

# DMA56107

## Silicon PNP epitaxial planar type

For digital circuits

### ■ 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: N4

### ■ Basic Part Number

Dual DRA2124T (Common emitter)

### ■ Packaging

DMA561070R Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)

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

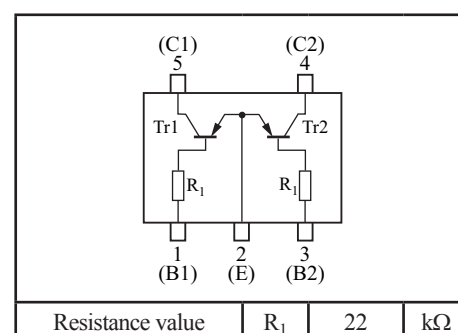
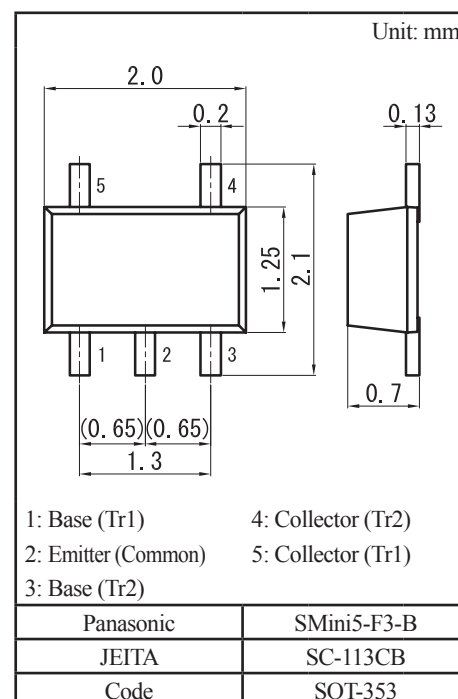
| Parameter  |                                       | Symbol    | Rating      | Unit             |
|------------|---------------------------------------|-----------|-------------|------------------|
| Tr1<br>Tr2 | Collector-base voltage (Emitter open) | $V_{CBO}$ | -50         | V                |
|            | Collector-emitter voltage (Base open) | $V_{CEO}$ | -50         | V                |
|            | Collector current                     | $I_C$     | -100        | mA               |
| Overall    | Total power dissipation               | $P_T$     | 150         | mW               |
|            | Junction temperature                  | $T_j$     | 150         | $^\circ\text{C}$ |
|            | Operating ambient temperature         | $T_{opr}$ | -40 to +85  | $^\circ\text{C}$ |
|            | Storage temperature                   | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

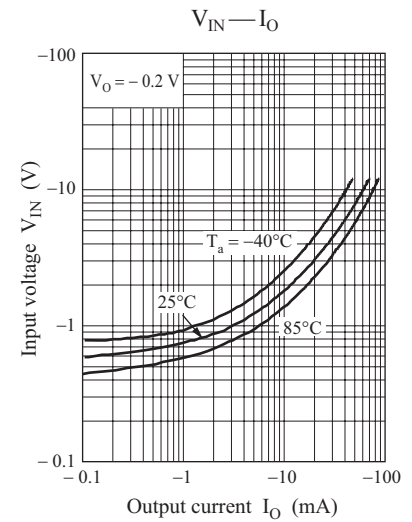
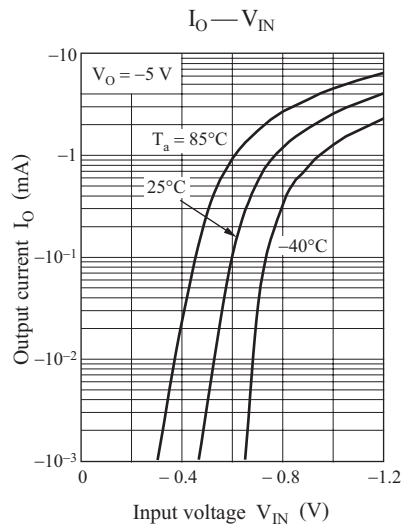
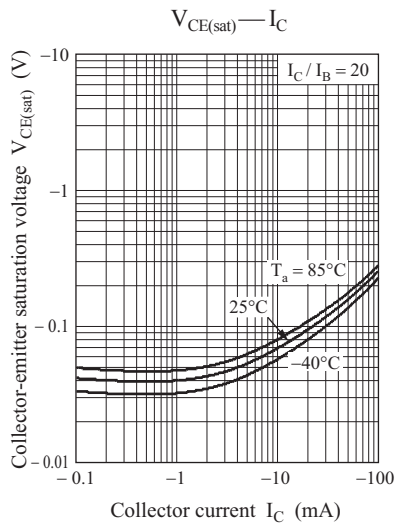
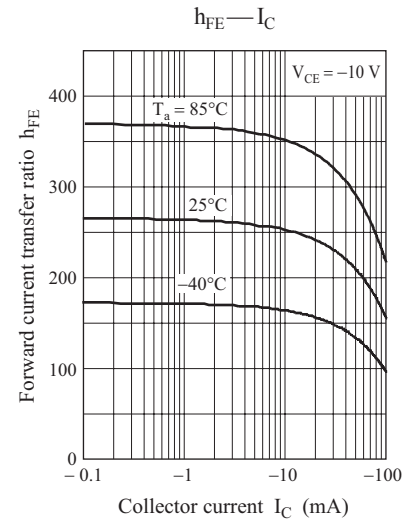
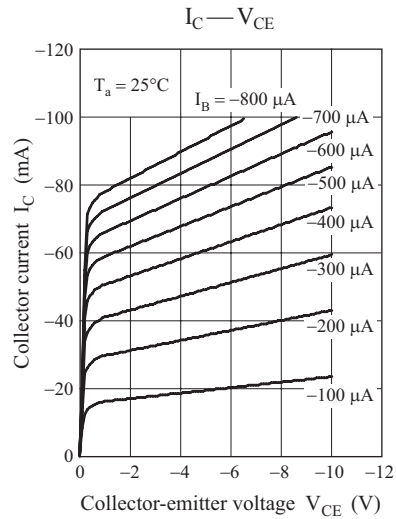
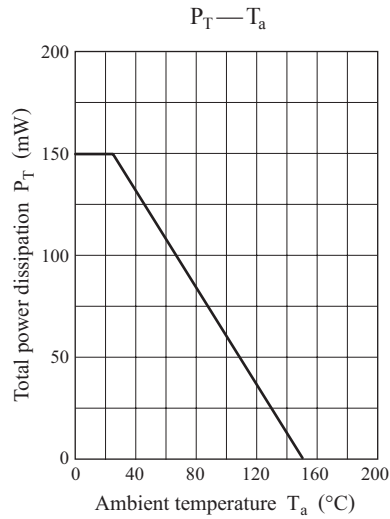
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| 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  | $\mu\text{A}$ |
| Collector-emitter cutoff current (Base open) | $I_{CEO}$                 | $V_{CE} = -50 \text{ V}$ , $I_B = 0$               |      |      | -0.5  | $\mu\text{A}$ |
| Emitter-base cutoff current (Collector open) | $I_{EBO}$                 | $V_{EB} = -6 \text{ V}$ , $I_C = 0$                |      |      | -0.01 | mA            |
| Forward current transfer ratio               | $h_{FE}$                  | $V_{CE} = -10 \text{ V}$ , $I_C = -5 \text{ mA}$   | 160  |      | 460   | —             |
| $h_{FE}$ ratio *1                            | $h_{FE}$<br>(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)                           | $V_{I(on)}$               | $V_{CE} = -0.2 \text{ V}$ , $I_C = -5 \text{ mA}$  | -1.8 |      |       | 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% | 22   | +30%  | k $\Omega$    |

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

2. \*1: Ratio between 2 elements







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