



DRC2144E0L

Silicon NPN epitaxial planar type

For digital circuits

Complementary to DRA2144E

■ Features

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

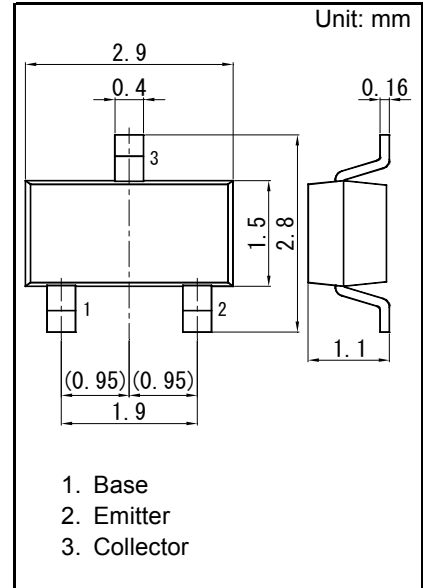
■ Marking Symbol: NL

■ Packaging

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

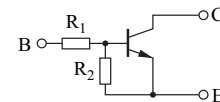
■ Absolute Maximum Ratings $T_a = 25\text{ }^\circ\text{C}$

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



| | |
|-----------|-----------------|
| Panasonic | Mini3-G3-B |
| JEITA | SC-59A |
| Code | TO-236AA/SOT-23 |

Internal Connection



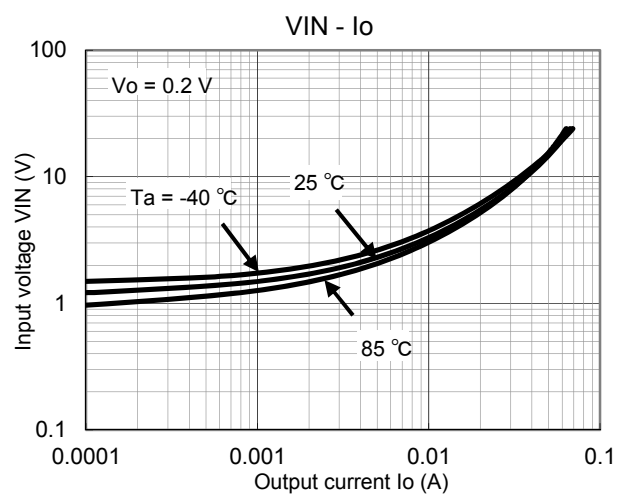
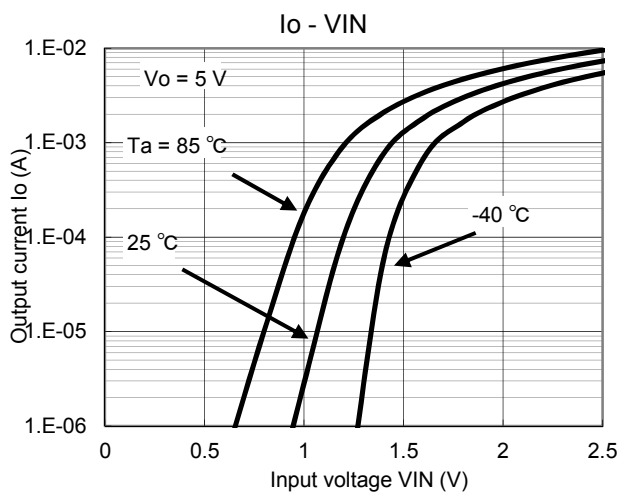
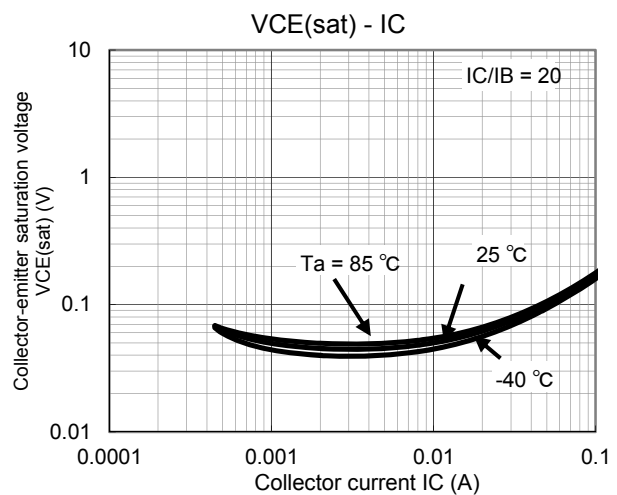
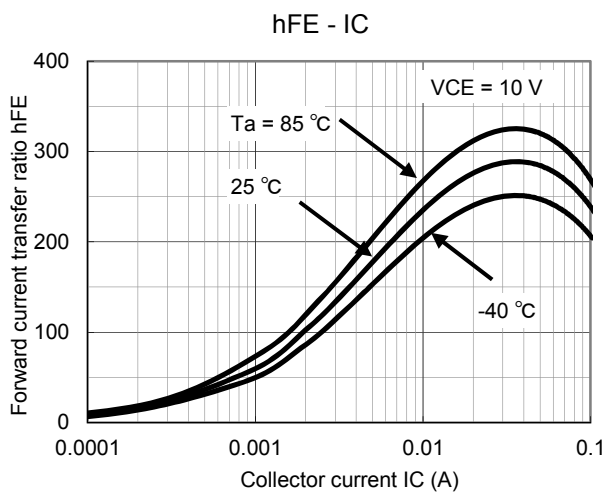
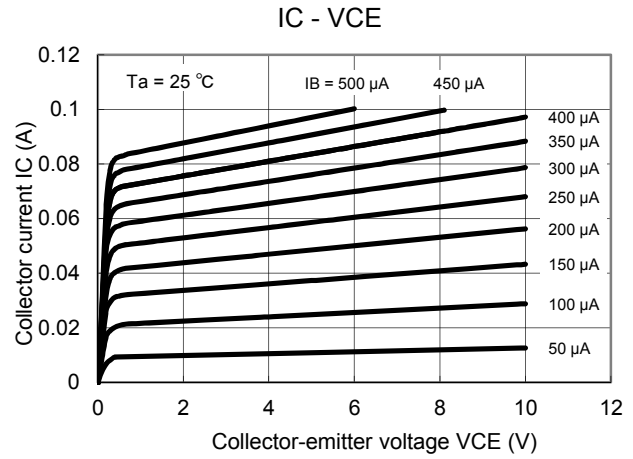
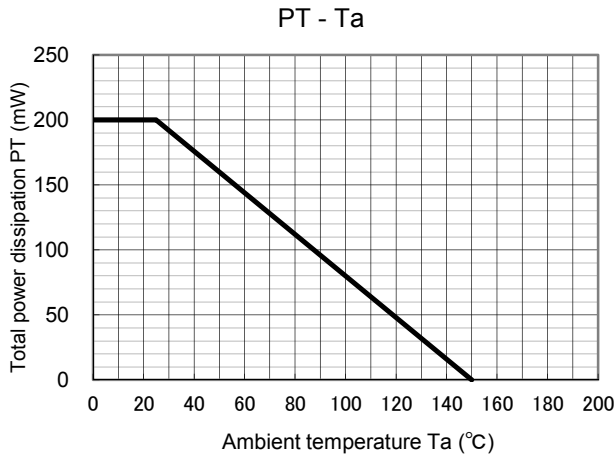
| | | | |
|------------------|----|----|----|
| Resistance value | R1 | 47 | kΩ |
| | R2 | 47 | kΩ |

■ 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 μA, 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 | μA |
| Collector-emitter cutoff current (Base open) | ICEO | VCE = 50 V, IB = 0 | | | 0.5 | μA |
| Emitter-base cutoff current (Collector open) | IEBO | VEB = 6 V, IC = 0 | | | 0.1 | 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 | 3.6 | | | V |
| | Vi(off) | VCE = 5 V, IC = 100 μA | | | 0.8 | V |
| Input resistance | R1 | | -30% | 47 | +30% | kΩ |
| 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.

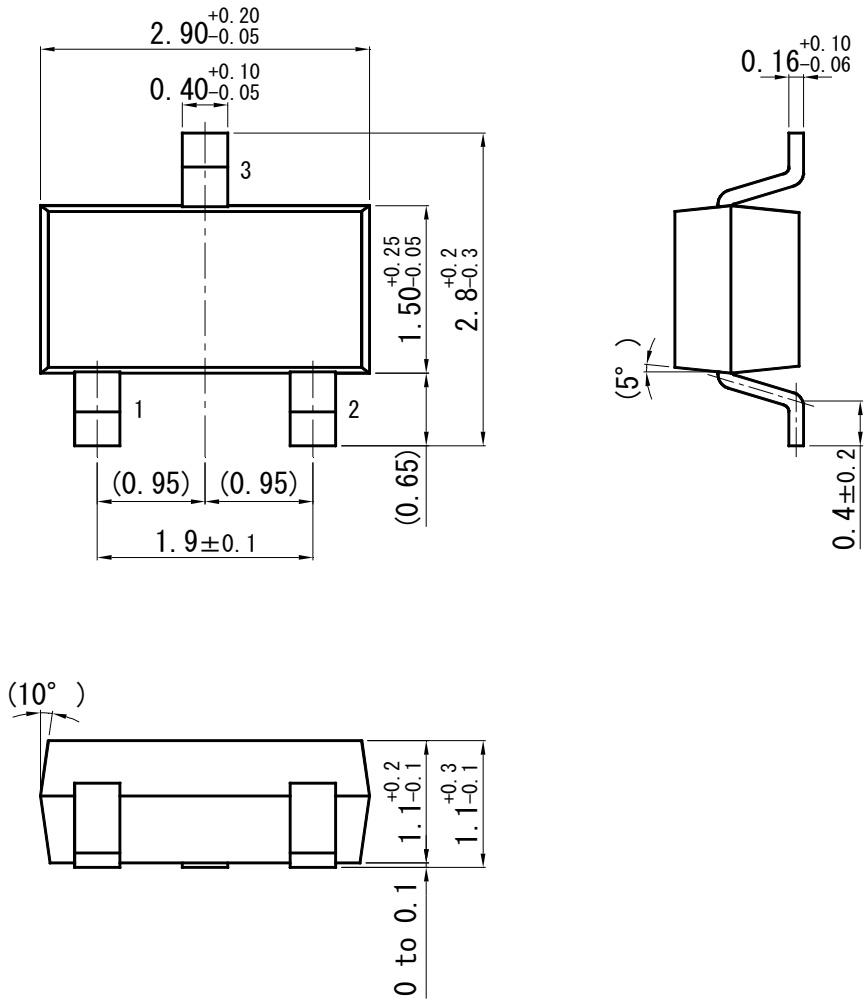
Technical Data (reference)



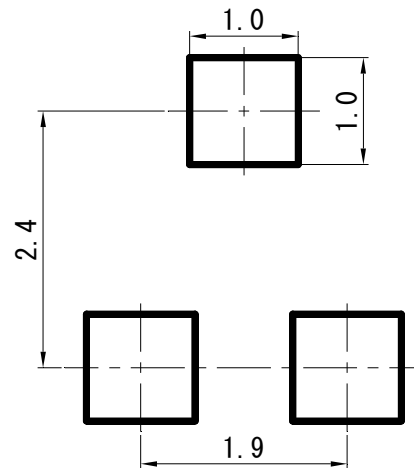


Mini3-G3-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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