

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 > 10⁷ MΩ
- Great mechanical strength
- Termination = Pure matte tin
- Material categorization: For definitions of compliance please see 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 ⁻⁰ _{-0.2}	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 _{70 °C} 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 ⁷ MΩ (500 V _{DC})			
Voltage Coefficient		≤ ± 10 ppm/V			
Environmental Specifications		- 65 °C/+ 155 °C/56 days			

Note

- Undergoes European Quality Insurance System (CECC)

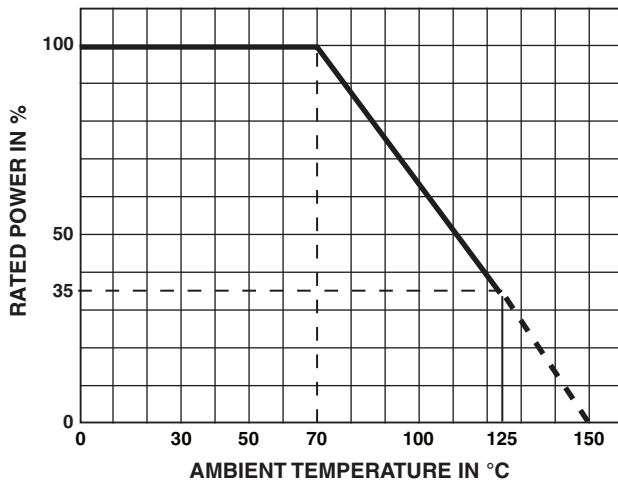


PERFORMANCE			
CECC 40 100 EN 140100			TYPICAL VALUES AND DRIFTS
TESTS	CONDITIONS	REQUIREMENTS	
Load Life at max. Category Temperature	1000 h at 125 °C 35 % of P_n	$\leq \pm (2 \% + 0.1 \Omega)$ Insulation resist. > 1 G Ω	$\pm 0.75 \%$ or 0.05 Ω Insulation resist. 10 ⁶ M Ω
Short Time Overload	2.5 $U_m/5$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

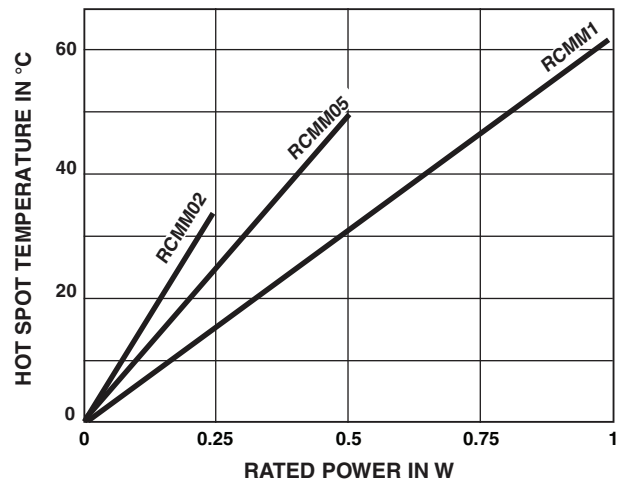
Note

- RC41: 15 s

POWER RATING



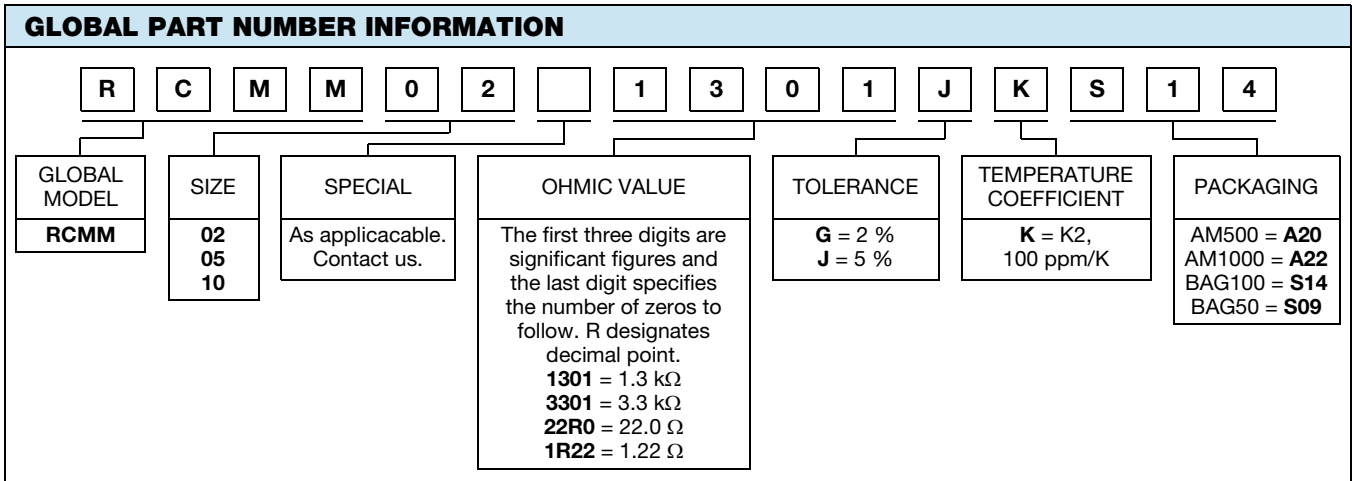
TEMPERATURE RISE



MARKING

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

Due to lack of space RCMM02 is printed MM02.





Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.