

**XN04214 (XN4214)**

## Silicon NPN epitaxial planar type

For switching/digital circuits

## ■ Features

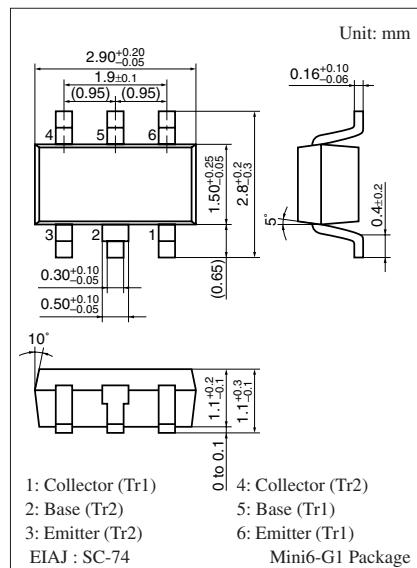
- Two elements incorporated into one package  
(Transistors with built-in resistor)
- Reduction of the mounting area and assembly cost by one half

### ■ Basic Part Number

- UNR2214 (UN2214)  $\times 2$

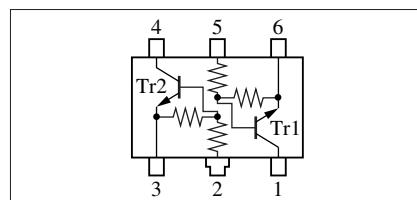
### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter                             | Symbol    | Rating      | Unit |
|---------------------------------------|-----------|-------------|------|
| Collector-base voltage (Emitter open) | $V_{CBO}$ | 50          | V    |
| Collector-emitter voltage (Base open) | $V_{CEO}$ | 50          | V    |
| Collector current                     | $I_C$     | 100         | mA   |
| Total power dissipation               | $P_T$     | 300         | mW   |
| Junction temperature                  | $T_j$     | 150         | °C   |
| Storage temperature                   | $T_{stg}$ | -55 to +150 | °C   |



Marking Symbol: BR

## Internal Connection

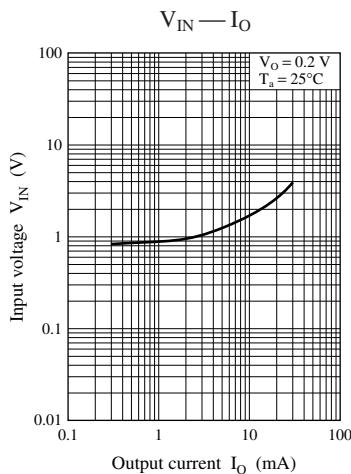
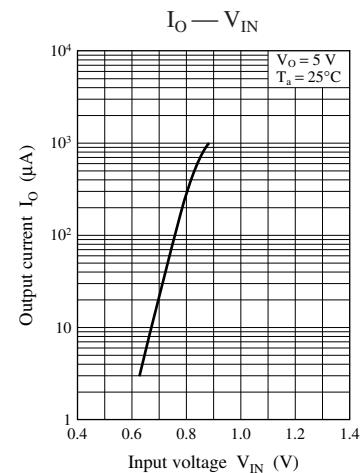
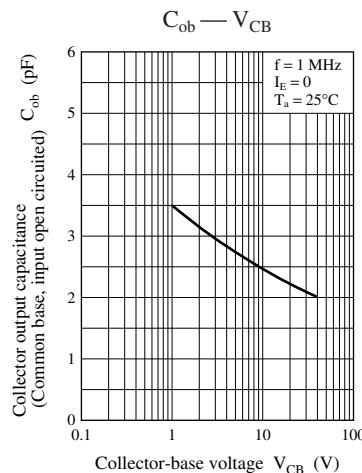
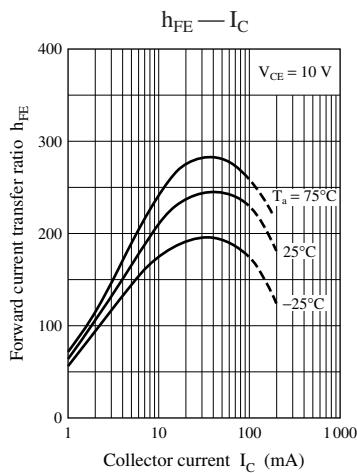
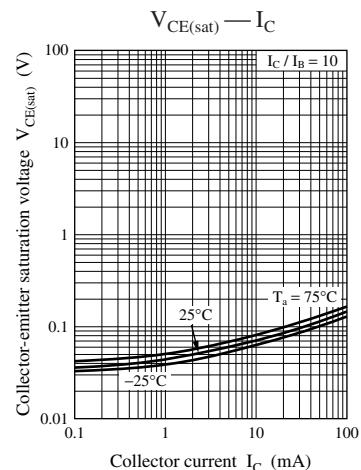
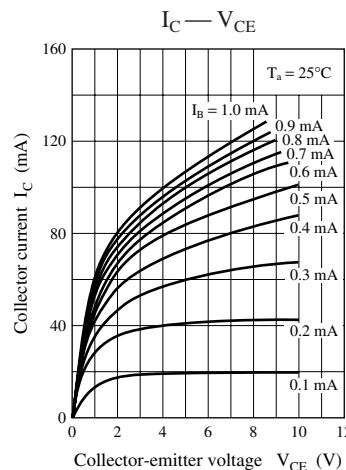
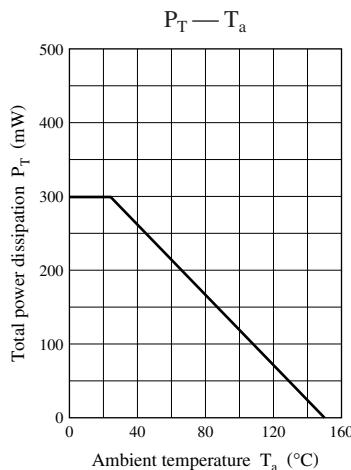


## ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter                                    | Symbol        | Conditions                                   | Min  | Typ  | Max  | Unit      |
|--|---------------|--|------|------|------|-----------|
| Collector-base voltage (Emitter open)        | $V_{CBO}$     | $I_C = 10 \mu A, I_E = 0$                    | 50   |      |      | V         |
| Collector-emitter voltage (Base open)        | $V_{CEO}$     | $I_C = 2 mA, I_B = 0$                        | 50   |      |      | V         |
| Collector-base cutoff current (Emitter open) | $I_{CBO}$     | $V_{CB} = 50 V, I_E = 0$                     |      |      | 0.1  | $\mu A$   |
| Collector-emitter cutoff current (Base open) | $I_{CEO}$     | $V_{CE} = 50 V, I_B = 0$                     |      |      | 0.5  | $\mu A$   |
| Emitter-base cutoff current (Collector open) | $I_{EBO}$     | $V_{EB} = 6 V, I_C = 0$                      |      |      | 0.2  | mA        |
| Forward current transfer ratio               | $h_{FE}$      | $V_{CE} = 10 V, I_C = 5 mA$                  | 80   |      |      | —         |
| Collector-emitter saturation voltage         | $V_{CE(sat)}$ | $I_C = 10 mA, I_B = 0.3 mA$                  |      |      | 0.25 | V         |
| Output voltage high-level                    | $V_{OH}$      | $V_{CC} = 5 V, V_B = 0.5 V, R_L = 1 k\Omega$ | 4.9  |      |      | V         |
| Output voltage low-level                     | $V_{OL}$      | $V_{CC} = 5 V, V_B = 2.5 V, R_L = 1 k\Omega$ |      |      | 0.2  | V         |
| Input resistance                             | $R_I$         |  | -30% | 10   | +30% | $k\Omega$ |
| Resistance ratio                             | $R_1 / R_2$   |  | 0.17 | 0.21 | 0.25 | —         |
| Transition frequency                         | $f_T$         | $V_{CB} = 10 V, I_E = -2 mA, f = 200 MHz$    |      | 150  |      | MHz       |

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

Note) The part number in the parenthesis shows conventional part number



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