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## DRC5123J0L

Silicon NPN epitaxial planar type

For digital circuits

Complementary to DRA5123J

DRC2123J 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: N4

### ■ Packaging

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

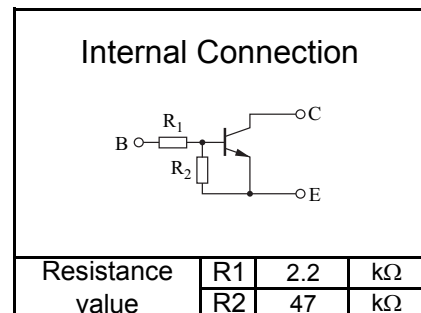
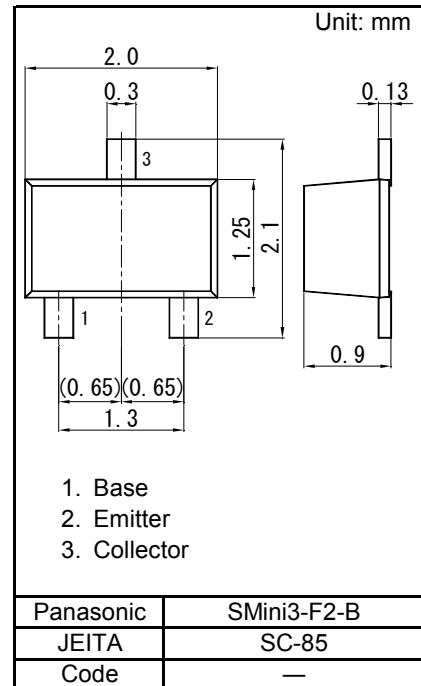
### ■ Absolute Maximum Ratings $T_a = 25\text{ }^\circ\text{C}$

| 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         | °C   |
| Operating ambient temperature         | Topr   | -40 to +85  | °C   |
| Storage temperature                   | Tstg   | -55 to +150 | °C   |

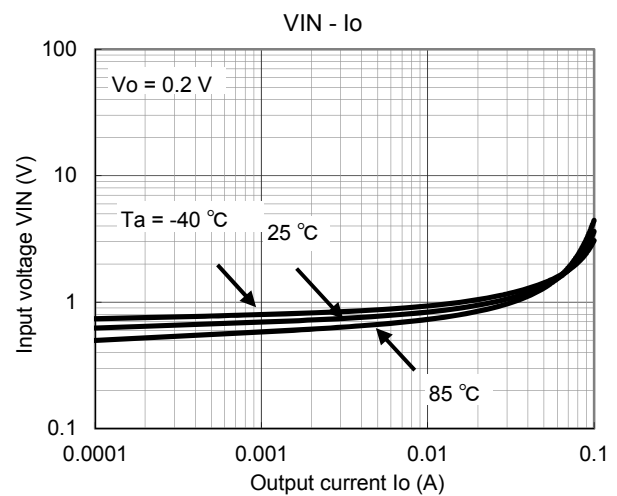
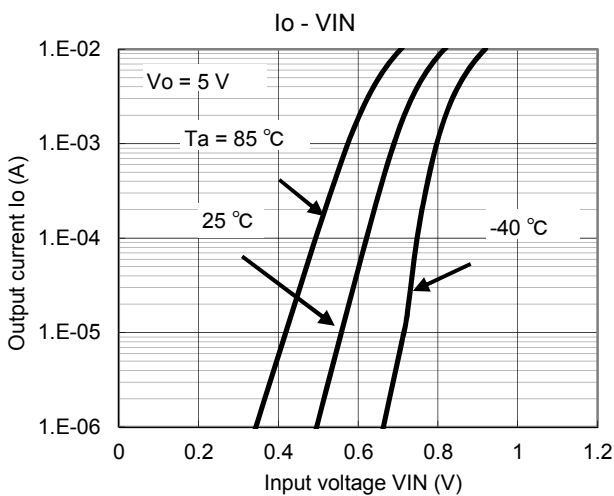
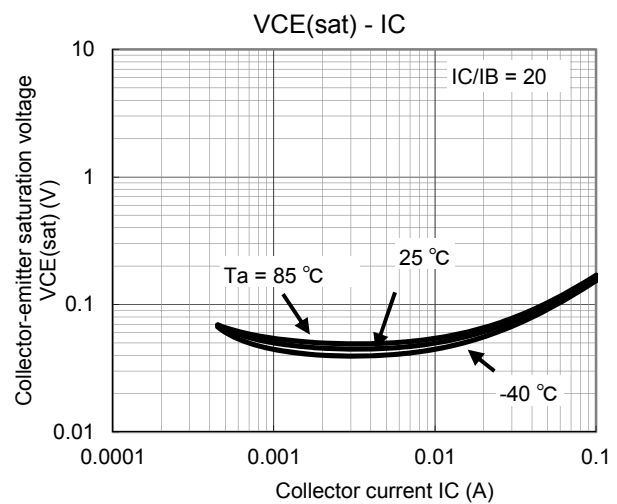
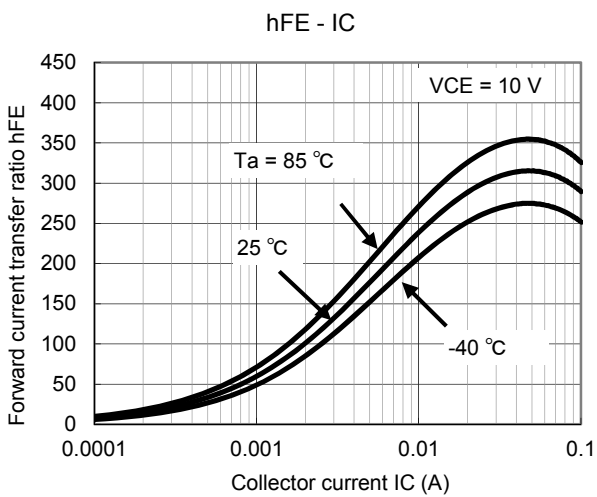
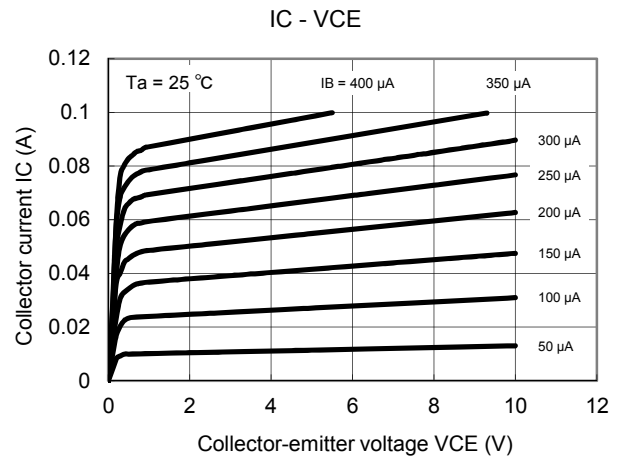
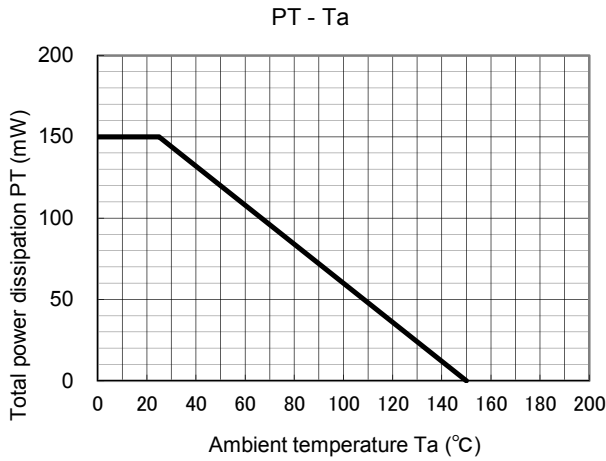
### ■ Electrical Characteristics $T_a = 25\text{ }^\circ\text{C} \pm 3\text{ }^\circ\text{C}$

| Parameter                                    | Symbol   | Conditions                  | Min   | Typ   | Max   | Unit       |
|--|----------|-----------------------------|-------|-------|-------|------------|
| Collector-base voltage (Emitter open)        | VCBO     | IC = 10 $\mu$ 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   | $\mu$ A    |
| Collector-emitter cutoff current (Base open) | ICEO     | VCE = 50 V, IB = 0          |       |       | 0.5   | $\mu$ A    |
| Emitter-base cutoff current (Collector open) | IEBO     | VEB = 6 V, IC = 0           |       |       | 0.2   | mA         |
| Forward current transfer ratio               | hFE      | VCE = 10 V, IC = 5 mA       | 80    |       |       | -          |
| Collector-emitter saturation voltage         | VCE(sat) | IC = 10 mA, IB = 0.5 mA     |       |       | 0.25  | V          |
| Input voltage                                | Vi(on)   | VCE = 0.2 V, IC = 5 mA      | 1.2   |       |       | V          |
|  | Vi(off)  | VCE = 5 V, IC = 100 $\mu$ A |       |       | 0.4   | V          |
| Input resistance                             | R1       |                             | -30%  | 2.2   | +30%  | k $\Omega$ |
| Resistance ratio                             | R1/R2    |                             | 0.037 | 0.047 | 0.057 | -          |

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



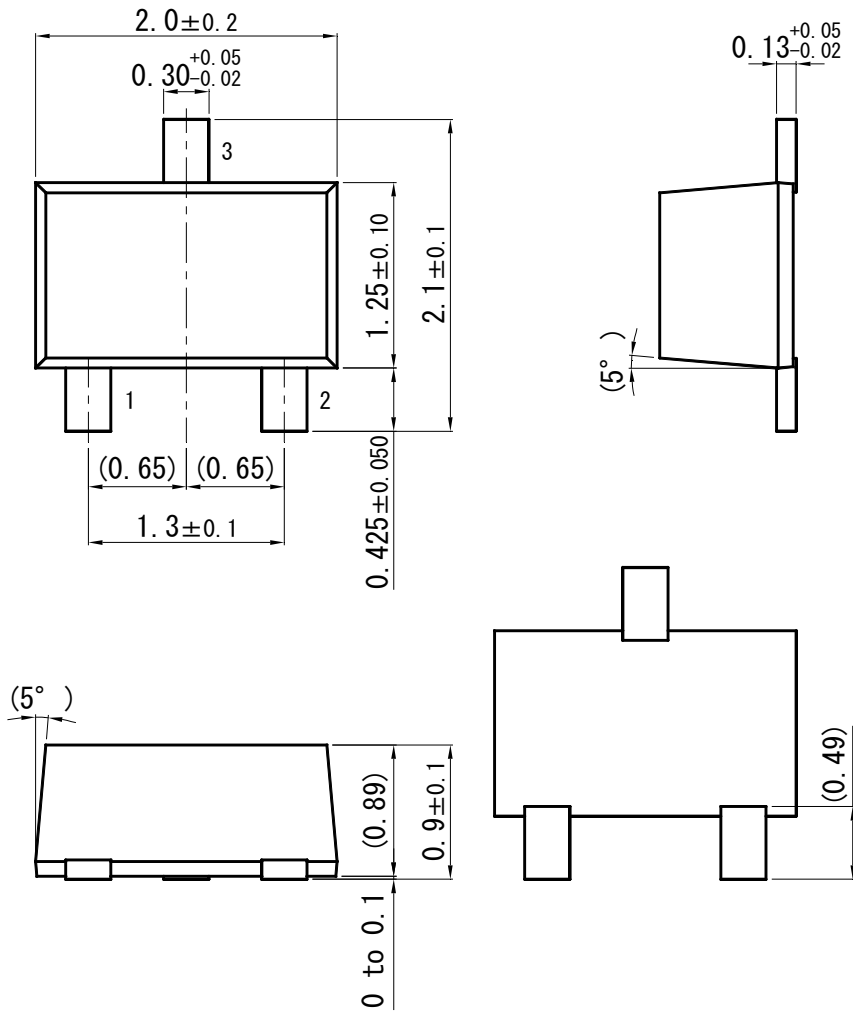
Technical Data ( reference )



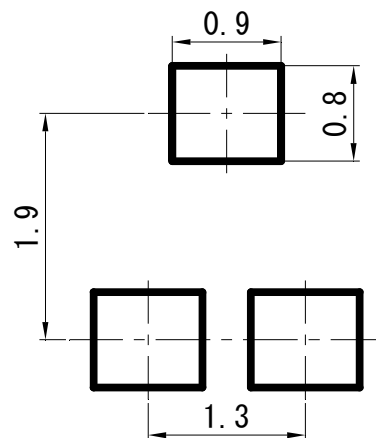


### SMini3-F2-B

Unit: mm



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





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