## **DMA56105**

## Silicon PNP epitaxial planar type

For digital circuits

DMA26105 in SMini5 type package

#### ■ Features

- $\bullet$  High forward current transfer ratio  $h_{FE}$  with excellent linearity
- $\bullet$  Low collector-emitter saturation voltage  $V_{\text{CE}(\text{sat})}$
- Halogen-free / RoHS compliant
   (EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

### ■ Marking Symbol: K1

#### ■ Basic Part Number

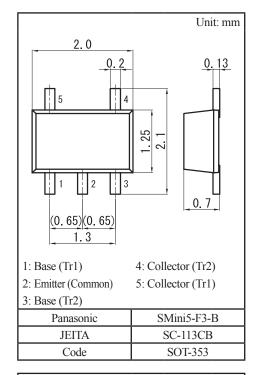
Dual DRA2114T (Common emitter)

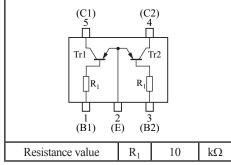
### Packaging

DMA561050R Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)

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

|            | Parameter                             | Symbol           | Rating      | Unit |  |
|------------|---------------------------------------|------------------|-------------|------|--|
| Tr1<br>Tr2 | Collector-base voltage (Emitter open) | V <sub>CBO</sub> | -50         | V    |  |
|            | Collector-emitter voltage (Base open) | V <sub>CEO</sub> | -50         | V    |  |
|            | Collector current                     | $I_{C}$          | -100        | mA   |  |
| Overall    | Total power dissipation               | $P_{T}$          | 150         | mW   |  |
|            | Junction temperature                  | T <sub>j</sub>   | 150         | °C   |  |
|            | Operating ambient temperature         | T <sub>opr</sub> | -40 to +85  | °C   |  |
|            | Storage temperature                   | T <sub>stg</sub> | -55 to +150 | °C   |  |



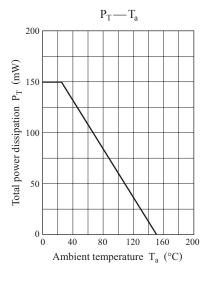


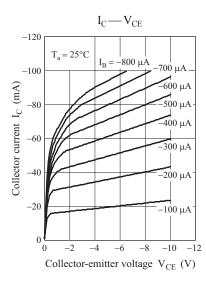
### ■ Electrical Characteristics $T_a = 25$ °C±3°C

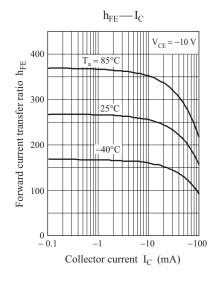
| Parameter                                    | Symbol                        | Conditions   | Min  | Тур  | Max   | Unit |
|--|-------------------------------|--|------|------|-------|------|
| Collector-base voltage (Emitter open)        | V <sub>CBO</sub>              | $I_{\rm C} = -10  \mu A, I_{\rm E} = 0$            | -50  |      |       | V    |
| Collector-emitter voltage (Base open)        | V <sub>CEO</sub>              | $I_{\rm C} = -2 \text{ mA}, I_{\rm B} = 0$         | -50  |      |       | V    |
| Collector-base cutoff current (Emitter open) | $I_{CBO}$                     | $V_{CB} = -50 \text{ V}, I_E = 0$                  |      |      | -0.1  | μΑ   |
| Collector-emitter cutoff current (Base open) | $I_{CEO}$                     | $V_{CE} = -50 \text{ V}, I_{B} = 0$                |      |      | -0.5  | μΑ   |
| Emitter-base cutoff current (Collector open) | $I_{EBO}$                     | $V_{EB} = -6 \text{ V}, I_C = 0$                   |      |      | -0.01 | mA   |
| Forward current transfer ratio               | $h_{\mathrm{FE}}$             | $V_{CE} = -10 \text{ V}, I_{C} = -5 \text{ mA}$    | 160  |      | 460   | _    |
| h <sub>FE</sub> ratio *1                     | h <sub>FE</sub> (Small/Large) | $V_{CE} = -10 \text{ V}, I_{C} = -5 \text{ mA}$    | 0.50 | 0.99 |       | _    |
| Collector-emitter saturation voltage         | V <sub>CE(sat)</sub>          | $I_C = -10 \text{ mA}, I_B = -0.5 \text{ mA}$      |      |      | -0.25 | V    |
| Input voltage (ON)                           | V <sub>I(on)</sub>            | $V_{CE} = -0.2 \text{ V}, I_{C} = -5 \text{ mA}$   | -1.2 |      |       | V    |
| Input voltage (OFF)                          | V <sub>I(off)</sub>           | $V_{CE} = -5 \text{ V}, I_{C} = -100  \mu\text{A}$ |      |      | -0.4  | V    |
| Input resistance                             | $R_1$                         |  | -30% | 10   | +30%  | kΩ   |

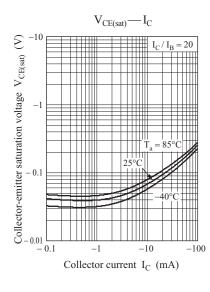
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

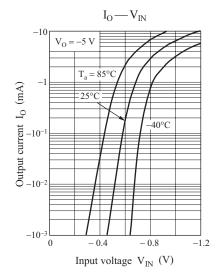
<sup>2. \*1:</sup> Ratio between 2 elements

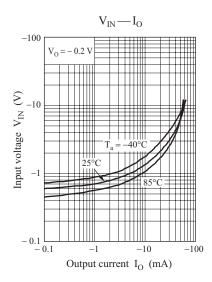






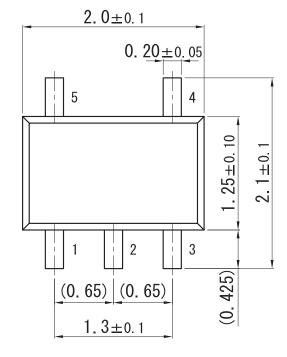


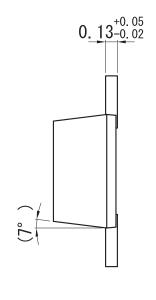


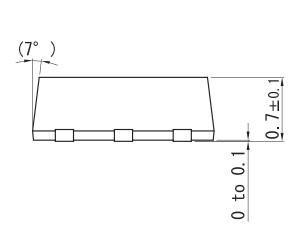


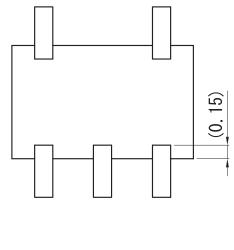
## SMini5-F3-B

Unit: mm

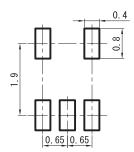








### ■ Land Pattern (Reference) (Unit: mm)



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