# NP062AN

## Silicon NPN epitaxial planar type

### For digital circuits

#### ■ Features

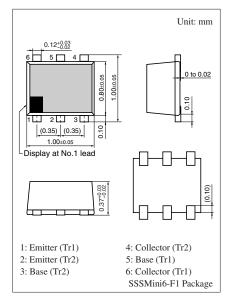
- Two elements incorporated into one package
- Suitable for high-density mounting and downsizing of the equipment
- Contribute to low power consumption

#### ■ Basic Part Number

• UNR32AN × 2

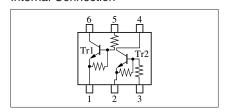
### ■ Absolute Maximum Ratings $T_a = 25$ °C

| Parameter                             | Symbol           | Rating      | Unit |  |
|---------------------------------------|------------------|-------------|------|--|
| Collector-base voltage (Emitter open) | V <sub>CBO</sub> | 50          | V    |  |
| Collector-emitter voltage (Base open) | V <sub>CEO</sub> | 50          | V    |  |
| Collector current                     | $I_C$            | 80          | mA   |  |
| Total power dissipation               | P <sub>T</sub>   | 125         | mW   |  |
| Junction temperature                  | Tj               | 125         | °C   |  |
| Storage temperature                   | $T_{stg}$        | -55 to +125 | °C   |  |



Marking Symbol: 2N

#### Internal Connection

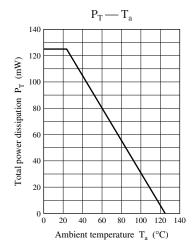


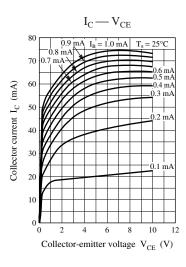
## ■ Electrical Characteristics $T_a = 25$ °C $\pm 3$ °C

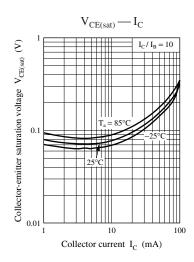
| Parameter                                    | Symbol                 | Conditions   | Min  | Тур  | Max  | Unit |
|--|------------------------|--|------|------|------|------|
| Collector-base voltage (Emitter open)        | V <sub>CBO</sub>       | $I_C = 10 \mu\text{A},  I_E = 0$   | 50   |      |      | V    |
| Collector-emitter voltage (Base open)        | V <sub>CEO</sub>       | $I_C = 2 \text{ mA}, I_B = 0$  | 50   |      |      | V    |
| Collector-base cutoff current (Emitter open) | $I_{CBO}$              | $V_{CB} = 50 \text{ V}, I_{E} = 0$                                       |      |      | 0.1  | μΑ   |
| Collector-emitter cutoff current (Base open) | $I_{CEO}$              | $V_{CE} = 50 \text{ V}, I_{B} = 0$                                       |      |      | 0.5  | μΑ   |
| Emitter-base cutoff current (Collector open) | $I_{EBO}$              | $V_{EB} = 6 \text{ V}, I_C = 0$  |      |      | 0.2  | mA   |
| Forward current transfer ratio               | h <sub>FE</sub>        | $V_{CE} = 10 \text{ V}, I_{C} = 5 \text{ mA}$                            | 80   |      | 400  | _    |
| h <sub>FE</sub> Ratio *                      | h <sub>FE(Small/</sub> | $V_{CE} = 10 \text{ V}, I_{C} = 5 \text{ mA}$                            | 0.50 | 0.99 |      | _    |
|  | Large)                 |  |      |      |      |      |
| Collector-emitter saturation voltage         | V <sub>CE(sat)</sub>   | $I_C = 10 \text{ mA}, I_B = 0.3 \text{ mA}$                              |      |      | 0.25 | V    |
| Output voltage high level                    | V <sub>OH</sub>        | $V_{CC} = 5 \text{ V}, V_{B} = 0.5 \text{ V}, R_{L} = 1 \text{ k}\Omega$ | 4.9  |      |      | V    |
| Output voltage low level                     | V <sub>OL</sub>        | $V_{CC} = 5 \text{ V}, V_{B} = 2.5 \text{ V}, R_{L} = 1 \text{ k}\Omega$ |      |      | 0.2  | V    |
| Input resistance                             | R <sub>1</sub>         |  | -30% | 4.7  | +30% | kΩ   |
| Resistance ratio                             | $R_1 / R_2$            |  |      | 0.1  |      | _    |
| Transition frequency                         | $f_T$                  | $V_{CB} = 10 \text{ V}, I_E = -2 \text{ mA}, f = 200 \text{ MHz}$        |      | 150  |      | MHz  |

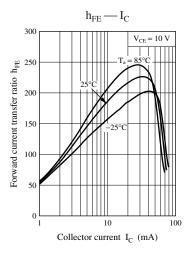
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

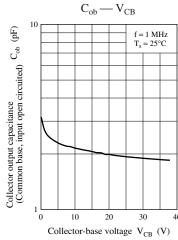
2. \*: Ratio between one and another

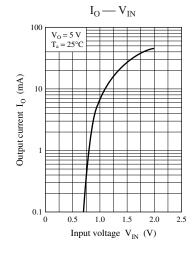


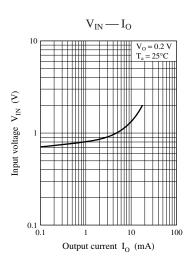












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