

# RU TYPE

## 超精密級高精度抵抗器 Ultrahigh Precision High Accuracy Resistors



RU抵抗器はRHタイプを改良し、実装時の信頼性と長期安定性を高めた高精度抵抗器です。計測機器、分析機器など、各方面でご使用いただいている。

The RU type resistors have higher reliability when they are mounted on board, and excellent long term stability. These are used mainly in semi-conductor equipments, X-ray apparatuses, and other many measuring instruments.

### ■特長 / FEATURES

- 温度係数、抵抗値許容差が小さい。
- 小型軽量で信頼性が高く、長期安定性に優れている。
- 雷インパルス電圧に対して抵抗値変化が小さい。
- 実装時の熱負荷に安定である。

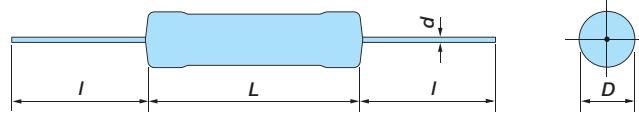
- Small temperature coefficient, small resistance tolerance.
- Small in size, light weight, high reliability and excellent long-term stability.
- Excellent in Lightning Impulse withstand voltage.
- Strong thermal shock resistance when they are mounted on board.

### ■特性 / CHARACTERISTICS

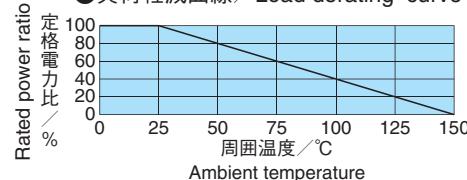
| 項目<br>Item                             | 特性<br>Characteristics       | 試験方法<br>Test method  |
|--|-----------------------------|--|
| 使用温度範囲<br>Operating temperature range  | -55 °C ~ +150 °C            |  |
| 短時間負荷<br>Short-time overload           | ±0.1 %                      | 定格電圧 × 2.5 倍、5 秒間<br>Rated voltage × 2.5, 5 s  |
| はんだ耐熱性<br>Resistance to soldering heat | ±0.1 %                      | 380 °C, 3 秒間<br>380 °C, 3 s  |
| ヒートサイクル<br>Heat cycle                  | ±0.1 %                      | -55 °C ⇄ +150 °C 5 サイクル<br>-55 °C ⇄ +150 °C 5 cycles                                 |
| 経時変化<br>Long-term stability            | ±0.3 %                      | 常温常湿 10 000 時間 無負荷放置<br>At normal temperature and humidity for 10 000 h without load |
| 耐湿性<br>Moisture resistance             | ±0.3 %                      | 40 °C 90 % ~ 95 %RH 1000 時間<br>40 °C 90 % ~ 95 %RH 1000 h                            |
| 負荷寿命<br>Load life                      | ±0.5 %                      | 25 °C 定格電力 × 0.5、3000 時間<br>25 °C Rated power × 0.5, 3000 h                          |
| 温度係数 ppm/°C                            | ※1 A ±10 B ±25 C ±50 D ±100 | 25 °Cと75 °Cで測定<br>Measured at 25 °C and 75 °C  |

### ■製作範囲 / PRODUCTION DATA

#### ● 形状 / Shape



#### ● 負荷軽減曲線 / Load derating curve



| 形名<br>Model | 特性<br>Characteristics |   | 抵抗値範囲<br>Range of resistance values |                | 定格電力<br>Rated power<br>(W) | 最高使用電圧<br>Max.<br>working<br>voltage<br>DC(kV) | 雷インパルス<br>電圧<br>Lightning impulse<br>voltage(kV)<br>1.2 μs/50 μs | 寸法<br>Dimensions<br>(mm) |         |        |            | 抵抗値許容差<br>Resistance tolerance<br>(%) |
|-------------|-----------------------|---|-------------------------------------|----------------|----------------------------|--|--|--------------------------|---------|--------|------------|---------------------------------------|
|             | 記号<br>Symbol          | 温度係数<br>Temperature coefficient<br>(ppm/°C) | 最小Min.<br>(MΩ)                      | 最大Max.<br>(MΩ) |                            |  |  | L                        | D       | I      | d          |                                       |
|             |                       |   | RU1/4                               | B ±25          | 0.1                        | 100  | 0.25   | 0.75                     | 1.5     | 9 ± 1  | 3 ± 1      | 38 ± 3                                |
| RU1/2       | C                     | ±50   | 0.1                                 | 100            | 0.5                        | 1.5  | 3  | 13 ± 1                   | 4.5 ± 1 | 38 ± 3 | 0.8 ± 0.05 | ±0.1 (B)<br>±0.25 (C)                 |
|             | D                     | ±100  | 0.1                                 | 100            |                            |  |  |                          |         |        |            |                                       |
|             | B                     | ±25   | 0.1                                 | 100            |                            |  |  |                          |         |        |            |                                       |
| RU1         | C                     | ±50   | 0.1                                 | 100            | 1                          | 2  | 4  | 14.5 ± 1                 | 4.5 ± 1 | 38 ± 3 | 0.8 ± 0.05 | ±0.1 (B)<br>±0.25 (C)                 |
|             | D                     | ±100  | 0.1                                 | 100            |                            |  |  |                          |         |        |            |                                       |
|             | B                     | ±25   | 0.1                                 | 100            |                            |  |  |                          |         |        |            |                                       |
| RU2         | C                     | ±50   | 0.1                                 | 100            | 2                          | 5  | 10   | 26.5 ± 1                 | 5.5 ± 1 | 38 ± 3 | 1 ± 0.05   | ±0.1 (B)<br>±0.25 (C)                 |
|             | D                     | ±100  | 0.1                                 | 100            |                            |  |  |                          |         |        |            |                                       |
|             | B                     | ±25   | 0.2                                 | 100            |                            |  |  |                          |         |        |            |                                       |
| RU3         | C                     | ±50   | 0.2                                 | 100            | 3                          | 10   | 20   | 42 ± 2                   | 5.5 ± 1 | 38 ± 3 | 1 ± 0.05   | ±0.1 (B)<br>±0.25 (C)                 |
|             | D                     | ±100  | 0.2                                 | 100            |                            |  |  |                          |         |        |            |                                       |
|             | B                     | ±25   | 0.2                                 | 100            |                            |  |  |                          |         |        |            |                                       |

注)※1 温度係数A特性のものについてはご相談ください。

NOTICE:※1 Also consult your local dealer for the availability of resistors with a temperature coefficient of "A" characteristic.

#### 〈使用上の注意〉

ご使用にあたり、定格電力の50 %以下でお使いください。

#### 〈CAUTION〉

Rated power recommend derate less than 50 % for long term use.