Pin Name

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

■ Marking Symbol: S2

■ Internal Connection



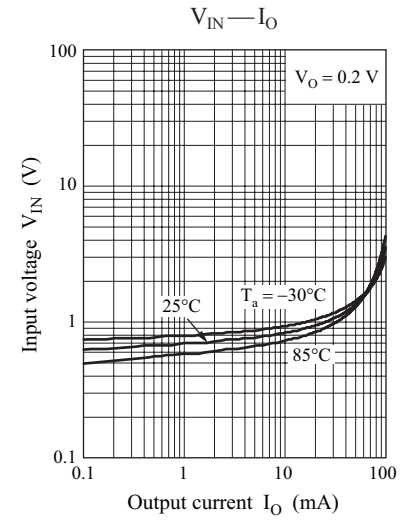
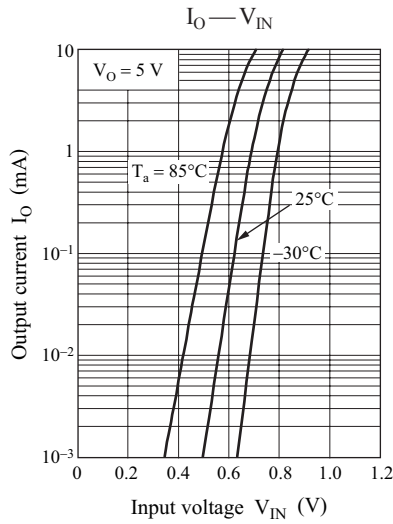
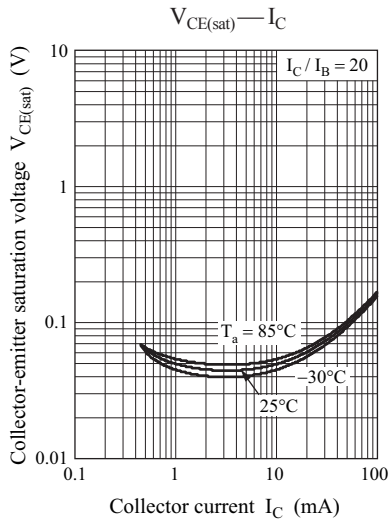
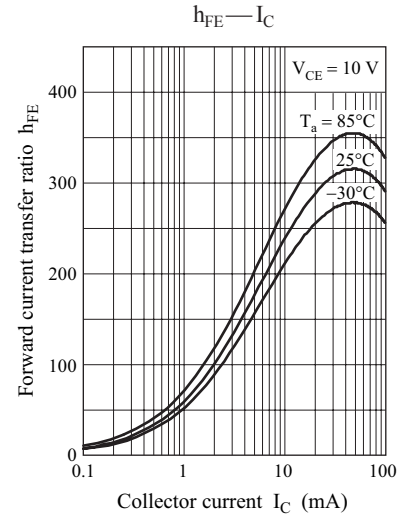
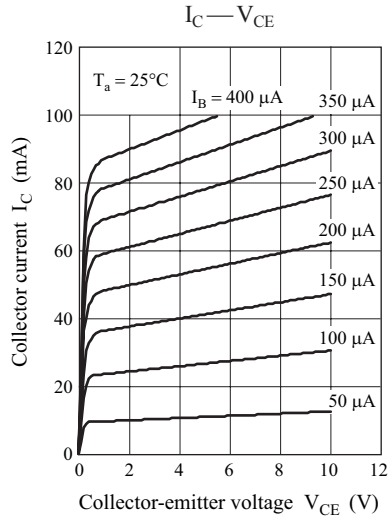
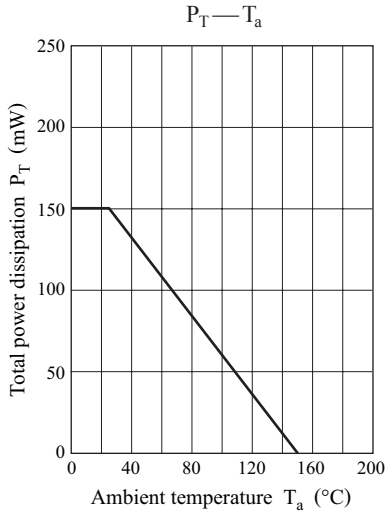
| Resistance value | R_1 | 2.2 | $k\Omega$ |
|------------------|-------|-----|-----------|
| | R_2 | 47 | |

■ 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} | $I_C = 10 \mu\text{A}, I_E = 0$ | 50 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 2 \text{ mA}, I_B = 0$ | 50 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = 50 \text{ V}, I_E = 0$ | | | 0.1 | μA |
| Collector-emitter cutoff current (Base open) | I_{CEO} | $V_{CE} = 50 \text{ V}, I_B = 0$ | | | 0.5 | μA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = 6 \text{ V}, I_C = 0$ | | | 0.2 | mA |
| Forward current transfer ratio | h_{FE} | $V_{CE} = 10 \text{ V}, I_C = 5 \text{ mA}$ | 80 | | | — |
| h_{FE} ratio * | h_{FE} (Small/Large) | $V_{CE} = 10 \text{ V}, I_C = 5 \text{ mA}$ | 0.50 | 0.99 | | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10 \text{ mA}, I_B = 0.5 \text{ mA}$ | | | 0.25 | V |
| Input voltage (ON) | $V_{I(on)}$ | $V_{CE} = 0.2 \text{ V}, I_C = 5 \text{ mA}$ | 1.2 | | | V |
| Input voltage (OFF) | $V_{I(off)}$ | $V_{CE} = 5 \text{ V}, I_C = 100 \mu\text{A}$ | | | 0.4 | V |
| Input resistance | R_1 | | -30% | 2.2 | +30% | $k\Omega$ |
| Resistance ratio | R_1 / R_2 | | 0.037 | 0.047 | 0.057 | — |

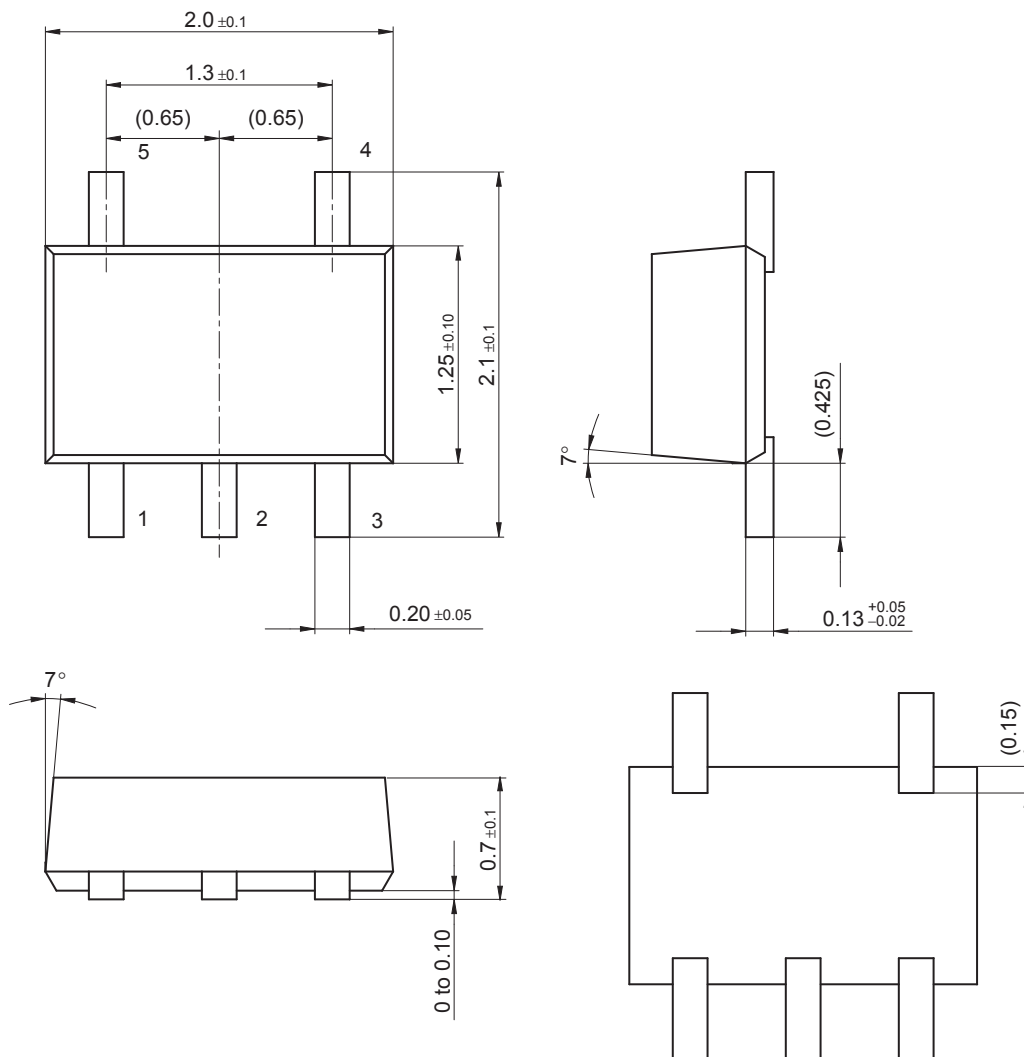
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Ratio between 2 elements



SMini5-F3-B

Unit: mm



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