

## Molded Metal Film High Ohmic Value (to 50 M $\Omega$ ) Resistors



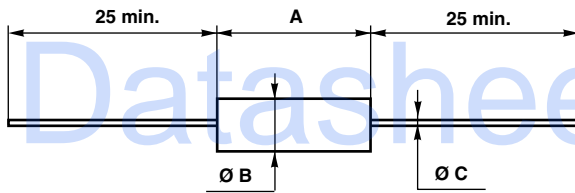
### FEATURES

- 0.125 W to 0.5 W at 70 °C
- According to CECC 40 101043
- Resistance range: 300 k $\Omega$  to 50 M $\Omega$
- Good initial precision: up to  $\pm 1\%$
- High long term stability drift < 1 % after 1000 h
- Accurate dimensions
- Good insulation typical values: 10 M $\Omega$
- 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 $\pm$ 0.2	2.5 $\begin{smallmatrix} -0 \\ -0.2 \end{smallmatrix}$	0.6	0.26
RCMX05	10.2 $\pm$ 0.2	3.65 $\pm$ 0.1	0.6	0.46
RCMX1	16 $\pm$ 0.5	6.2 $\pm$ 0.2	0.8	1.30

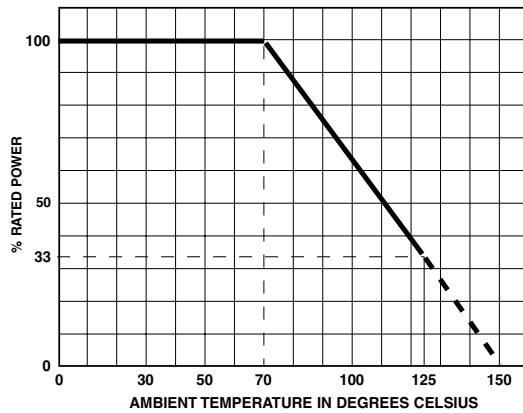
### TECHNICAL SPECIFICATIONS

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 k $\Omega$ to 10 M $\Omega$	1 M $\Omega$ to 20 M $\Omega$	2 M $\Omega$ to 50 M $\Omega$
Tolerance and Associated Series	$\pm 1\%$ E96	$\pm 1\%$ E96	$\pm 5\%$ E24
Maximum Voltage	500 V	750 V	1000 V
Critical Resistance	2 M $\Omega$	2.55 M $\Omega$	2.87 M $\Omega$
Temperature Coefficient Rated in the Range - 55 °C + 125 °C	K3 $\leq$ $\pm 50$ ppm/°C		
Insulation Resistance (typical)	$\geq 10^7$ M $\Omega$ (500 VDC)		
Voltage Coefficient	$\leq 10$ ppm/V		
Environmental Specifications	- 65 °C/+ 155 °C/10 days		

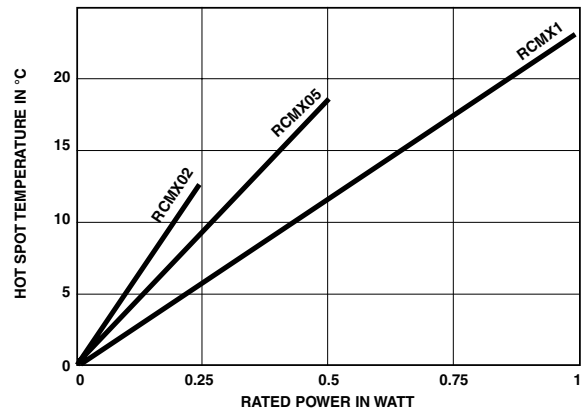


PERFORMANCE			
ACCORDING TO CECC 40 101043			TYPICAL VALUES AND DRIFTS
TESTS	CONDITIONS	REQUIREMENTS	
Load Life at max. Category Temperature	1000 h at 125 °C 33 % of Pn	≤ ± 1 % Insulation resist. > 1 GΩ	± 2 % at 1000 h Insulation resist. 10 <sup>6</sup> MΩ
Short Time Overload	2.5 Um/5 s limited to 2 Un	≤ ± 0.25 %	± 0.5 %
Damp Heat Humidity (Steady State)	10 days with low load	≤ ± 1 % Insulation resist. > 10 <sup>2</sup> 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 <sup>6</sup> 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 <sup>6</sup> 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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