

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



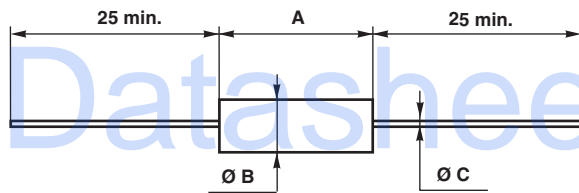
FEATURES

- 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
- Compliant to RoHS directive 2002/95/EC



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 |

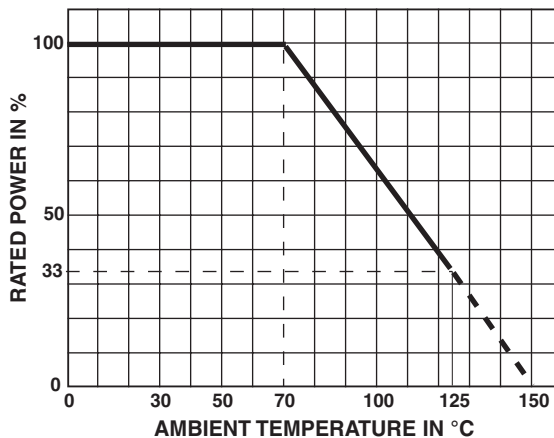
TECHNICAL SPECIFICATIONS

| 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 to + 125 °C | K3 ≤ ± 50 ppm/°C | | |
| Insulation Resistance (Typical) | ≥ 10 ⁷ MΩ (500 V _{DC}) | | |
| Voltage Coefficient | ≤ 10 ppm/V | | |
| Environmental Specifications | - 65 °C/+ 155 °C/10 days | | |

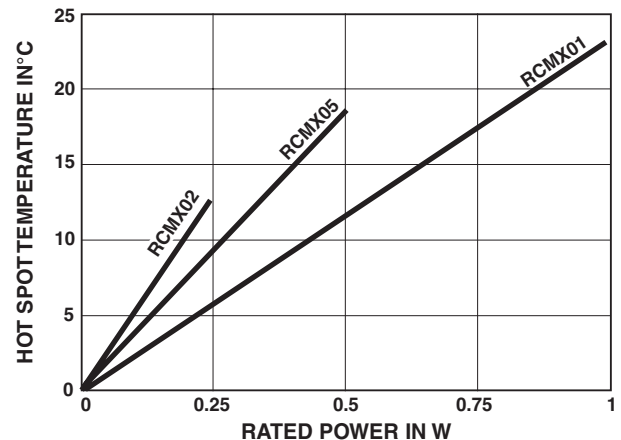


| PERFORMANCE | | | |
|--|---|---|--|
| ACCORDING TO CECC 40 101043 | | | TYPICAL VALUES AND DRIFTS |
| TESTS | CONDITIONS | REQUIREMENTS | |
| Load Life at Max. Category Temperature | 1000 h at 125 °C 33 % of P_n | $\leq \pm 1 \%$ Insulation resistance > 1 GΩ | $\pm 2 \%$ at 1000 h Insulation resistance $10^6 \text{ M}\Omega$ |
| Short Time Overload | $2.5 U_m/5 \text{ s}$ limited to $2 U_n$ | $\leq \pm 0.25 \%$ | $\pm 0.5 \%$ |
| Damp Heat Humidity (Steady State) | 10 days with low load | $\leq \pm 1 \%$ Insulation resistance > $10^2 \text{ M}\Omega$ | $\pm 1.5 \%$ |
| Rapid Temperature Change | - 55 °C + 125 °C | $\leq \pm 0.25 \%$ | $\pm 0.25 \%$ |
| Climatic Sequence | - 55 °C + 125 °C severity 1 | $\leq \pm 1 \%$ Insulation resistance > 100 MΩ | $\pm 1 \%$ Insulation resistance $10^6 \text{ M}\Omega$ |
| Terminal Strength | Pull - twist - 2 bends | $\leq \pm 0.25 \%$ | $\pm 0.05 \%$ |
| Vibration | 10 to 500 Hz | $\leq \pm 0.25 \%$ | $\pm 0.05 \%$ |
| Soldering (Thermal Shock) | + 260 °C 10 s | $\leq \pm 0.25 \%$ | $\pm 0.1 \%$ |
| Load Life | Cycle 90'/30' 1000 h at P_n at 70 °C | $\leq \pm 1 \%$ Insulation resistance > 1 GΩ | $\pm 0.5 \%$ Insulation resistance $10^6 \text{ M}\Omega$ |
| Shelf Life | 1 year ambient temperature | - | $\pm 0.25 \%$ |

POWER RATING



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 $\pm 1 \%$ manufacturing tolerance $\leq 1.5 \%$.

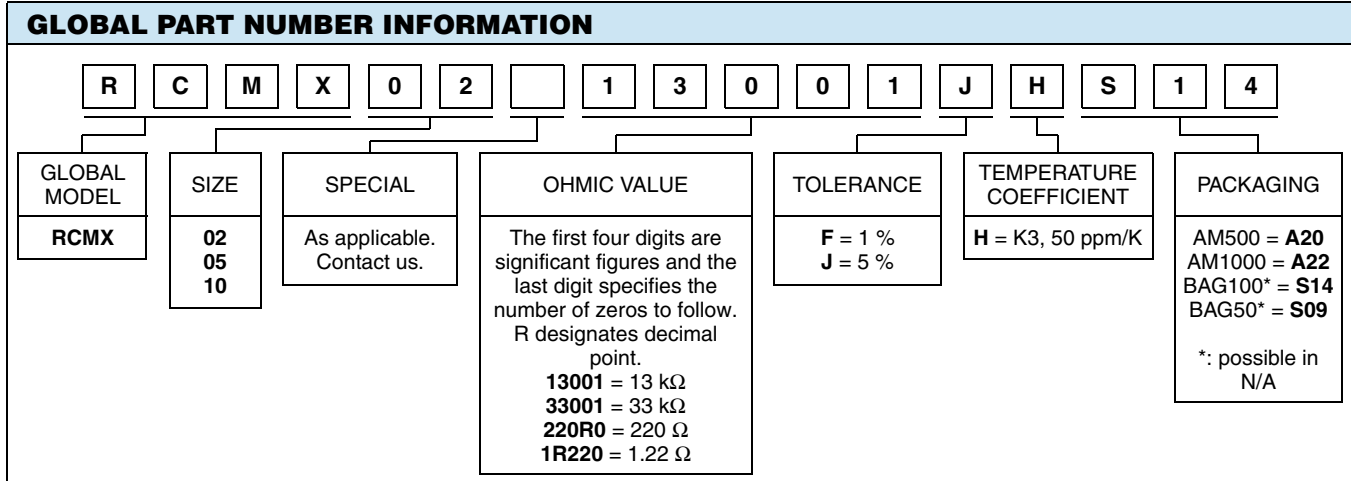
RCMX02, RCMX05, RCMX1



Vishay Sfernice Molded Metal Film High Ohmic Value (to 50 M Ω) Resistors

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.





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