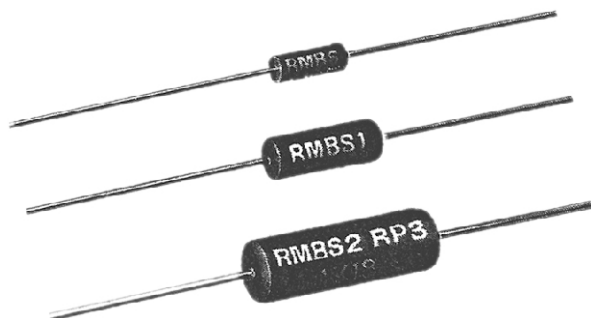


Molded Precision Wirewound Resistors Axial Leads



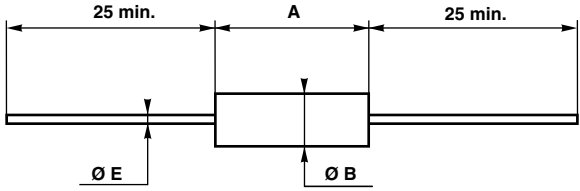
FEATURES

- 0.75 W to 3 W at 25 °C
- NF C 83-210
- According to CECC 40201-005
- Low temperature coefficient $\leq \pm 50$ ppm/°C
- Low ohmic values 15 mΩ available
- Excellent behavior against humidity
- Electrical insulation
- Mechanical strength
- Accurate sizes
- Termination = Sn / Ag / Cu or pure matte tin according to the ohmic value
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

High stability and low temperature coefficient are the main features of the precision wirewound resistors type RMB RMBS models just as maintenance parts. Their performances can be compared with those of the best film resistors but they have in addition a greater power rating. RMBS styles meet the more severe requirements of NF C 83-210 and characteristic U of MIL-R-26 E (approximate size of RW 70 and 79 resistors) specifications. The two models RMB and RMBS have a similar construction. RMBS are submitted, in addition to a process which further increases the stability. On request, non-inductive resistors are available under the reference RMB NI.

DIMENSIONS in millimeters

	SERIES AND STYLE	A max.	Ø B max.	E ± 0.1	WEIGHT g
	RMB0.75 RMBS0.5	7	2.5	0.6	0.3
	RMB1.5 RMBS1	10.2	4	0.6	0.7
	RMB3 RMBS2	16.2	6.4	0.8	1.5

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	SIZE	RESISTANCE RANGE Ω	RATED POWER P _{25 °C} W	LIMITING ELEMENT VOLTAGE V	TOLERANCE ± %
RMB0.75	075	0.1 to 2K	0.75	n/a	0.1, 0.5, 1, 2, 5
RMB1.5	105	0.1 to 6.81K	1.5	120	0.1, 0.5, 1, 2, 5
RMB3	300	0.051 to 13K	3	200	0.1, 0.5, 1, 2, 5
RMBS0.5	05	0.1 to 2K	0.5	n/a	0.1, 0.5, 1, 2, 5
RMBS1	10	0.1 to 6.81K	1	120	0.1, 0.5, 1, 2, 5
RMBS2	20	0.015 to 13K	2	200	0.1, 0.5, 1, 2, 5

**TECHNICAL SPECIFICATIONS**

VISHAY SFERNICE SERIES AND STYLE		RMB0.75	RMB1.5	RMB3	RMBS0.5	RMBS1	RMBS2
NF C 83-210		-	-	-	RP1	RP2	RP3
CECC 40201-005		-	-	-	A	B	C
Power Rating	at 25 °C	0.75 W	1.5 W	3 W	0.5 W	1 W	2 W
	at 70 °C	0.6 W	1.2 W	2.4 W	0.4 W	0.8 W	1.6 W
Ohmic Range in Relation to Tolerance	± 5 % E24	0.1 Ω to 2 kΩ	0.1 Ω to 6.81 kΩ	0.051 Ω to 13 kΩ	0.1 Ω to 2 kΩ	0.1 Ω to 6.81 kΩ	0.015 Ω to 13 kΩ
	± 2 % E48	0.1 Ω to 2 kΩ	0.1 Ω to 6.81 kΩ	0.08 Ω to 12.3 kΩ	0.1 Ω to 2 kΩ	0.1 Ω to 6.81 kΩ	0.078 Ω to 12.4 kΩ
	± 1 % E96	0.1 Ω to 2 kΩ	0.1 Ω to 6.81 kΩ	0.1 Ω to 12.4 kΩ	0.1 Ω to 2 kΩ	0.1 Ω to 6.81 kΩ	0.1 Ω to 12.4 kΩ
	± 0.5 % E96	0.4 Ω to 2 kΩ	0.4 Ω to 6.81 kΩ	0.3 Ω to 12.4 kΩ	0.4 Ω to 2 kΩ	0.4 Ω to 6.81 kΩ	0.3 Ω to 12.4 kΩ
	± 0.1 %	Please consult Vishay Sfernice					
Qualified Ohmic Range NF C 83-210		-	-	-	1 Ω to 174 Ω	1 Ω to 590 Ω	1 Ω to 1.3 kΩ
Limiting Element Voltage		Not applicable	120 V	200 V	Not applicable	120 V	200 V
Critical Resistance		Out of nominal ohmic range					

PERFORMANCE

TESTS	CONDITIONS	REQUIREMENTS		TYPICAL VALUES AND DRIFTS	
		MIL-R-26 E	NF C 83-210	RMB	RMBS
Dielectric W/s Voltage	500 V _{RMS}	± (0.1 % + 0.05 Ω)	-	± (0.05 % + 0.01 Ω)	± (0.05 % + 0.01 Ω)
Short Time Overload	5 P _N at 25 °C/5 s	± (0.2 % + 0.05 Ω)	± 0.25 % + 0.05 Ω	± (0.1 % + 0.01 Ω)	± (0.05 % + 0.01 Ω)
Climatic Sequence	NF C 83-210 -55 °C / +200 °C 5 cycles	-	± 0.25 % + 0.05 Ω Insulation R > 100 MΩ	± (0.1 % + 0.01 Ω) > 10 ⁴ MΩ	± (0.05 % + 0.01 Ω) > 10 ⁴ MΩ
Humidity (Steady State)	NF C 83-210 56 days 95 % RH	-	± 0.25 % + 0.05 Ω Insulation R > 100 MΩ	± (0.1 % + 0.01 Ω) > 10 ⁴ MΩ	± (0.05 % + 0.01 Ω) > 10 ⁴ MΩ
Thermal Shock	Load at 100 % P followed by cold temp. exposure at -55 °C	± (0.2 % + 0.05 Ω)	-	± (0.2 % + 0.01 Ω)	(0.1 % + 0.01 Ω)
Vibration	MIL-STD-202 Method 204 - Test D: 20 g 10/2000 Hz	± (0.2 % + 0.05 Ω)	± 0.25 % + 0.05 Ω	± (0.01 % + 0.01 Ω)	± (0.01 % + 0.01 Ω)
Load Life	MIL-STD-202 Method 108 Pr 2000 h	± (0.5 % + 0.05 Ω)	± 0.25 % + 0.05 Ω 1000 h at 25 °C	± (1 % + 0.01 Ω)	± (0.15 % + 0.01 Ω)
Moisture Resistance	MIL-STD-202 Method 106	± (0.2 % + 0.05 Ω) Insulation resistance > 100 MΩ	-	± (0.1 % + 0.01 Ω) > 10 ³ MΩ	± (0.05 % + 0.01 Ω) > 10 ³ MΩ
High Temperature	1000 h at +200 °C	± (0.5 % + 0.05 Ω)	± 0.5 % + 0.05 Ω Insulation R > 1 GΩ	± (1 % + 0.05 Ω)	± (0.3 % + 0.05 Ω)
Shock	MIL-STD-202 100 g Method 205 Test C	± (0.1 % + 0.05 Ω)	± 0.25 % + 0.05 Ω	± 0.05 %	± 0.05 %

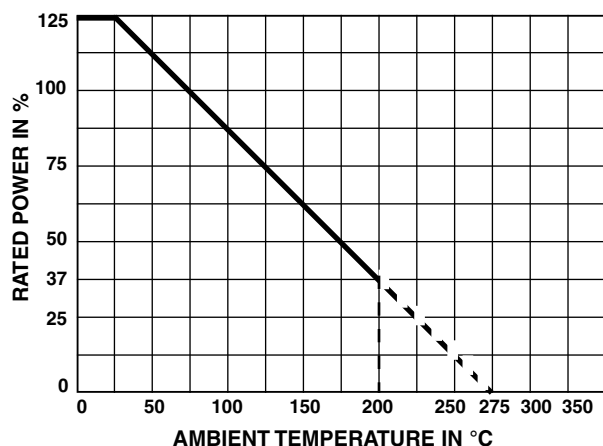
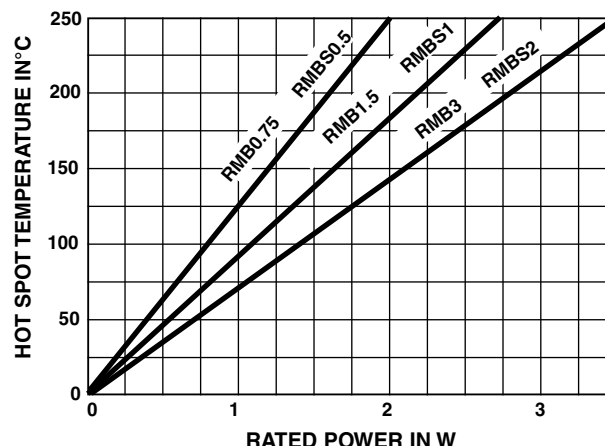
TEMPERATURE COEFFICIENT IN THE RANGE -55 °C TO +200 °C

OHMIC RANGE	REQUIREMENTS NF C 83-210 MIL-R-26E	TYPICAL VALUES SFERNICE
	MIL	
$R_n < 1$	$\leq \pm 100 \text{ ppm/}^\circ\text{C}$	$\pm 50 \text{ ppm/}^\circ\text{C}$
$1 \leq R_n < 10$	$\leq \pm 50 \text{ ppm/}^\circ\text{C}$	
$R_n \geq 10$	$\leq \pm 25 \text{ ppm/}^\circ\text{C}$	+0 °C to -20 ppm/°C

**STABILITY AND POWER RATING**

Stability changes slightly according to power rating and ambient temperature. This fact is specially important for users needing a life drift lower than the initial resistance tolerance. Typical drifts, after 2000 h life test made under the 90°/30° conditions and at a 25 °C ambient temperature are:

MODEL STYLE	RMBS 0.5	RMBS 1	RMBS 2	R %/R %	MODEL STYLE	RMB 0.75	RMB 1.5	RMB 3	R %/R %
P_n	0.5 W	1 W	2 W	0.15 %	$P_{max.}$	1 W	2 W	3.5 W	1 %
$1/2 P_n$	0.25 W	0.5 W	1 W	0.075 %	P_n	0.75 W	1.5 W	3 W	0.5 %
					$1/3 P_n$	0.4 W	0.75 W	1.5 W	0.3 %

POWER RATING**TEMPERATURE RISE****MARKING**

Vishay Sfernice trademark, model, style, CECC style (if applicable) nominal resistance (in Ω), tolerance (in %), manufacturing date.

ORDERING INFORMATION

RMB	105	R5000	J	S00
RMBS	05	22R00	J	S14
MODEL	STYLE	OHMIC VALUE	TOLERANCE	PACKAGING

GLOBAL PART NUMBER INFORMATION

R	M	B	1	0	5	3	0	0	R	0	J	S	0	0
GLOBAL MODEL	SIZE	OPTION	OHMIC VALUE				TOLERANCE		PACKAGING				SPECIAL	
RMB RMBS	RMB: 075 105 300 RMBS: 05 10 20	N = non inductive winding	The first four digits are significant figures and the last digit specifies the number of zeros to follow. R designates decimal point. 300R0 = 300 Ω 680R0 = 680 Ω 20301 = 20.3 k Ω 88R88 = 88.88 Ω ...				B = 0.1 % D = 0.5 % F = 1 % G = 2 % J = 5 %		Standard Packaging: RMB: size 075 and 105: S14 = Bag, 100 pieces size 300: S09 = Bag, 50 pieces RMBS: size 05 and 10: S14 = Bag, 100 pieces size 20: S09 = Bag, 50 pieces Other packagings available				As applicable Ex = MEX	



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.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

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.