

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



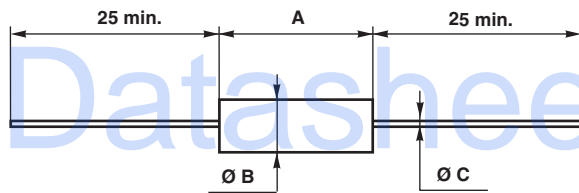
### FEATURES

- 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 <sup>+0</sup> <sub>-0.2</sub>	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

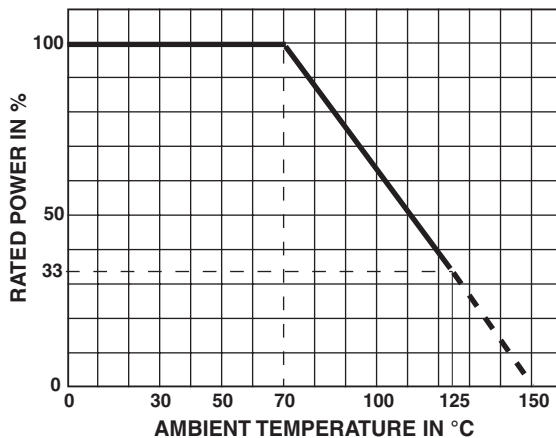
### TECHNICAL SPECIFICATIONS

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 <sup>7</sup> MΩ (500 V <sub>DC</sub> )		
Voltage Coefficient	≤ 10 ppm/V		
Environmental Specifications	- 65 °C/+ 155 °C/10 days		

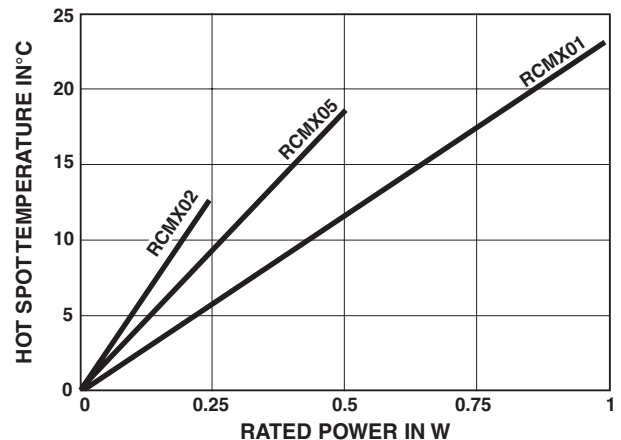


PERFORMANCE			
ACCORDING TO CECC 40 101043			TYPICAL VALUES AND DRIFTS
TESTS	CONDITIONS	REQUIREMENTS	
Load Life at Max. Category Temperature	1000 h at 125 °C 33 % of $P_n$	$\leq \pm 1\%$ Insulation resistance > 1 GΩ	$\pm 2\%$ at 1000 h Insulation resistance $10^6$ MΩ
Short Time Overload	$2.5 U_m/5$ s 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 > $10^2$ MΩ	$\pm 1.5\%$
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 $10^6$ MΩ
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 $10^6$ MΩ
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  $\leq 1.5\%$ .

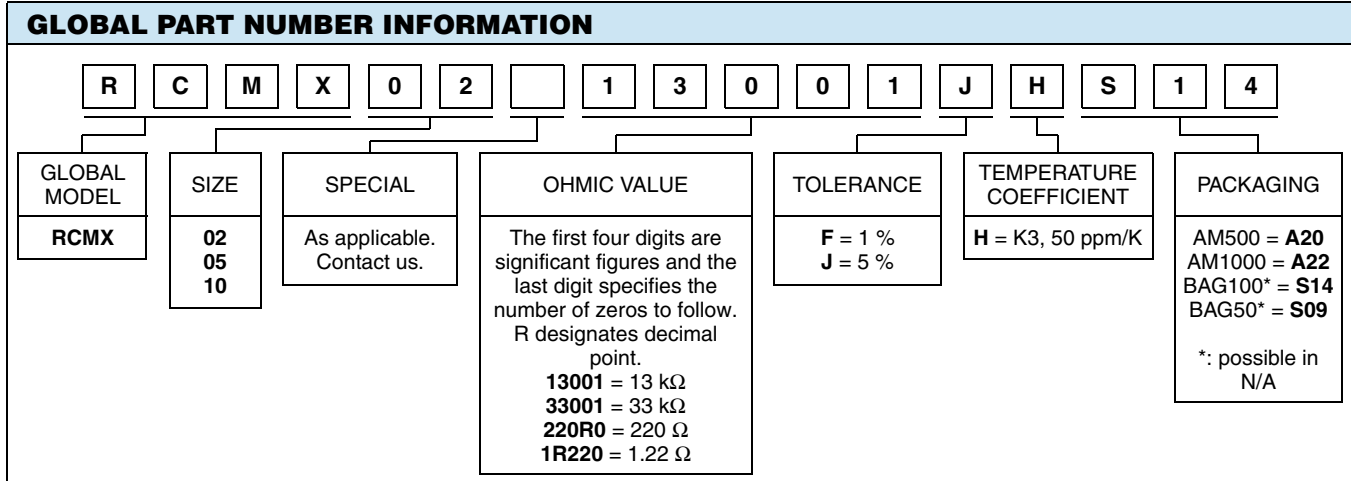
# RCMX02, RCMX05, RCMX1



Vishay Sfernice Molded Metal Film High Ohmic Value (to 50 MΩ) 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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