

DRC5113Z

Silicon NPN epitaxial planar type

For digital circuits

Complementary to DRA5113Z

■ 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 $T_a = 25^\circ\text{C}$

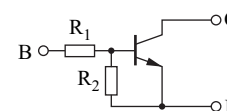
| Parameter | Symbol | Rating | Unit |
|---------------------------------------|------------------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 50 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 50 | V |
| Collector current | I_{C} | 100 | mA |
| Total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

■ Package

- Code
SMini3-F2-B
- Pin Name
1: Base
2: Emitter
3: Collector

■ Marking Symbol: N1

■ Internal Connection

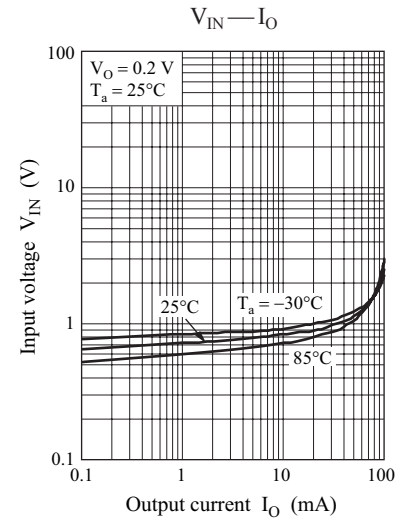
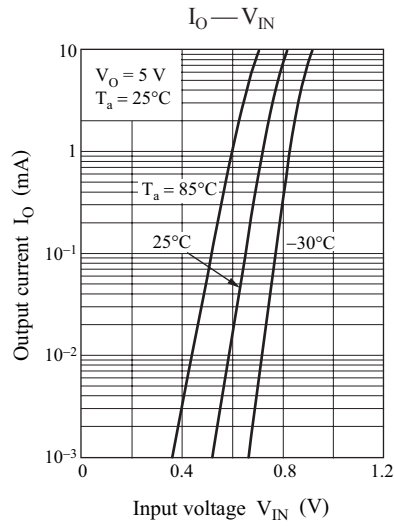
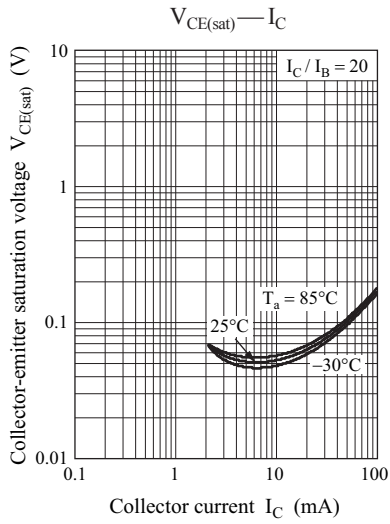
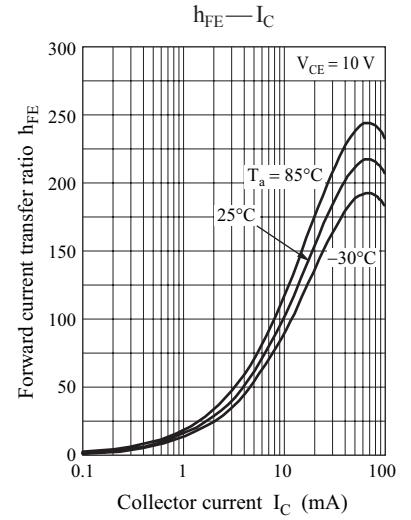
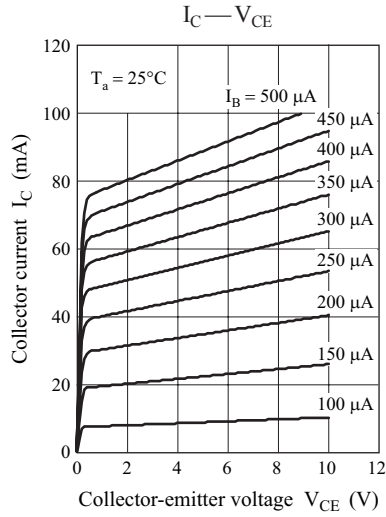
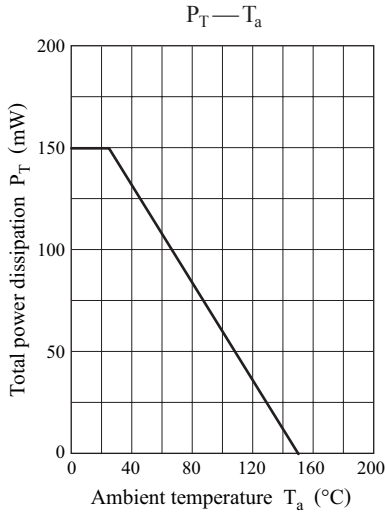


| Resistance value | R_1 | 1 | $\text{k}\Omega$ |
|------------------|-------|----|------------------|
| | R_2 | 10 | $\text{k}\Omega$ |

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

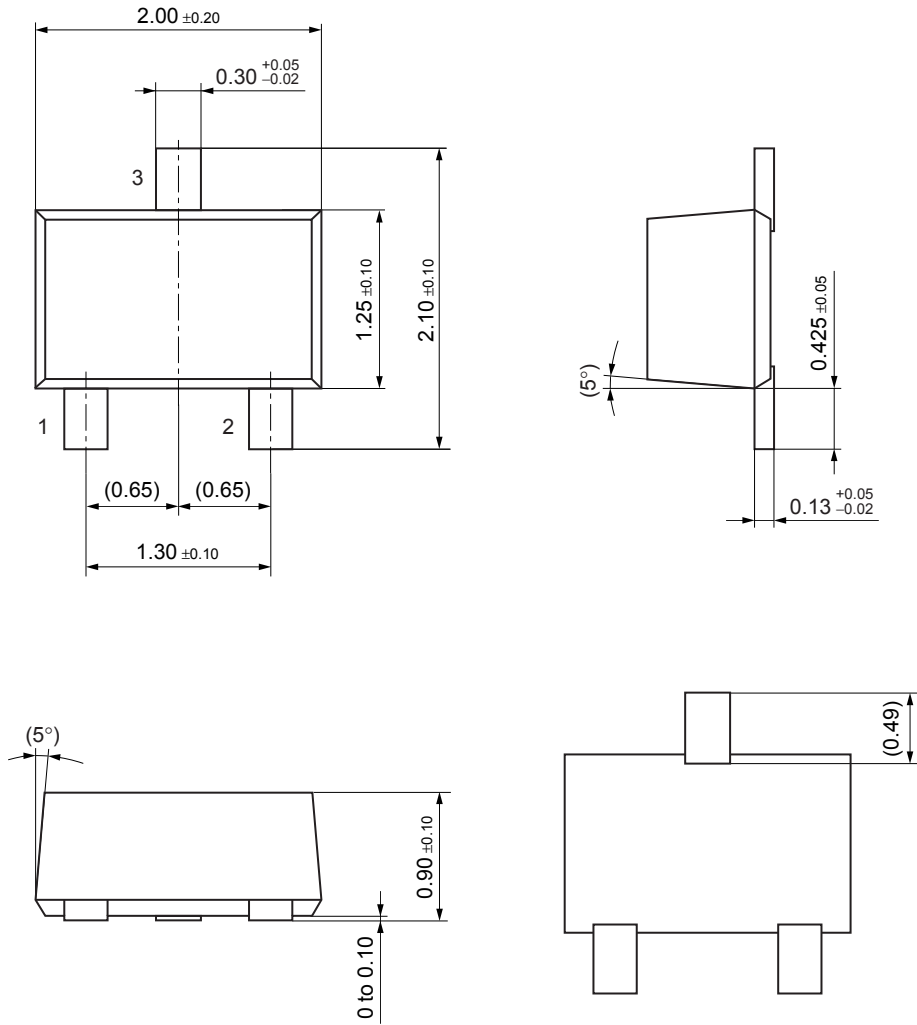
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|--|----------------------|--|------|------|------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | $I_{\text{C}} = 10 \mu\text{A}, I_{\text{E}} = 0$ | 50 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_{\text{C}} = 2 \text{mA}, I_{\text{B}} = 0$ | 50 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{\text{CB}} = 50 \text{V}, I_{\text{E}} = 0$ | | | 0.1 | μA |
| Collector-emitter cutoff current (Base open) | I_{CEO} | $V_{\text{CE}} = 50 \text{V}, I_{\text{B}} = 0$ | | | 0.5 | μA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{\text{EB}} = 6 \text{V}, I_{\text{C}} = 0$ | | | 1.5 | mA |
| Forward current transfer ratio | h_{FE} | $V_{\text{CE}} = 10 \text{V}, I_{\text{C}} = 5 \text{mA}$ | 30 | | | — |
| 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) | $V_{\text{I(on)}}$ | $V_{\text{CE}} = 0.2 \text{V}, I_{\text{C}} = 5 \text{mA}$ | 1.0 | | | V |
| Input voltage (OFF) | $V_{\text{I(off)}}$ | $V_{\text{CE}} = 5 \text{V}, I_{\text{C}} = 100 \mu\text{A}$ | | | 0.4 | V |
| Input resistance | R_1 | | -30% | 1 | +30% | $\text{k}\Omega$ |
| Resistance ratio | R_1 / R_2 | | 0.08 | 0.10 | 0.12 | — |

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



SMini3-F2-B

Unit: mm



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