

# DRC2124E

## Silicon NPN epitaxial planar type

For digital circuits

Complementary to DRA2124E

### ■ Features

- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

### ■ Packaging

Embossed type (Thermo-compression sealing): 3000 pcs / reel (standard)

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

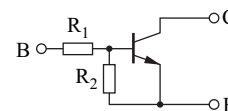
| Parameter                             | Symbol           | Rating      | Unit             |
|---------------------------------------|------------------|-------------|------------------|
| Collector-base voltage (Emitter open) | $V_{\text{CBO}}$ | 50          | V                |
| Collector-emitter voltage (Base open) | $V_{\text{CEO}}$ | 50          | V                |
| Collector current                     | $I_{\text{C}}$   | 100         | mA               |
| Total power dissipation               | $P_{\text{T}}$   | 200         | mW               |
| Junction temperature                  | $T_{\text{j}}$   | 150         | $^\circ\text{C}$ |
| Storage temperature                   | $T_{\text{stg}}$ | -55 to +150 | $^\circ\text{C}$ |

### ■ Package

- Code  
Mini3-G3-B
- Pin Name  
1: Base  
2: Emitter  
3: Collector

### ■ Marking Symbol: NE

### ■ Internal Connection

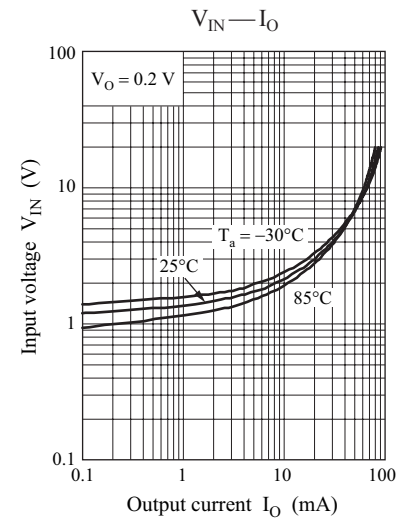
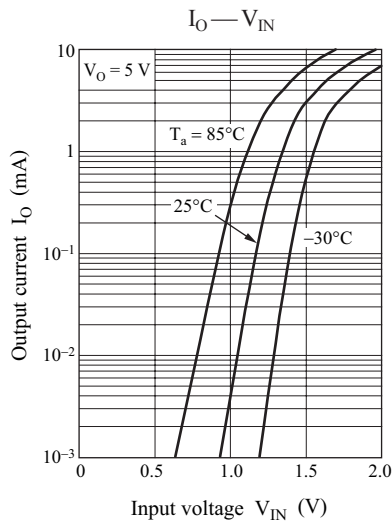
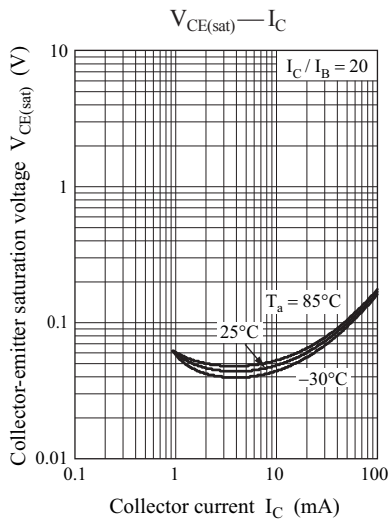
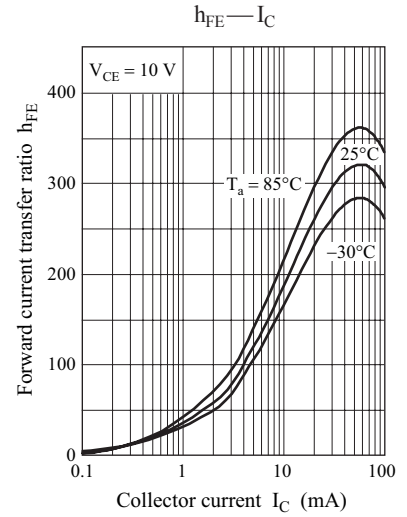
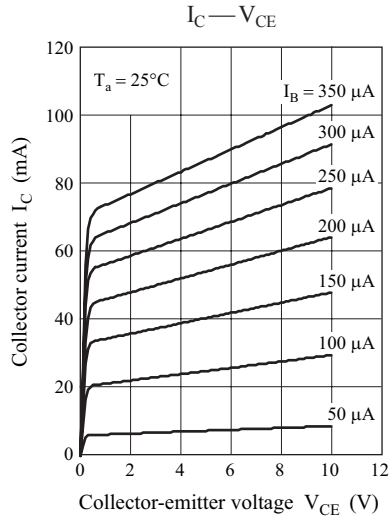
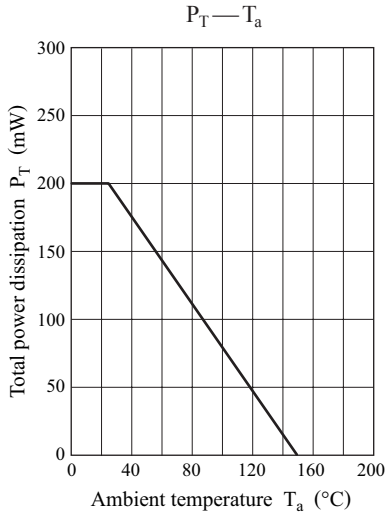


| Resistance value | $R_1$ | 22 | $\text{k}\Omega$ |
|------------------|-------|----|------------------|
|                  | $R_2$ | 22 | $\text{k}\Omega$ |

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

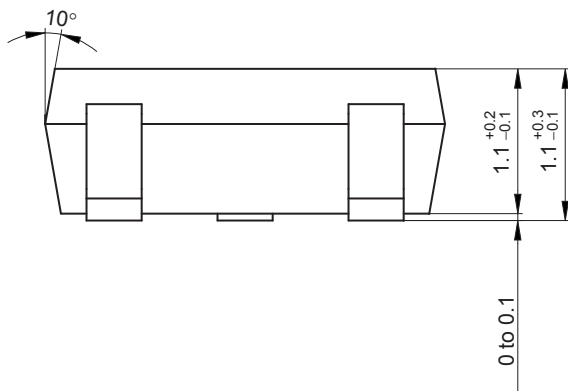
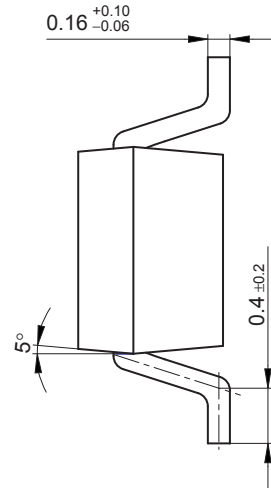
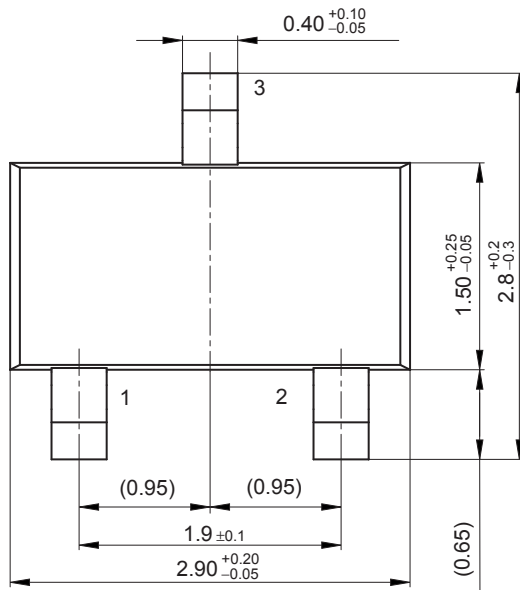
| Parameter                                    | Symbol               | Conditions   | Min  | Typ | Max  | Unit             |
|--|----------------------|--|------|-----|------|------------------|
| Collector-base voltage (Emitter open)        | $V_{\text{CBO}}$     | $I_{\text{C}} = 10 \mu\text{A}, I_{\text{E}} = 0$            | 50   |     |      | V                |
| Collector-emitter voltage (Base open)        | $V_{\text{CEO}}$     | $I_{\text{C}} = 2 \text{mA}, I_{\text{B}} = 0$               | 50   |     |      | V                |
| Collector-base cutoff current (Emitter open) | $I_{\text{CBO}}$     | $V_{\text{CB}} = 50 \text{V}, I_{\text{E}} = 0$              |      |     | 0.1  | $\mu\text{A}$    |
| Collector-emitter cutoff current (Base open) | $I_{\text{CEO}}$     | $V_{\text{CE}} = 50 \text{V}, I_{\text{B}} = 0$              |      |     | 0.5  | $\mu\text{A}$    |
| Emitter-base cutoff current (Collector open) | $I_{\text{EBO}}$     | $V_{\text{EB}} = 6 \text{V}, I_{\text{C}} = 0$               |      |     | 0.2  | mA               |
| Forward current transfer ratio               | $h_{\text{FE}}$      | $V_{\text{CE}} = 10 \text{V}, I_{\text{C}} = 5 \text{mA}$    | 60   |     |      | —                |
| Collector-emitter saturation voltage         | $V_{\text{CE(sat)}}$ | $I_{\text{C}} = 10 \text{mA}, I_{\text{B}} = 0.5 \text{mA}$  |      |     | 0.25 | V                |
| Input voltage (ON)                           | $V_{\text{I(on)}}$   | $V_{\text{CE}} = 0.2 \text{V}, I_{\text{C}} = 5 \text{mA}$   | 2.6  |     |      | V                |
| Input voltage (OFF)                          | $V_{\text{I(off)}}$  | $V_{\text{CE}} = 5 \text{V}, I_{\text{C}} = 100 \mu\text{A}$ |      |     | 0.8  | V                |
| Input resistance                             | $R_1$                |  | -30% | 22  | +30% | $\text{k}\Omega$ |
| Resistance ratio                             | $R_1 / R_2$          |  | 0.8  | 1.0 | 1.2  | —                |

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



Mini3-G3-B

Unit: mm



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