

DRC5A13Z

Silicon NPN epitaxial planar type

For digital circuits

Complementary to DRA5A13Z

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- 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 $T_a = 25^\circ\text{C}$

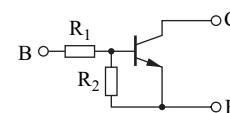
| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 50 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 50 | V |
| Collector current | I_C | 80 | mA |
| Total power dissipation | 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: J2

■ Internal Connection

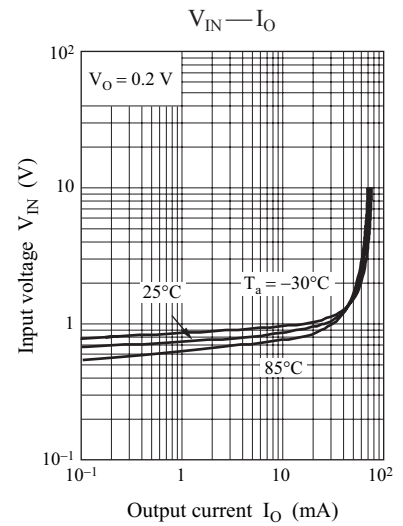
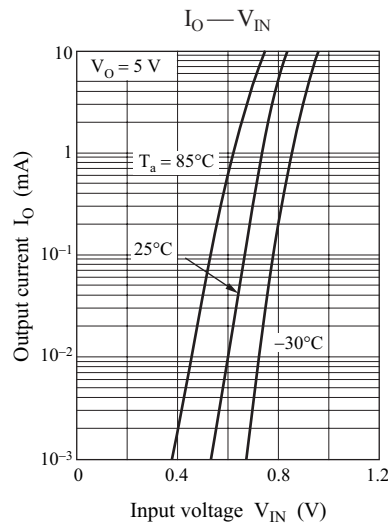
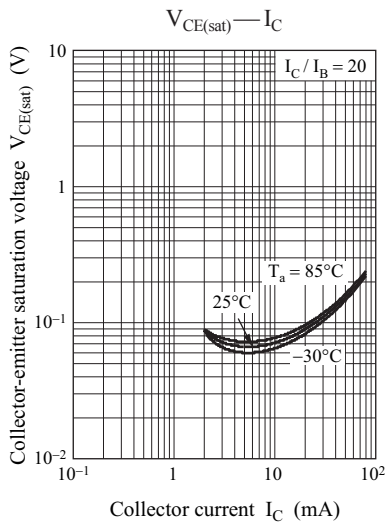
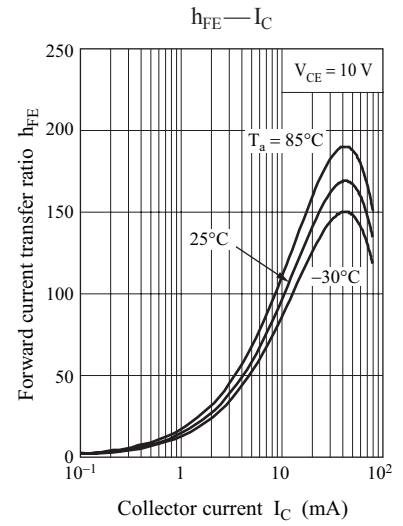
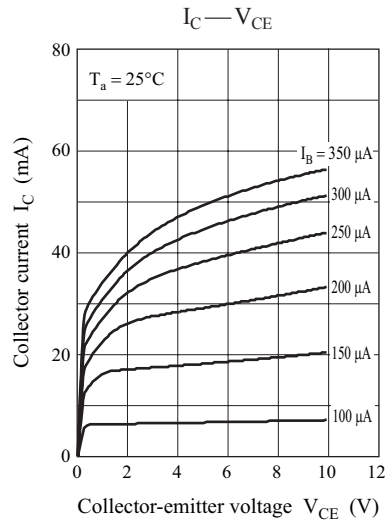
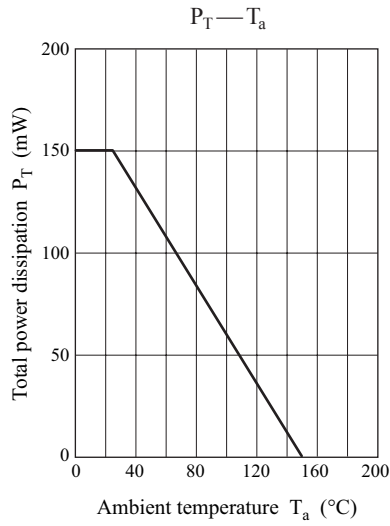


| Resistance value | R_1 | 1 | k Ω |
|------------------|-------|----|------------|
| | R_2 | 10 | k Ω |

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

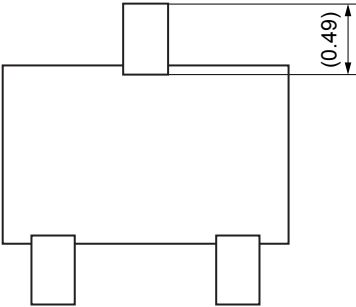
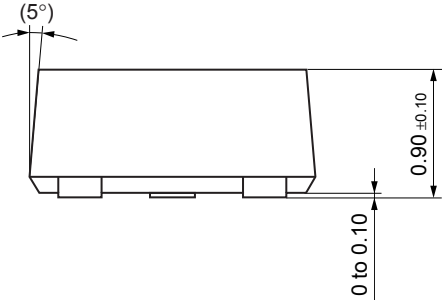
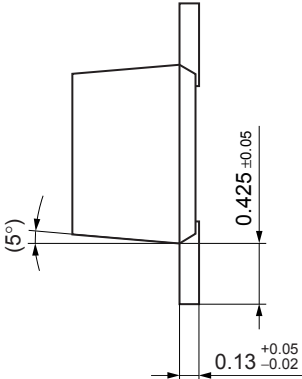
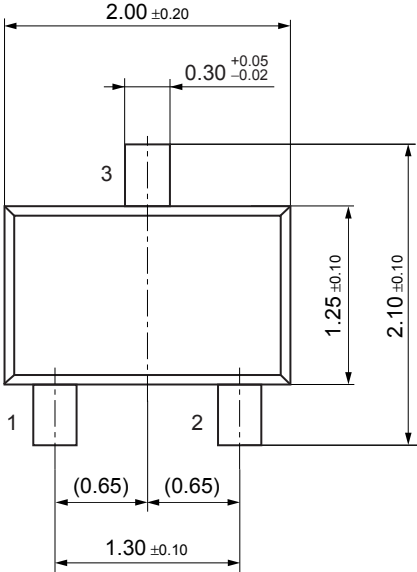
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|--|---------------|--|------|------|------|---------------|
| Collector-base voltage (Emitter open) | V_{CBO} | $I_C = 10 \mu\text{A}, I_E = 0$ | 50 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 2 \text{mA}, I_B = 0$ | 50 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = 50 \text{V}, I_E = 0$ | | | 0.1 | μA |
| Collector-emitter cutoff current (Base open) | I_{CEO} | $V_{CE} = 50 \text{V}, I_B = 0$ | | | 0.5 | μA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = 6 \text{V}, I_C = 0$ | | | 1.5 | mA |
| Forward current transfer ratio | h_{FE} | $V_{CE} = 10 \text{V}, I_C = 5 \text{mA}$ | 30 | | | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10 \text{mA}, I_B = 0.5 \text{mA}$ | | | 0.25 | V |
| Input voltage (ON) | $V_{I(on)}$ | $V_{CE} = 0.2 \text{V}, I_C = 5 \text{mA}$ | 1.0 | | | V |
| Input voltage (OFF) | $V_{I(off)}$ | $V_{CE} = 5 \text{V}, I_C = 100 \mu\text{A}$ | | | 0.4 | V |
| Input resistance | R_1 | | -30% | 1 | +30% | k Ω |
| 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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