

UNR52A4G

Silicon NPN epitaxial planar type

For digital circuits

■ Features

- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.
- SMini type package allowing easy automatic insertion through tape packing

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

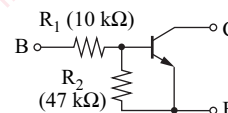
| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 50 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 50 | V |
| Collector current | I_C | 80 | mA |
| Total power dissipation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

■ Marking Symbol: FP

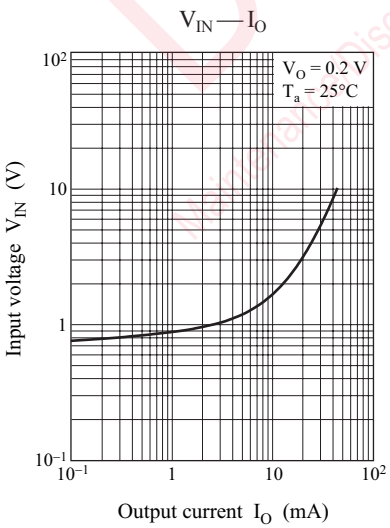
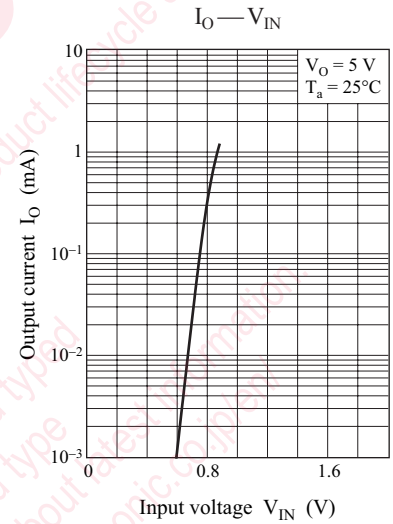
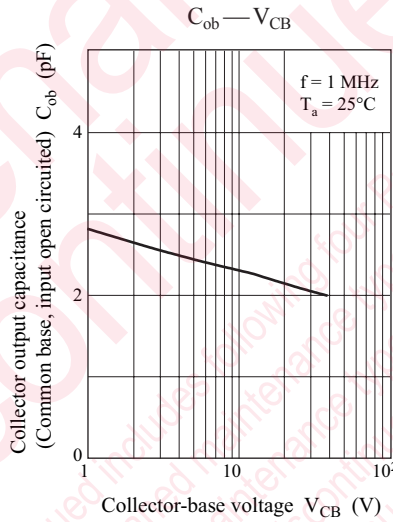
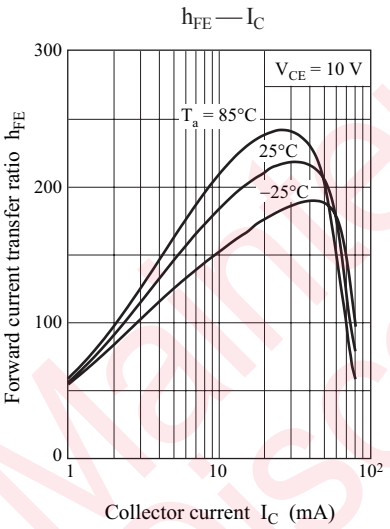
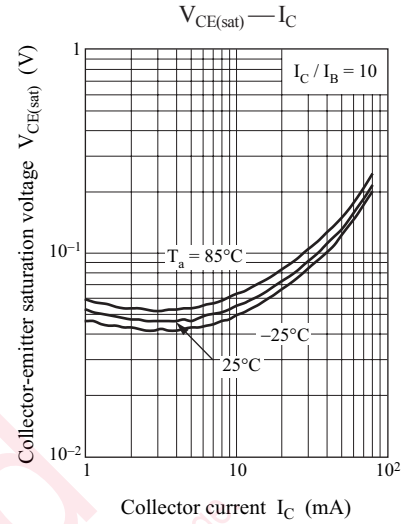
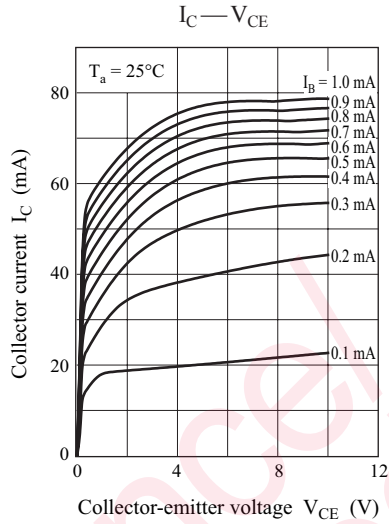
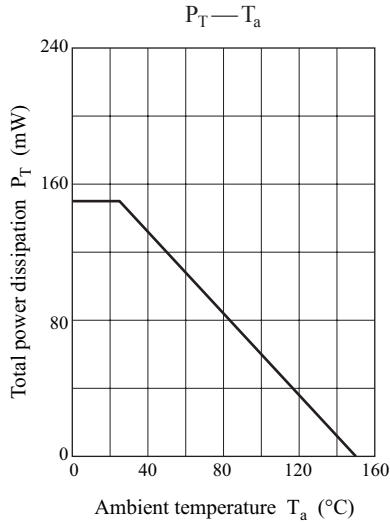
■ Internal Connection



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

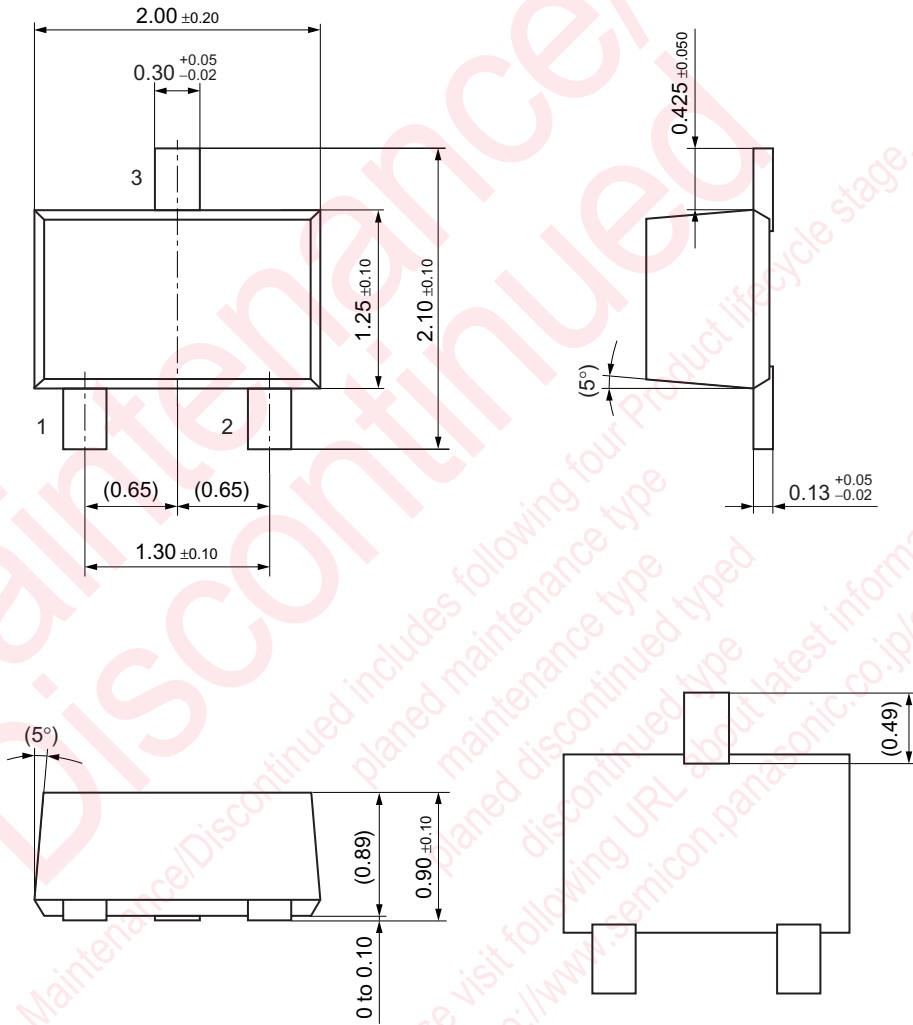
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|--|---------------|---|------|------|------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | $I_C = 10 \mu\text{A}, I_E = 0$ | 50 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 2 \text{mA}, I_B = 0$ | 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} | $V_{EB} = 6 \text{V}, I_C = 0$ | | | 0.2 | mA |
| Forward current transfer ratio | h_{FE} | $V_{CE} = 10 \text{V}, I_C = 5 \text{mA}$ | 80 | | | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10 \text{mA}, I_B = 0.3 \text{mA}$ | | | 0.25 | V |
| Output voltage high-level | V_{OH} | $V_{CC} = 5 \text{V}, V_B = 0.5 \text{V}, R_L = 1 \text{k}\Omega$ | 4.9 | | | V |
| Output voltage low-level | V_{OL} | $V_{CC} = 5 \text{V}, V_B = 2.5 \text{V}, R_L = 1 \text{k}\Omega$ | | | 0.2 | V |
| Input resistance | R_1 | | -30% | 10 | +30% | $\text{k}\Omega$ |
| Resistance ratio | R_1 / R_2 | | 0.17 | 0.21 | 0.25 | — |
| Transition frequency | f_T | $V_{CB} = 10 \text{V}, I_E = -2 \text{mA}, f = 200 \text{MHz}$ | | 150 | | MHz |

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



SMini3-F2

Unit: mm



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