

Molded Metal Film High Ohmic Value (to 50 MΩ) Resistors



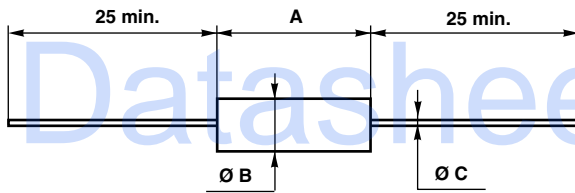
FEATURES

- 0.125 W to 0.5 W at 70 °C
- According to CECC 40 101043
- Resistance range: 300 kΩ to 50 MΩ
- Good initial precision: up to ± 1 %
- High long term stability drift < 1 % after 1000 h
- Accurate dimensions
- Good insulation typical values: 10 MΩ
- Limiting element voltages: 500 V, 800 V and 1200 V
- Termination = Pure Matte Tin



RoHS
COMPLIANT

DIMENSIONS in millimeters



| SERIES | DIMENSIONS | | | UNIT WEIGHT IN g |
|--------|------------|-----------------------------------|-----|---------------------|
| | A | Ø B | Ø C | |
| RCMX02 | 6.5 ± 0.2 | 2.5 ⁺⁰ _{-0.2} | 0.6 | 0.26 |
| RCMX05 | 10.2 ± 0.2 | 3.65 ± 0.1 | 0.6 | 0.46 |
| RCMX1 | 16 ± 0.5 | 6.2 ± 0.2 | 0.8 | 1.30 |

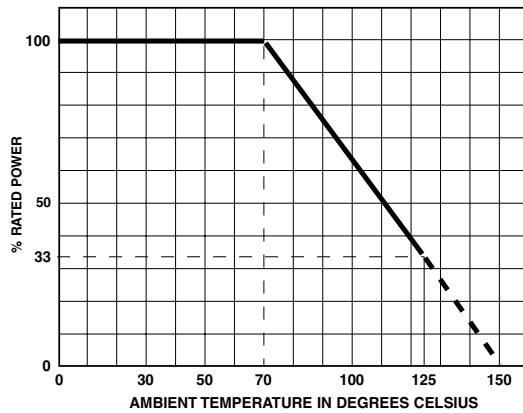
TECHNICAL SPECIFICATIONS

| VISHAY SFERNICE SERIES | RCMX02 | RCMX05 | RCMX1 |
|--|--------------------------------|---------------|---------------|
| Reference according to NFC 83 230 | RS80 | RS81 | RS82 |
| Power Rating at 70 °C | 0.125 W | 0.250 W | 0.500 W |
| Resistance Value Range | 300 kΩ to 10 MΩ | 1 MΩ to 20 MΩ | 2 MΩ to 50 MΩ |
| Tolerance and Associated Series | ± 1 % E96 | ± 1 % E96 | ± 5 % E24 |
| Maximum Voltage | 500 V | 750 V | 1000 V |
| Critical Resistance | 2 MΩ | 2.55 MΩ | 2.87 MΩ |
| Temperature Coefficient Rated in the Range - 55 °C + 125 °C | K3 ≤ ± 50 ppm/°C | | |
| Insulation Resistance (typical) | ≥ 10 ⁷ MΩ (500 VDC) | | |
| Voltage Coefficient | ≤ 10 ppm/V | | |
| Environmental Specifications | - 65 °C/+ 155 °C/10 days | | |

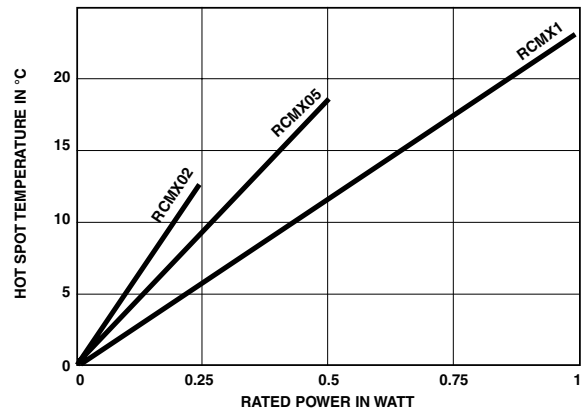


| PERFORMANCE | | | |
|--|--|--|--|
| ACCORDING TO CECC 40 101043 | | | TYPICAL VALUES AND DRIFTS |
| TESTS | CONDITIONS | REQUIREMENTS | |
| Load Life at max. Category Temperature | 1000 h at 125 °C 33 % of Pn | ≤ ± 1 % Insulation resist. > 1 GΩ | ± 2 % at 1000 h Insulation resist. 10 ⁶ MΩ |
| Short Time Overload | 2.5 Um/5 s limited to 2 Un | ≤ ± 0.25 % | ± 0.5 % |
| Damp Heat Humidity (Steady State) | 10 days with low load | ≤ ± 1 % Insulation resist. > 10 ² MΩ | ± 1.5 % |
| Rapid Temperature Change | - 55 °C + 125 °C | ≤ ± 0.25 % | ± 0.25 % |
| Climatic Sequence | - 55 °C + 125 °C severity 1 | ≤ ± 1 % Insulation resist. > 100 MΩ | ± 1 % Insulation resist. 10 ⁶ MΩ |
| Terminal Strength | Pull - Twist - 2 bends | ≤ ± 0.25 % | ± 0.05 % |
| Vibration | 10 to 500 Hz | ≤ ± 0.25 % | ± 0.05 % |
| Soldering (Thermal Shock) | + 260 °C 10 s | ≤ ± 0.25 % | ± 0.1 % |
| Load Life | cycle 90'/30' 1000 h at Pn at 70 °C | ≤ ± 1 % Insulation resist. > 1 GΩ | ± 0.5 % Insulation resist. 10 ⁶ MΩ |
| Shelf Life | 1 year ambient temperature | - | ± 0.25 % |

POWER RATING CHART



TEMPERATURE RISE



PRACTICAL OPERATING TOLERANCES

After 1000 h load life at rated power 90'/30' cycles + 70 °C ambient temperature, the typical total drifts, measured at + 70 °C, are as follows:

Typical total drift = drift due to TCR (K3) + life drift 0.5 %.

Maximum deviation from rated ohmic value including ± 1 % manufacturing tolerance ≤ 1.5 %.



MARKING

Printed: VISHAY SFERNICE trademark, series, style, ohmic value (in Ω), tolerance (in %), temperature coefficient, manufacturing date. Due to lack of space RCMX02 is printed MX02.

| GLOBAL PART NUMBER INFORMATION | | | | | | | | | | | | | | | | |
|--------------------------------|----------------|---------------------------------|---|---|---|--|--------------------|-------------------------|---|--|---|---|---|---|---|---|
| R | C | M | X | 0 | 2 | | 1 | 3 | 0 | 0 | 1 | J | K | S | 1 | 4 |
| GLOBAL MODEL | SIZE | SPECIAL | OHMIC VALUE | | | | TOLERANCE | TEMPERATURE COEFFICIENT | | PACKAGING | | | | | | |
| RCMX | 02 05 10 | As applicacable. Contact us. | The first four digits are significant figures and the last digit specifies the number of zeros to follow. R designates decimal point. 13001 = 13 kΩ 33001 = 33 kΩ 220R0 = 220 Ω 1R220 = 1.22 Ω | | | | F = 1 % J = 5 % | K = K3, 50 ppm/K | | AM500 = A20 AM1000 = A22 BAG100* = S14 BAG50* = S09 *: possible in N/A | | | | | | |



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