

## Molded Metal Film Resistors



### FEATURES

- 0.25 W to 1 W at 70 °C
- NF C 83-230 (RC21U-31U-41U-32)
- CECC 40 100
- High insulation > 10<sup>7</sup> MΩ
- Great mechanical strength
- Termination = Pure matte tin
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

DIMENSIONS in millimeters					
SERIES	A max.	Ø B max.	Ø C	WEIGHT in g	
RCMM02	6.5 ± 0.2	2.5 <sup>-0</sup> <sub>-0.2</sub>	0.6	0.26	
RCMM05	10.2 ± 0.2	3.65 ± 0.1	0.6	0.46	
RCMM1	16 ± 0.5	6.2 ± 0.2	0.8	1.30	

STANDARD ELECTRICAL SPECIFICATIONS					
MODEL	RESISTANCE RANGE Ω	RATED POWER P <sub>70 °C</sub> W	LIMITING ELEMENT VOLTAGE V	TOLERANCE ± %	TEMPERATURE COEFFICIENT ± ppm/°C
RCMM02	1 to 332K	0.25	300	2, 5	50, 100
	1 to 332K	0.50	350	2, 5	50, 100
RCMM05	1 to 1M	0.50	350	2, 5	50, 100
RCMM1	1 to 2.26M	1.0	500	2, 5	50, 100

**Note**

- Undergoes European Quality Insurance System (CECC)

TECHNICAL SPECIFICATIONS					
VISHAY SFERNICE SERIES		RCMM02		RCMM05	RCMM1
CECC 83-230		RC21U	RC32	RC31U	RC41U
CECC 40 100-802		BV	-	CV	-
Power Rating at 70 °C		0.25 W	0.50 W	0.50 W	1 W
Resistance Value Range in Relation to Tolerance	± 5 %	1 Ω to 330 kΩ E24	1 Ω to 330 kΩ E24	1 Ω to 1 MΩ E24	1 Ω to 2.2 MΩ E24
	± 2 %	1 Ω to 332 kΩ E48	1 Ω to 332 kΩ E48	1 Ω to 1 MΩ E48	1 Ω to 2.26 MΩ E48
Maximum Voltage		300 V	350 V	350 V	500 V
Critical Resistance		-	245 kΩ	245 kΩ	250 kΩ
Temperature Coefficient	Rated in the range - 55 °C + 155 °C	K2 ≤ ± 100 ppm/°C			
	Typical in the range - 10 °C + 70 °C	≤ ± 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/56 days			

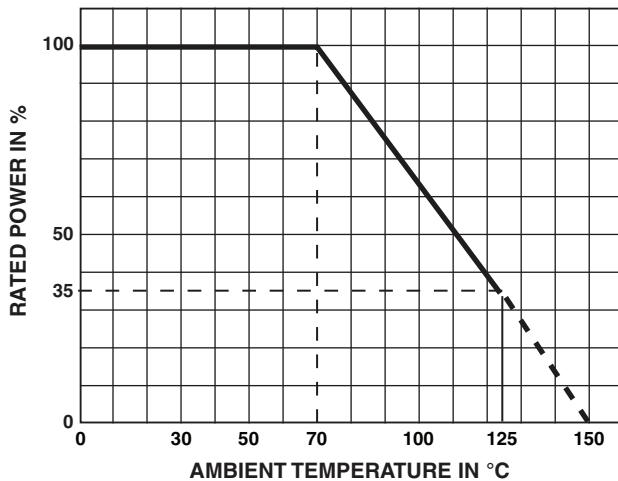
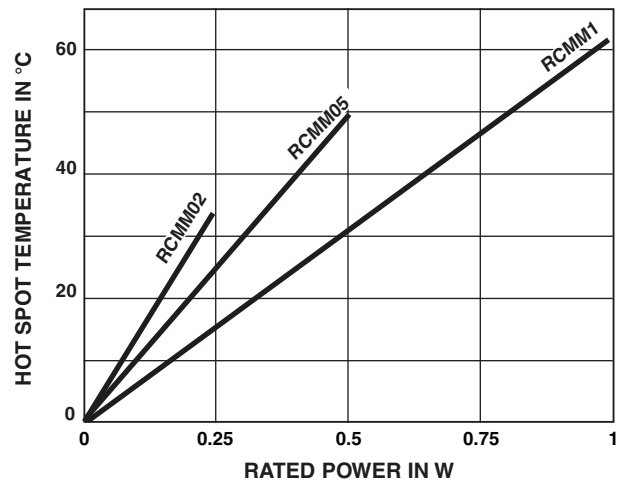
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<b>PERFORMANCE</b>			
CECC 40 100    EN 140100			TYPICAL VALUES AND DRIFTS
TESTS	CONDITIONS	REQUIREMENTS	
Load Life at max. Category Temperature	1000 h at 125 °C 35 % of $P_n$	$\leq \pm (2 \% + 0.1 \Omega)$ Insulation resist. > 1 G $\Omega$	$\pm 0.75 \%$ or 0.05 $\Omega$ Insulation resist. 10 <sup>6</sup> M $\Omega$
Short Time Overload	2.5 $U_m/5$ s	$\leq \pm (0.5 \% + 0.05 \Omega)$	$\pm 0.2 \%$ or 0.05 $\Omega$
Damp Heat Humidity (Steady State)	56 days with low load	$\leq \pm (2 \% + 0.1 \Omega)$ Insulation resist. > 100 M $\Omega$	$\pm 0.5 \%$ or 0.05 $\Omega$ Insulation resist. 10 <sup>6</sup> M $\Omega$
Rapid Temperature Change	- 55 °C    + 125 °C	$\leq \pm (0.5 \% + 0.05 \Omega)$	$\pm 0.1 \%$ or 0.05 $\Omega$
Climatic Sequence	- 55 °C    + 125 °C	$\leq \pm (2 \% + 0.1 \Omega)$ Insulation resist. > 100 M $\Omega$	$\pm 0.1 \%$ or 0.05 $\Omega$ Insulation resist. 10 <sup>6</sup> M $\Omega$
Terminal Strength	Pull - twist - 2 bends	$\leq \pm (0.5 \% + 0.05 \Omega)$	$\pm 0.05 \%$ or 0.05 $\Omega$
Vibration	10 Hz to 500 Hz	$\leq \pm (0.5 \% + 0.05 \Omega)$	$\pm 0.05 \%$ or 0.05 $\Omega$
Soldering (Thermal Shock)	+ 260 °C, 10 s	$\leq \pm (0.5 \% + 0.05 \Omega)$	$\pm 0.1 \%$ or 0.05 $\Omega$
Load Life	Cycle 90'/30' 1000 h at $P_n$ at 70 °C	$\leq \pm (2 \% + 0.1 \Omega)$ Insulation resist. > 1 G $\Omega$	$\pm 0.5 \%$ or 0.05 $\Omega$ Insulation resist. 10 <sup>6</sup> M $\Omega$
Shelf Life	1 year ambient temperature	-	$\pm 0.1 \%$ or 0.05 $\Omega$

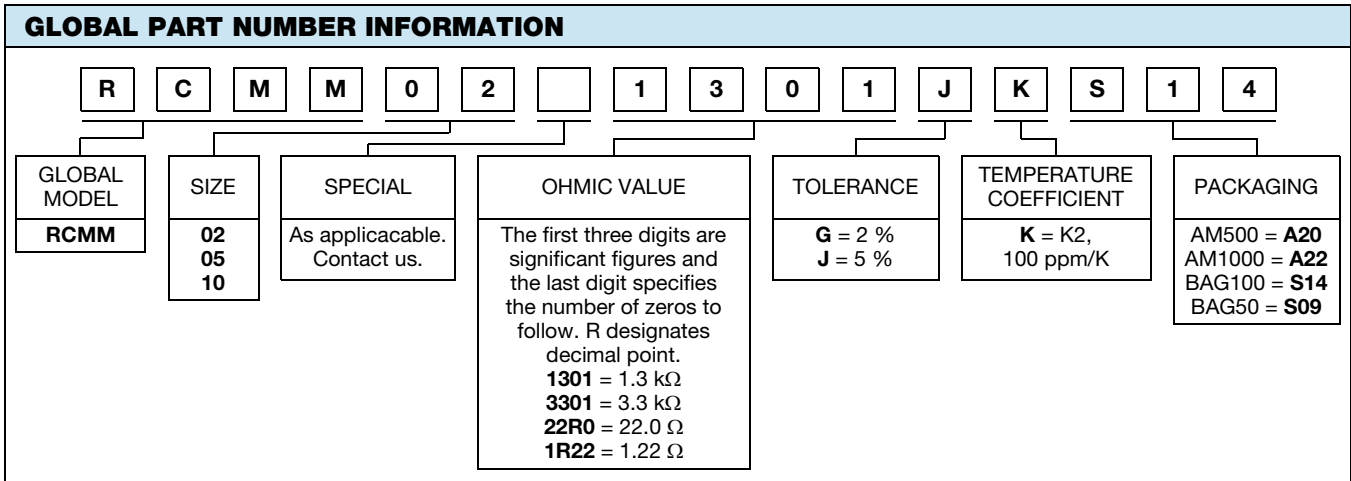
**Note**

- RC41: 15 s

**POWER RATING**

**TEMPERATURE RISE**

**MARKING**

Printed: Vishay Sfernice trademark, series, style, ohmic value (in  $\Omega$ ), tolerance (in %), temperature coefficient, manufacturing date.

Due to lack of space RCMM02 is printed MM02.





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