

# UNR92ATG

## Silicon NPN epitaxial planar type

For digital circuits

### ■ Features

- Optimum for high-density mounting and downsizing of the equipment
- Contribute to low power consumption

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

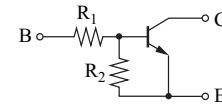
| Parameter                             | Symbol           | Rating      | Unit             |
|---------------------------------------|------------------|-------------|------------------|
| Collector-base voltage (Emitter open) | $V_{\text{CBO}}$ | 50          | V                |
| Collector-emitter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

### ■ Package

- Code  
SSMini3-F3
- Pin Name  
1: Base  
2: Emitter  
3: Collector

### ■ Marking Symbol: KZ

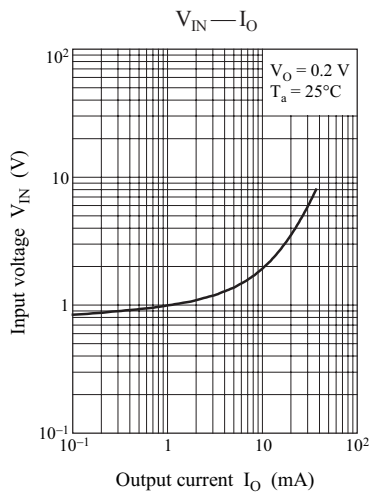
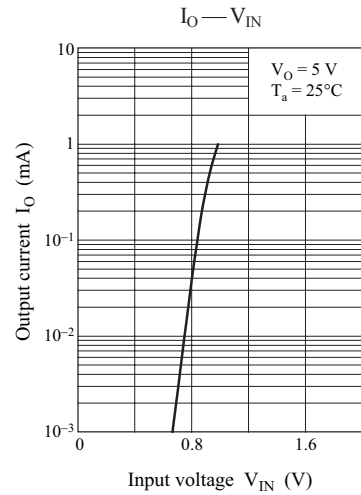
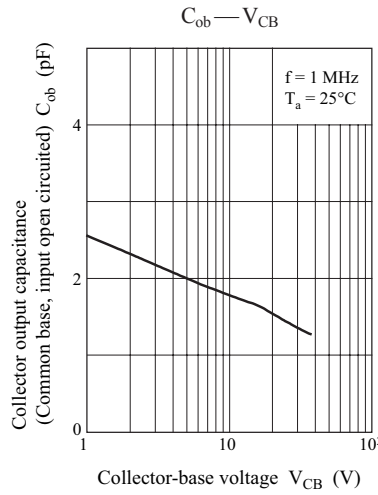
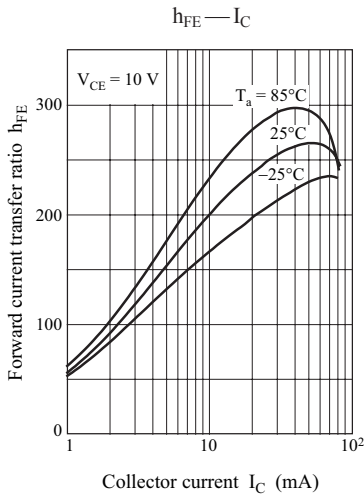
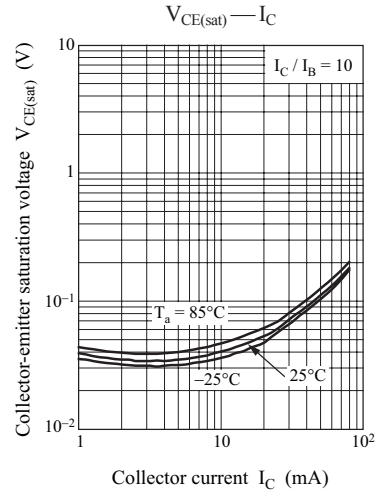
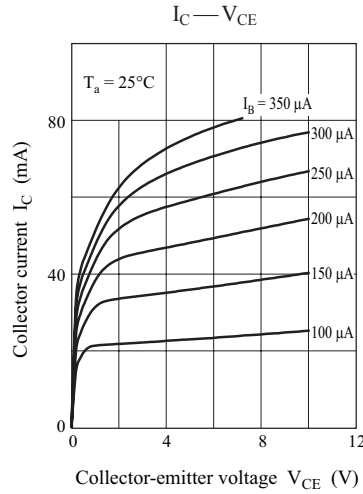
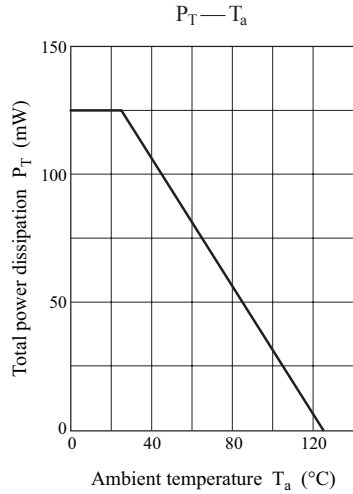
### ■ Internal Connection



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

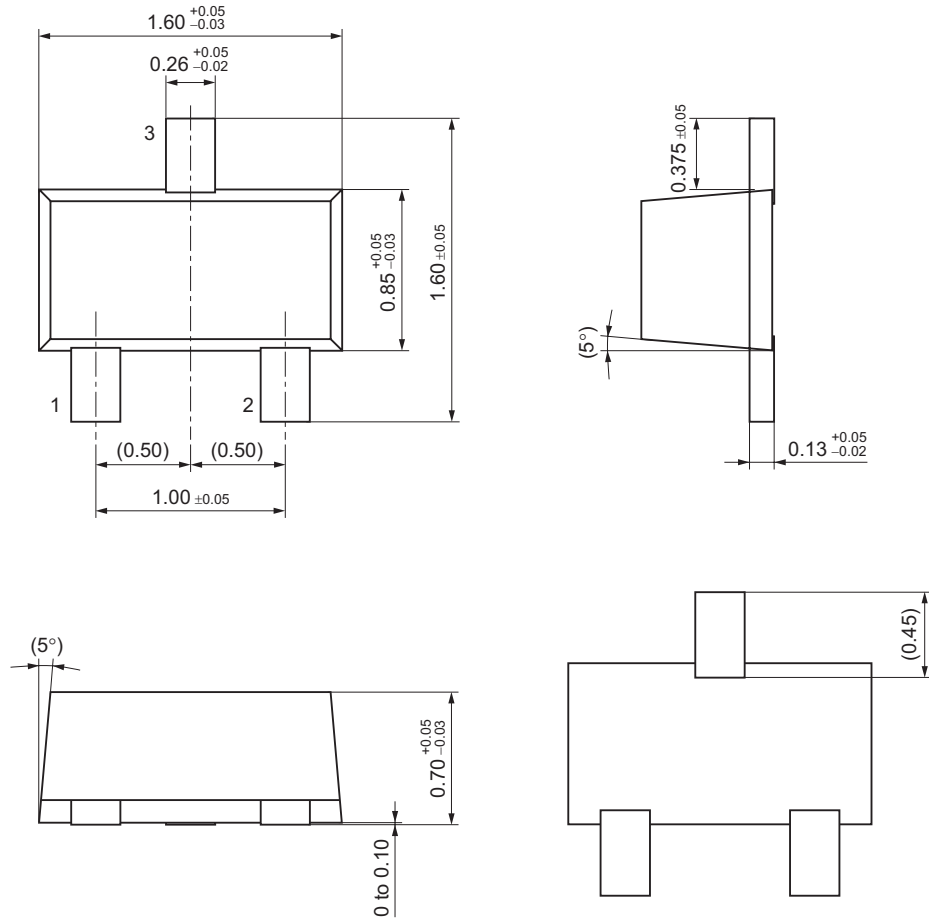
| Parameter                                    | Symbol                        | Conditions  | Min  | Typ  | Max  | Unit             |
|--|-------------------------------|---|------|------|------|------------------|
| Collector-base voltage (Emitter open)        | $V_{\text{CBO}}$              | $I_{\text{C}} = 10 \mu\text{A}, I_{\text{E}} = 0$   | 50   |      |      | V                |
| Collector-emitter voltage (Base open)        | $V_{\text{CEO}}$              | $I_{\text{C}} = 2 \text{ mA}, I_{\text{B}} = 0$   | 50   |      |      | V                |
| Collector-base cutoff current (Emitter open) | $I_{\text{CBO}}$              | $V_{\text{CB}} = 50 \text{ V}, I_{\text{E}} = 0$  |      |      | 0.1  | $\mu\text{A}$    |
| Collector-emitter cutoff current (Base open) | $I_{\text{CEO}}$              | $V_{\text{CE}} = 50 \text{ V}, I_{\text{B}} = 0$  |      |      | 0.5  | $\mu\text{A}$    |
| Emitter-base cutoff current (Collector open) | $I_{\text{EBO}}$              | $V_{\text{EB}} = 6 \text{ V}, I_{\text{C}} = 0$   |      |      | 0.2  | mA               |
| Forward current transfer ratio               | $h_{\text{FE}}$               | $V_{\text{CE}} = 10 \text{ V}, I_{\text{C}} = 5 \text{ mA}$                                   | 80   |      | 400  | —                |
| Collector-emitter saturation voltage         | $V_{\text{CE(sat)}}$          | $I_{\text{C}} = 10 \text{ mA}, I_{\text{B}} = 0.3 \text{ mA}$                                 |      |      | 0.25 | V                |
| Output voltage high-level                    | $V_{\text{OH}}$               | $V_{\text{CC}} = 5 \text{ V}, V_{\text{B}} = 0.5 \text{ V}, R_{\text{L}} = 1 \text{ k}\Omega$ | 4.9  |      |      | V                |
| Output voltage low-level                     | $V_{\text{OL}}$               | $V_{\text{CC}} = 5 \text{ V}, V_{\text{B}} = 2.5 \text{ V}, R_{\text{L}} = 1 \text{ k}\Omega$ |      |      | 0.2  | V                |
| Input resistance                             | $R_{\text{I}}$                |   | -30% | 22   | +30% | $\text{k}\Omega$ |
| Resistance ratio                             | $R_{\text{I}} / R_{\text{2}}$ |   |      | 0.47 |      | —                |
| Transition frequency                         | $f_{\text{T}}$                | $V_{\text{CB}} = 10 \text{ V}, I_{\text{E}} = -2 \text{ mA}, f = 200 \text{ MHz}$             |      | 150  |      | MHz              |

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



SSMini3-F3

Unit: mm



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