



## DRC2143Y0L

Silicon NPN epitaxial planar type

For digital circuits

Complementary to DRA2143Y

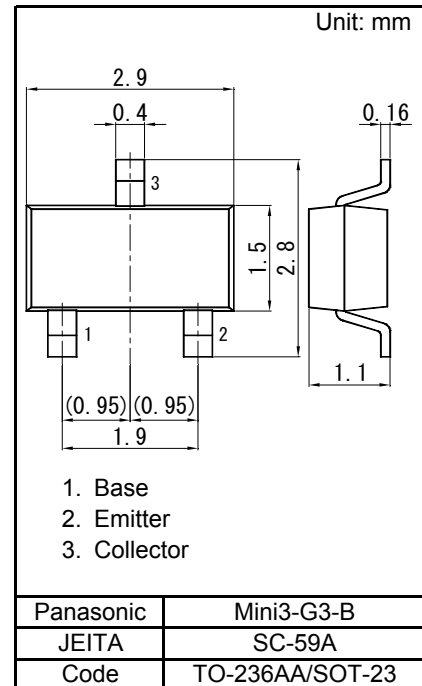
### ■ Features

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

### ■ Marking Symbol: N7

### ■ Packaging

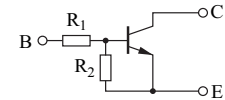
Embossed type (Thermo-compression sealing) : 3 000 pcs / reel (standard)



### ■ 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     | 200         | mW                 |
| Junction temperature                  | Tj     | 150         | $^{\circ}\text{C}$ |
| Operating ambient temperature         | Topr   | -40 to +85  | $^{\circ}\text{C}$ |
| Storage temperature                   | Tstg   | -55 to +150 | $^{\circ}\text{C}$ |

### Internal Connection



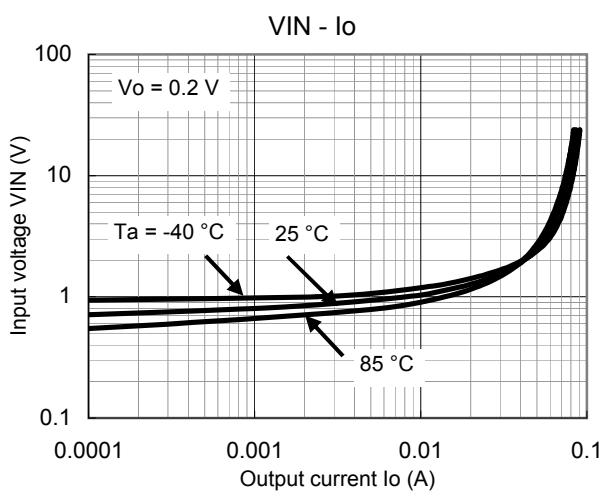
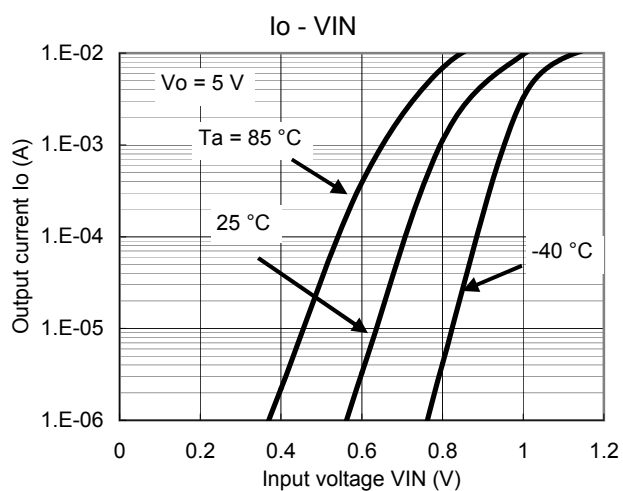
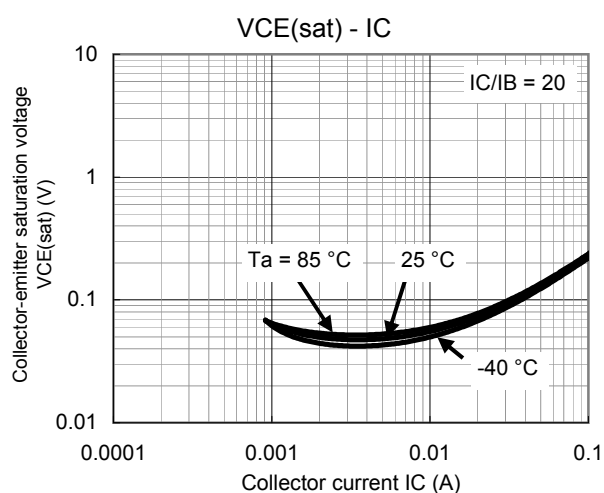
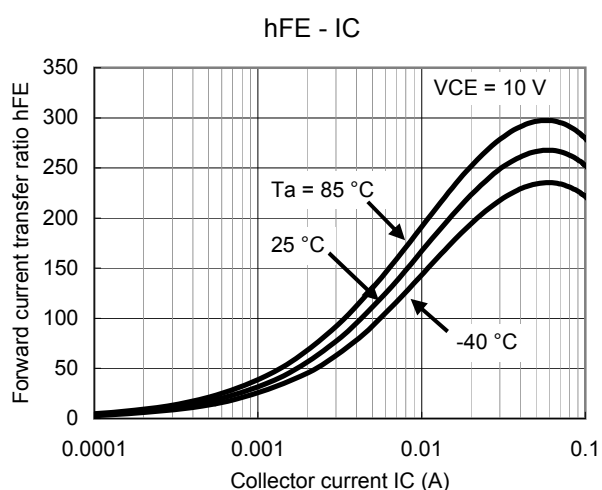
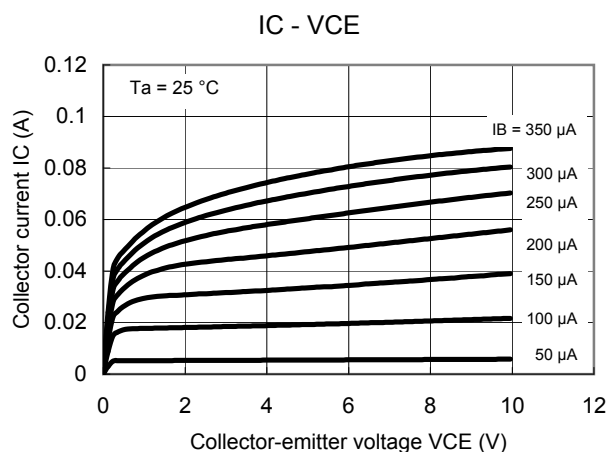
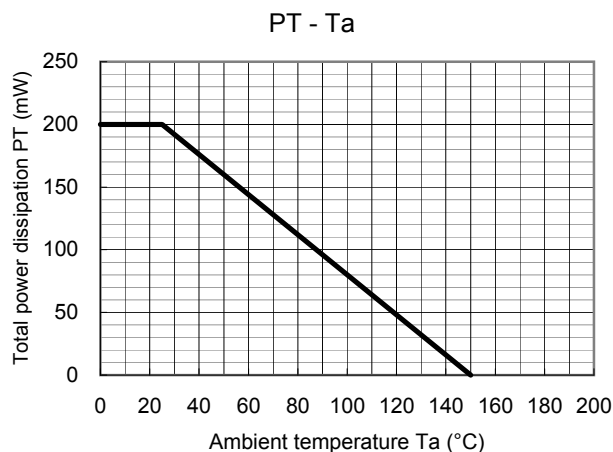
|                  |    |     |            |
|------------------|----|-----|------------|
| Resistance value | R1 | 4.7 | k $\Omega$ |
|                  | R2 | 22  | k $\Omega$ |

### ■ 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                 |      |      | 0.4  | mA            |
| Forward current transfer ratio               | hFE      | VCE = 10 V, IC = 5 mA             | 60   |      | 200  | -             |
| 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 $\mu\text{A}$ |      |      | 0.5  | V             |
| Input resistance                             | R1       |                                   | -30% | 4.7  | +30% | k $\Omega$    |
| Resistance ratio                             | R1/R2    |                                   | 0.17 | 0.21 | 0.27 | -             |

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

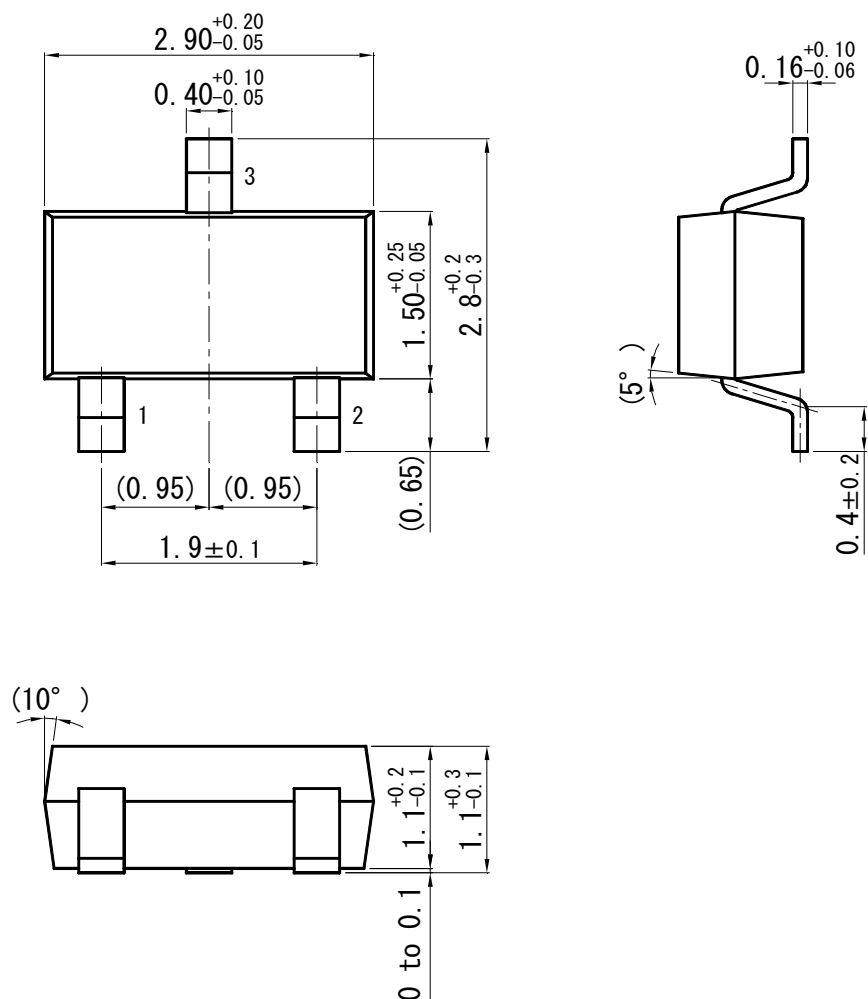
Technical Data ( reference )



**Panasonic**

Mini3-G3-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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