# Carbon Film Resistor

## Features

- Excelent long term stability
- Wide resistance range
- Light brown colour, epoxy coating
- High stability, low noise level, long life
- Ideal for applications requiring a steady low power drop
- Advanced pulse load capability
- Suitable for circuits exposed to high levels of electromagnetic interference or electro-static discharge

Image is for illustrative purposes only. Please refer to product description.

## Applications

Automotive / Telecommunication / Industrial / Medical equipment

## PART NUMBER

Example: RND 155RD18JN1R0T52

| RND 155RD18 | J-N | 1R0 | T52 |
|---|---|---|---|
| Type | Tolerance | Resistance | Forming Type |
| | J (5%)<br>G (2%) | 1R0 - 1 Ohm<br>222 - 2.2 kOhm<br>105 - 1 MOhm | T/B - Tape in Box |

## Dimensions


| Type | L | D | H | d |
|---|---|---|---|---|
| RND 155RD18 | 3.3 ± 0.4 mm | 1.8 ± 0.3 mm | 29 ± 2 mm | 0.45 ± 0.03 mm |
| RND 155RD14 | 6.3 ± 0.5 mm | 2.3 ± 0.3 mm | 28 ± 2 mm | 0.55 ± 0.03 mm |
| RND 155RD12 | 9 ± 0.5 mm | 3.2 ± 0.5 mm | 26 ± 2 mm | 0.65 ± 0.03 mm |

## Electrical Characteristics

| Type | Power Rating at 70°C | Operating Temperature Range | Max. Working Voltage | Max. Overload Voltage | Dielectric Withstanding Voltage | Value Range |
|---|---|---|---|---|---|---|
| RND 155RD18 | 125 mW | -55 ... 155 °C | 150 V | 300 V | 300 V | 1 Ohm ... 10 MOhm |
| RND 155RD14 | 250 mW | -55 ... 155 °C | 250 V | 500 V | 500 V | 1 Ohm ... 10 MOhm |
| RND 155RD12 | 500 mW | -55 ... 155 °C | 350 V | 700 V | 700 V | 1 Ohm ... 10 MOhm |

## Temperature Coefficient (T.C.R)

| Type | Under 100 kOhm | 100 kOhm ... 1 MOhm | 1 MOhm ... 10 MOhm |
|---|---|---|---|
| RND 155RD18 | +350 ppm- 500 ppm | -0ppm-700 ppm | -0ppm-1500 ppm |
| RND 155RD14 | +350 ppm- 500 ppm | -0ppm-700 ppm | -0ppm-1500 ppm |
| RND 155RD12 | +350 ppm- 500 ppm | -0ppm-700 ppm | -0ppm-1500 ppm |

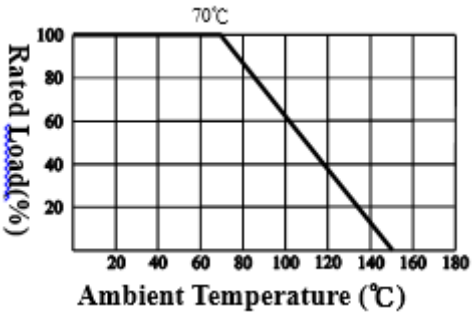
# Carbon Film Resistor

## Environmental Characteristics

| PERFORMANCE TEST | TEST METHOD | APPRAISE |
|---|---|---|
| SHORT TIME OVERLOAD | JIS-C-5202 5.5 2.5 times RCWV for 5 seconds | ±(0.75%+0.05Ω) |
| TEMPERATURE COEFFICIENT(T.C.R.) | Resistance value at room Temperature and room Temperature+100℃ | page |
| DIELECTRIC WITHSTANDING VOLTAGE | JIS-C5202 5.7 In V-Block for 60 seconds | By Type |
| PULSE OVERLOAD | JIS-C5202 5.8<br>4 times RCWV for10000cycles(1sec.on ﹣25secs.off) | ±(1%+0.05Ω) |
| INSULATION RESISTANCE | JIS-C5202 5.6 In V-Block | >10000MΩ |
| LOAD LIFE | JIS-C5202 7.10<br>70℃ at RCWV for1000hrs.(1.5hrs. on ﹣0.5hrs.off) | ±(3%+0.05Ω) |
| LOAD LIFE IN HUMIDITY | JIS-C5202 7.9<br>40±2℃ 90~95%RH at RCWV for1000hrs.<br>(1.5hrs. on ﹣0.5hrs.off) | Less than 100KΩ±3%<br>100KΩ or more±5% |
| SOLDER ABILITY | JIS-C5202 6.5<br>260±5℃ for 2±0.5 seconds | 95% min. coverage |
| RESISTANCE TO SOLVENT | JIS-C5202 6.9<br>Trichroethane for 1 min. with ultrasonic | No deterioration of coatings and markings |
| TERMINAL STRENGTH | Direct load for 10 sec. In the direction off the terminal leads. | Tensile: ≥2.5kg |

★ Rated continuous Working Voltage (RCWV) = $\sqrt{POWERRATING * RESISTANCEVALUE}$

## Power Graph




## Hot-Spot Temperature