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

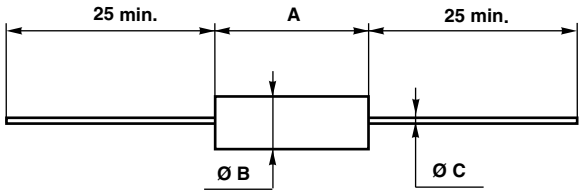
FEATURES

- 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, 750 V, and 1000 V
- Termination = pure matte tin
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

RoHS COMPLIANT

DIMENSIONS in millimeters



SERIES	A	Ø B	Ø C	WEIGHT g
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	1.3

STANDARD ELECTRICAL SPECIFICATIONS

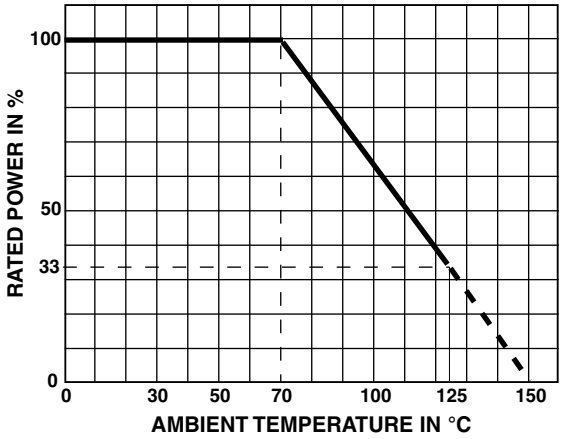
MODEL	RESISTANCE RANGE Ω	RATED POWER $P_{70\ °C}$ W	LIMITING ELEMENT VOLTAGE V	TOLERANCE ± %	TEMPERATURE COEFFICIENT ± ppm/°C
RCMX02	300K to 10M	0.125	500	1.5	50
RCMX05	1M to 20M	0.250	750	1.5	50
RCMX1	2M to 50M	0.500	1000	1.5	50

TECHNICAL SPECIFICATIONS

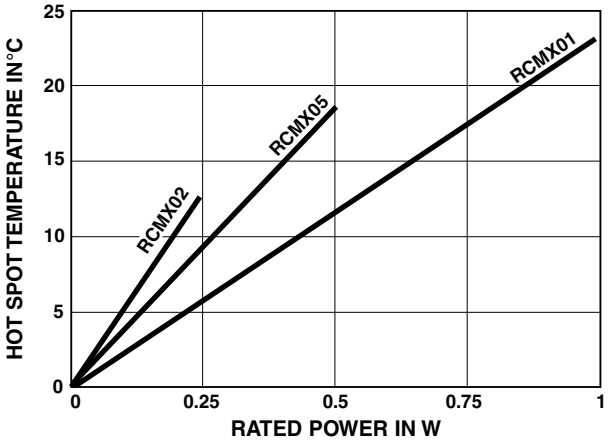
VISHAY SFERNICE SERIES	RCMX02	RCMX05	RCMX1
Reference according to NFC 83 230	RS80	RS81	RS82
Tolerance and Associated Series	± 1 % E96 and ± 5 % E24		
Critical Resistance	2 MΩ	2.55 MΩ	2.87 MΩ
Temperature Coefficient Rated in the Range -55 °C to +125 °C	K3 ≤ ± 50 ppm/°C		
Insulation Resistance (Typical)	≥ 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	≤ ± 1 % Insulation resistance > 1 GΩ	± 2 % at 1000 h Insulation resistance 10^6 MΩ
Short Time Overload	2.5 Un / 5 s Limited to 2 Um	≤ ± 0.25 %	± 0.5 %
Damp Heat Humidity (Steady State)	10 days with low load	≤ ± 1 % Insulation resistance > 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 resistance > 100 MΩ	± 1 % Insulation resistance 10^6 MΩ
Terminal Strength	Pull - twist - 2 bends	≤ ± 0.25 %	± 0.05 %
Vibration	10 Hz 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 P_n at 70 °C	≤ ± 1 % Insulation resistance > 1 GΩ	± 0.5 % Insulation resistance 10^6 MΩ
Shelf Life	1 year ambient temperature	-	± 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:

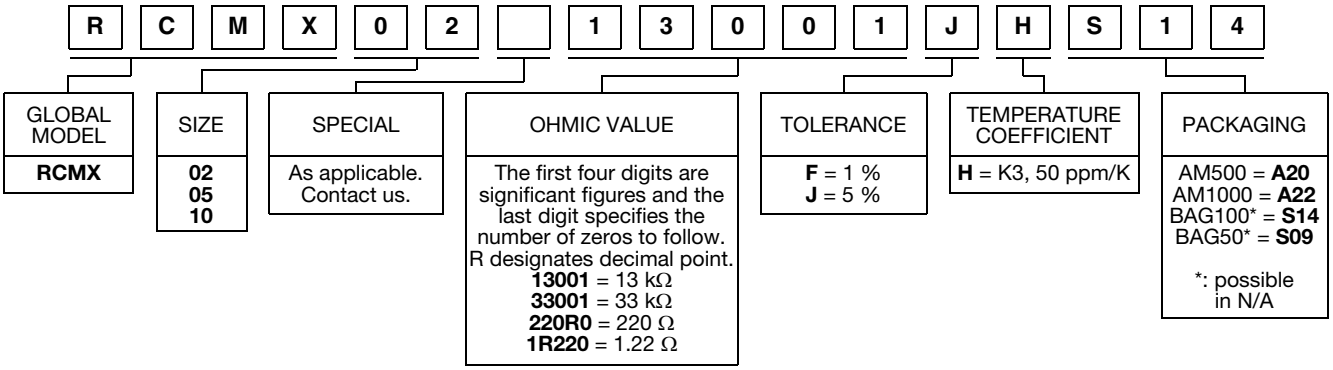
Typical total drift = drift due to TCR (K3) + life drift 0.5 %.

Maximum deviation from rated ohmic value including ± 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



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