



## DRA5123E0L

Silicon PNP epitaxial planar type

For digital circuits

Complementary to DRC5123E

DRA2123E in SMini3 type package

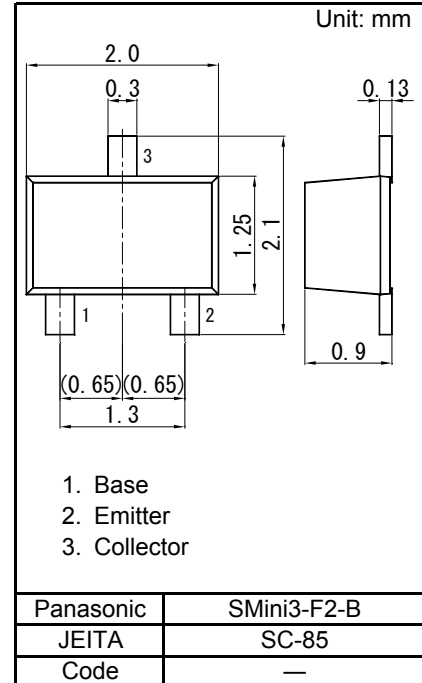
### ■ Features

- Low collector-emitter saturation voltage  $V_{ce(sat)}$
- Halogen-free / RoHS compliant  
(EU RoHS / UL-94 V-0 / MSL:Level 1 compliant)

### ■ Marking Symbol: L2

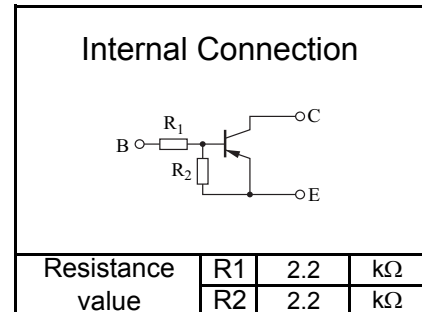
### ■ Packaging

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



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

| Parameter                             | Symbol | Rating      | Unit               |
|---------------------------------------|--------|-------------|--------------------|
| Collector-base voltage (Emitter open) | VCBO   | -50         | V                  |
| Collector-emitter voltage (Base open) | VCEO   | -50         | V                  |
| Collector current                     | IC     | -100        | mA                 |
| Total power dissipation               | PT     | 150         | mW                 |
| Junction temperature                  | Tj     | 150         | $^{\circ}\text{C}$ |
| Operating ambient temperature         | Topr   | -40 to +85  | $^{\circ}\text{C}$ |
| Storage temperature                   | Tstg   | -55 to +150 | $^{\circ}\text{C}$ |



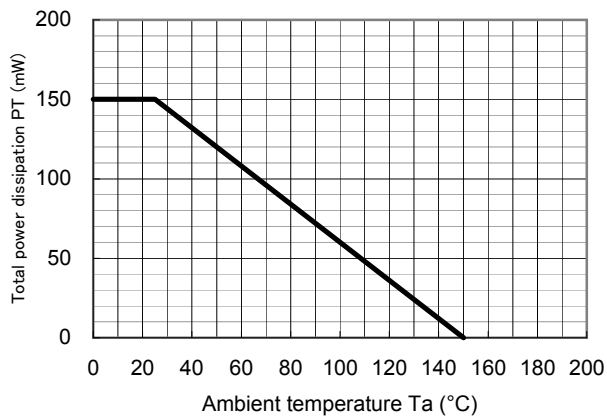
### ■ Electrical Characteristics $T_a = 25\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$

| Parameter                                    | Symbol   | Conditions                          | Min  | Typ | Max  | Unit          |
|----------------------------------------------|----------|-------------------------------------|------|-----|------|---------------|
| Collector-base voltage (Emitter open)        | VCBO     | IC = -10 $\mu\text{A}$ , IE = 0     | -50  |     |      | V             |
| Collector-emitter voltage (Base open)        | VCEO     | IC = -2 mA, IB = 0                  | -50  |     |      | V             |
| Collector-base cutoff current (Emitter open) | ICBO     | VCB = -50 V, IE = 0                 |      |     | -0.1 | $\mu\text{A}$ |
| Collector-emitter cutoff current (Base open) | ICEO     | VCE = -50 V, IB = 0                 |      |     | -0.5 | $\mu\text{A}$ |
| Emitter-base cutoff current (Collector open) | IEBO     | VEB = -6 V, IC = 0                  |      |     | -2.0 | mA            |
| Forward current transfer ratio               | hFE      | VCE = -10 V, IC = -5 mA             | 6    |     | 20   | -             |
| Collector-emitter saturation voltage         | VCE(sat) | IC = -10 mA, IB = -0.5 mA           |      |     | -0.3 | V             |
| Input voltage                                | Vi(on)   | VCE = -0.2 V, IC = -5 mA            | -1.8 |     |      | V             |
|                                              | Vi(off)  | VCE = -5 V, IC = -100 $\mu\text{A}$ |      |     | -0.8 | V             |
| Input resistance                             | R1       |                                     | -30% | 2.2 | +30% | k $\Omega$    |
| Resistance ratio                             | R1/R2    |                                     | 0.8  | 1.0 | 1.2  | -             |

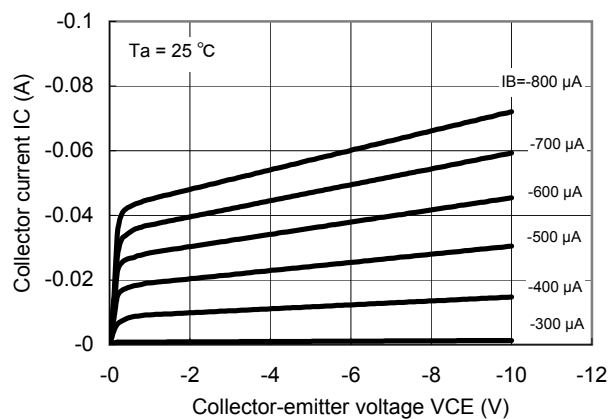
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.

Technical Data ( reference )

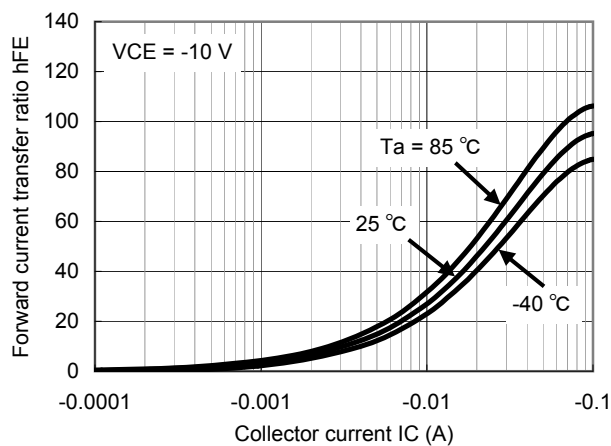
PT - Ta



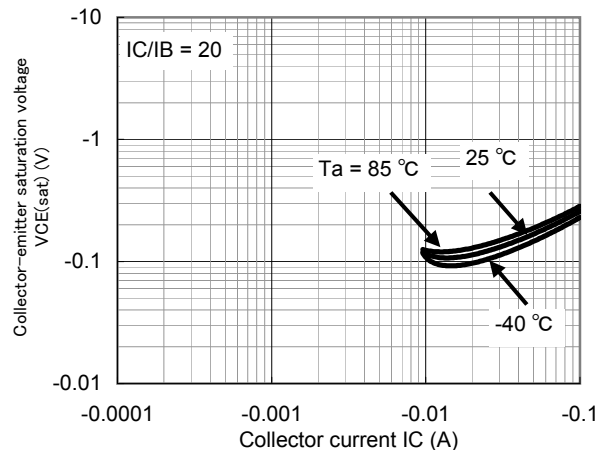
IC - VCE



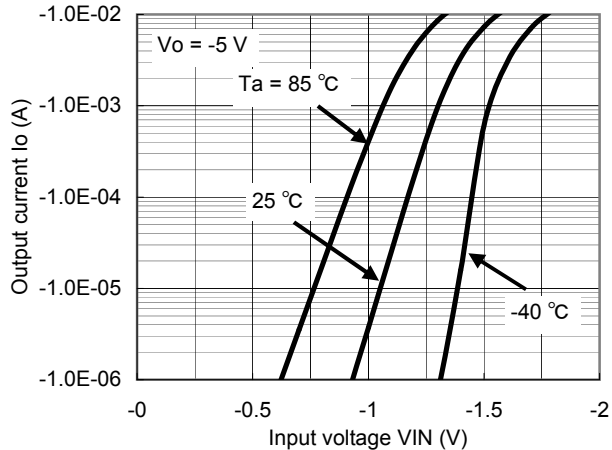
hFE - IC



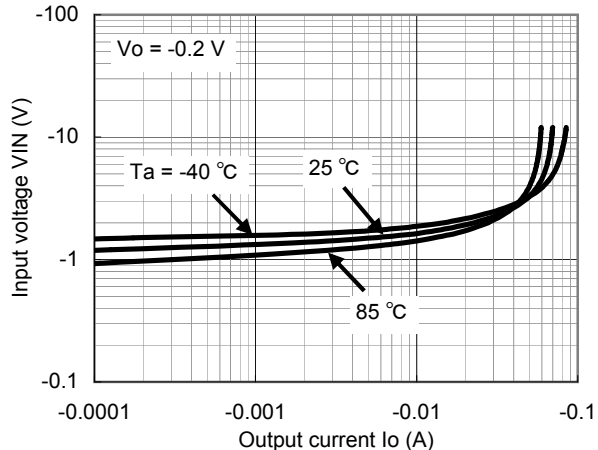
VCE(sat) - IC



Io - VIN



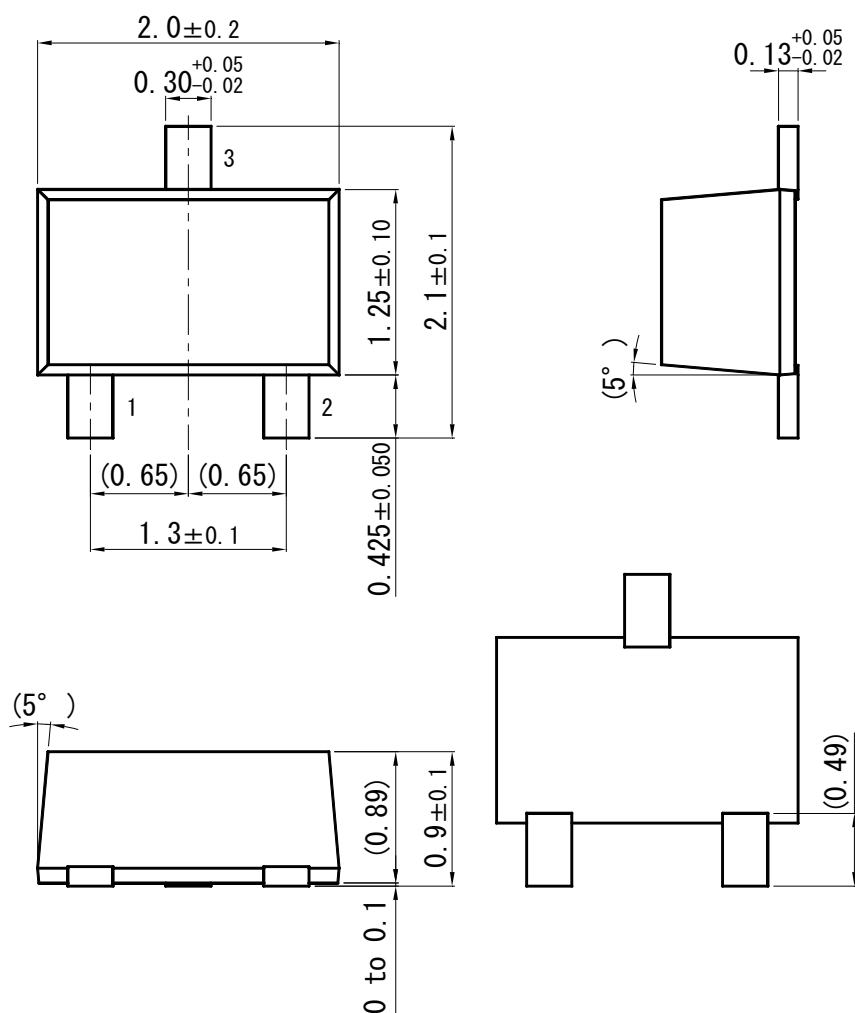
VIN - Io



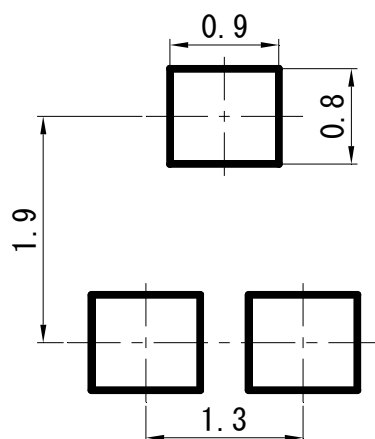
**Panasonic**

# SMini3-F2-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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