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

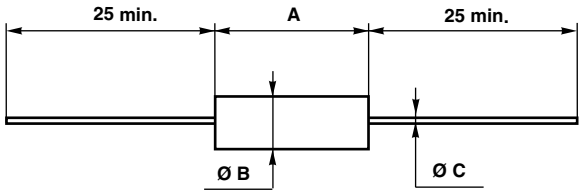
FEATURES

- 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
- 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 in 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

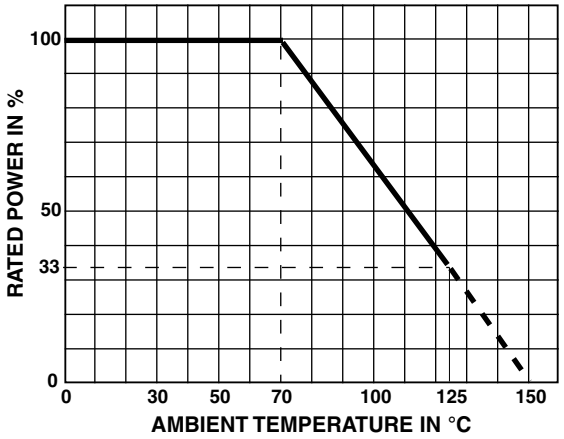
MODEL	RESISTANCE RANGE Ω	RATED POWER $P_{70\ °C}$ W	LIMITING ELEMENT VOLTAGE V	TOLERANCE ± %	TEMPERATURE COEFFICIENT ± ppm/°C
RCMX02	300K to 10M	0.125	500	1	50
RCMX05	1M to 20M	0.250	750	1	50
RCMX1	2M to 50M	0.500	1000	5	50

TECHNICAL SPECIFICATIONS

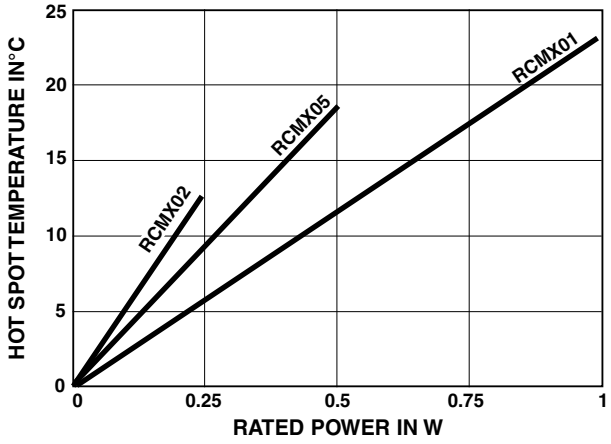
VISHAY SFERNICE SERIES	RCMX02	RCMX05	RCMX1
Reference according to NFC 83 230	RS80	RS81	RS82
Tolerance and Associated Series	± 1 % E96	± 1 % E96	± 5 % E24
Critical Resistance	2 MΩ	2.55 MΩ	2.87 MΩ
Temperature Coefficient Rated in the Range - 55 °C to + 125 °C	K3 ≤ ± 50 ppm/°C		
Insulation Resistance (Typical)	≥ 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 U_m/5 s, limited to 2 U_n	≤ ± 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:

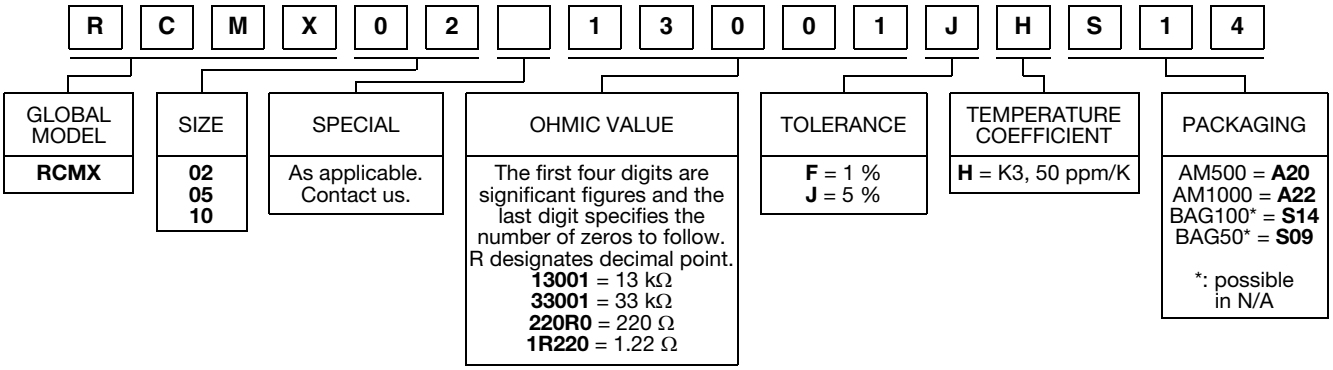
Typical total drift = drift due to TCR (K3) + life drift 0.5 %.

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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