

# NP042A6

## Silicon NPN epitaxial planar type

For digital circuits

### ■ Features

- Two elements incorporated into one package (Each transistor is separated)
- SSSMini type package, reduction of the mounting area and assembly cost
- Maximum package height (0.4 mm) contributes to develop thinner equipments

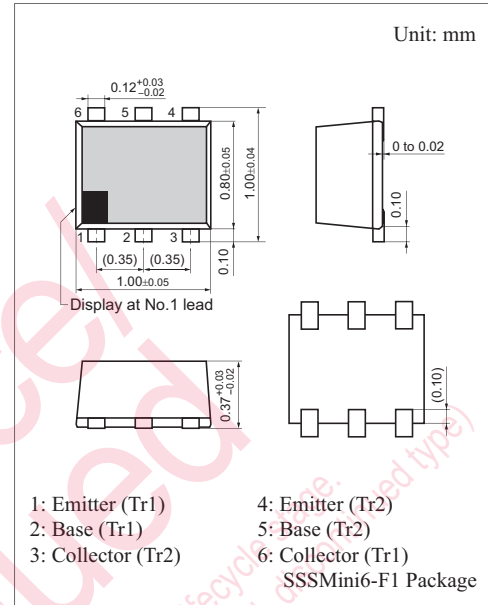
### ■ Basic Part Number

- UNR32A6 × 2

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

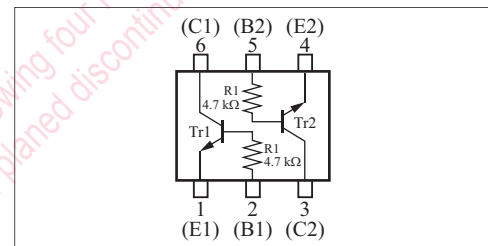
| Parameter                             | Symbol    | Rating      | Unit             |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | $V_{CBO}$ | 50          | V                |
| Collector-emitter voltage (Base open) | $V_{CEO}$ | 50          | V                |
| Collector current                     | $I_C$     | 80          | mA               |
| Total power dissipation *             | $P_T$     | 125         | mW               |
| Junction temperature                  | $T_j$     | 125         | $^\circ\text{C}$ |
| Storage temperature                   | $T_{stg}$ | -55 to +125 | $^\circ\text{C}$ |

Note) \* : Measuring on substrate at 17 mm × 10 mm × 1 mm



Marking Symbol: 8U

Internal Connection

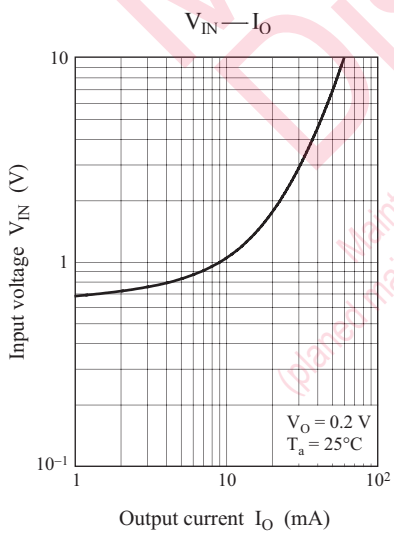
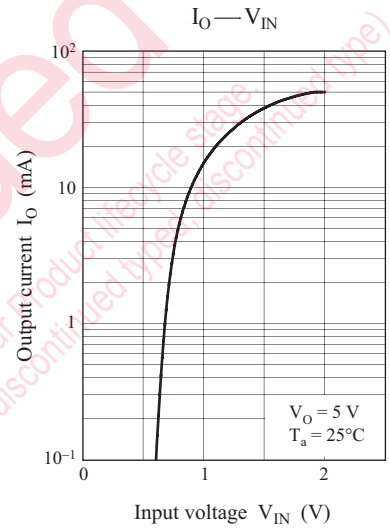
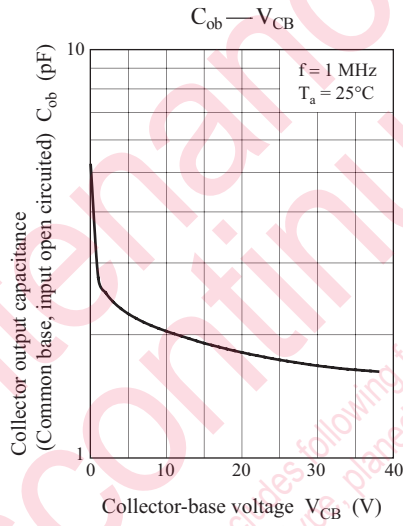
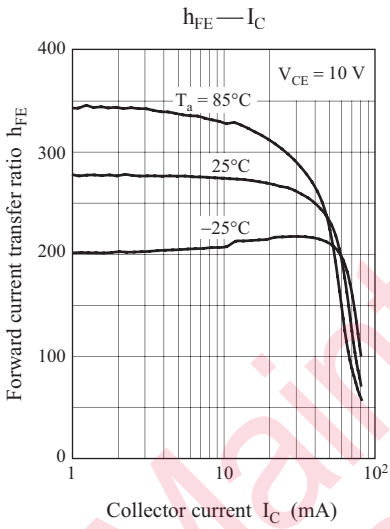
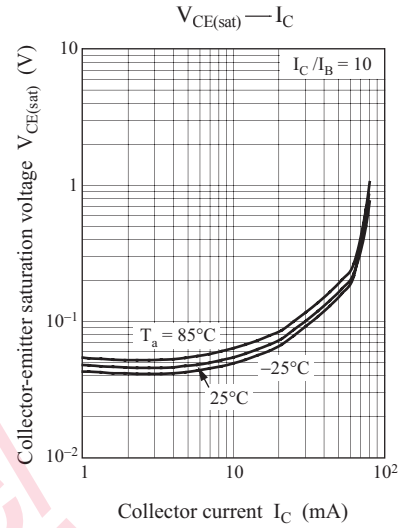
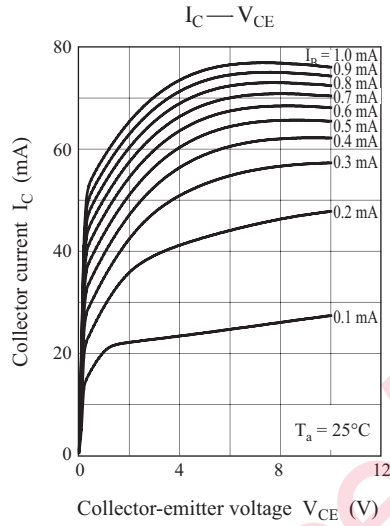
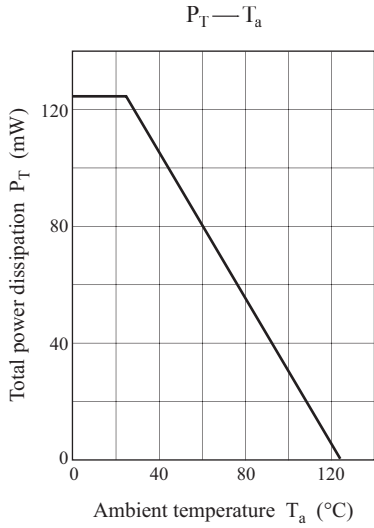


### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| 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  | $\mu\text{A}$ |
| Collector-emitter cutoff current (Base open) | $I_{CEO}$     | $V_{CE} = 50 \text{ V}, I_B = 0$                                     |      |     | 0.5  | $\mu\text{A}$ |
| Emitter-base cutoff current (Collector open) | $I_{EBO}$     | $V_{EB} = 6 \text{ V}, I_C = 0$                                      |      |     | 0.01 | mA            |
| Forward current transfer ratio               | $h_{FE}$      | $V_{CE} = 10 \text{ V}, I_C = 5 \text{ mA}$                          | 160  |     | 460  | —             |
| 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                             | $R_i$         |  | -30% | 4.7 | +30% | kΩ            |
| 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. \*: Pulse measurement



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