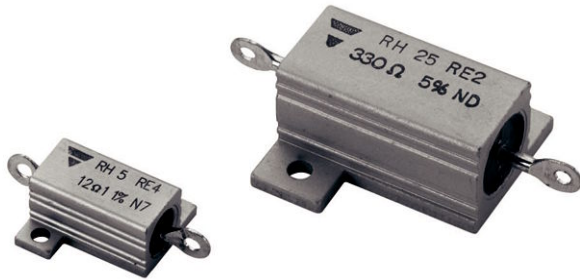


## Heatsink Encased Wirewound Power Resistors



### FEATURES

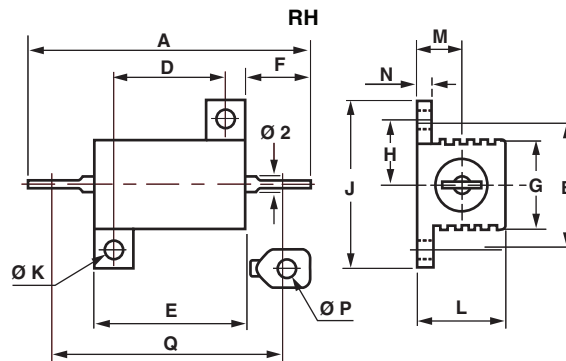
- 5 W to 50 W at 25 °C
- NF C 83-210
- CECC 40 203
- High stability < 0.05 % year
- Low temperature coefficient typically  $\pm 15$  ppm/°C
- Wide range of values from 0.006  $\Omega$  to 130 k $\Omega$
- Termination = Sn/Ag/Cu
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

Encased in a compact and light heatsink offering complete environmental protection, great mechanical strength and easy mounting. Non inductive versions can be supplied under the RHNI designation (please indicate required specifications and frequency range upon ordering).

NF F 16101, 10/1988 and 16102, 04/1992: Not applicable (our parts contain less than 10 g of combustible materials).

### DIMENSIONS in millimeters



SERIES	A	B $\pm 0.2$	D $\pm 0.2$	E $\pm 0.5$	F	G $\pm 1$	H $\pm 0.7$	J $\pm 0.5$	$\text{Ø K} \pm 0.1$	L MAX.	M $\pm 0.5$	N $\pm 0.3$	$\text{Ø P MIN.}$	Q	WEIGHT g
RH5	28.5 $\pm 1.5$	12.5	11.3	16.3	6.8 $\pm 1.5$	8.5	6.2	16.4	2.4	8.9	4.3	1.6	2.1	25.3 $\pm 1.5$	4
RH10	35.5 $\pm 1.5$	15.9	14	19	7.9 $\pm 1.5$	11	7.9	20.6	2.4	11	5.6	2	2.1	30.6 $\pm 1.5$	6.4
RH25	49 $\pm 1.3$	19.8	18.3	28	11.1 $\pm 1.5$	14	9.9	27.5	3.2	15	8	2.4	2.1	44.6 $\pm 1.3$	16.1
RH50	70.2 $\pm 1.4$	21.4	39.7	50	11 $\pm 1.2$	14	10.7	29.4	3.2	15	8	2.4	2.1	66.5 $\pm 1.4$	28.6

### STANDARD ELECTRICAL SPECIFICATIONS

MODEL	RESISTANCE RANGE $\Omega$	RATED POWER $P_{25^\circ\text{C}}$ W	TOLERANCE $\pm \%$
RH5	0.01 to 12K	10	0.5, 1, 2, 5
RH10	0.006 to 20K	12.5	0.5, 1, 2, 5
RH25	0.006 to 62K	25	0.5, 1, 2, 5
RH50	0.006 to 130K	50	0.5, 1, 2, 5

#### Note

- Undergoes European Quality Insurance System (CECC)



TECHNICAL SPECIFICATIONS						
VISHAY SFERNICE MODEL AND STYLE			RH5	RH10	RH25	RH50
NF C 83-210 (CECC 40 203)			RE4	RE1	RE2	RE3
POWER RATING Chassis Mounted Resistors	MIL Limits	25 °C	5W	10 W	20 W	30 W
		70 °C	4 W	8 W	16 W	24 W
413 cm <sup>2</sup> for RH5 and RH10 536 cm <sup>2</sup> for RH25 and RH50	Vishay Sfernice Limits	25 °C	10 W	12.5 W	25 W	50 W
		70 °C	8 W	10 W	20 W	40 W
Unmounted Resistors	Vishay Sfernice Limits	25 °C	4 W	6 W	9W	12 W
		70 °C	3.2 W	4.8 W	7.2 W	9.6 W
Rated Maximum Voltage (V <sub>RMS</sub> )			160 V	250 V	550 V	1285 V
Dielectric Strength V <sub>RMS</sub>			1000 V	1500 V	2500 V	2500 V
Vishay Sfernice			0.01 Ω 12 kΩ	0.006 Ω 20 kΩ	0.006 Ω 62 kΩ	0.006 Ω 130 kΩ
NF C 83-210			0.1 Ω 2.7 kΩ	0.1 Ω 4.99 kΩ	0.1 Ω 11.8 kΩ	0.1 Ω 33.2 kΩ
Minimum Ohmic Values in Relation to Tolerance	E 96	± 0.1 %	1 Ω		1 Ω	
	E 96	± 0.5 %	0.1 Ω		0.1 Ω	
	E 96	± 1 %	0.1 Ω		0.05 Ω	
	E 48	± 2 %	0.01 Ω		0.01 Ω	
	E 24	± 5 %	0.01 Ω		0.01 Ω	
	E 12	± 10 %	0.01 Ω	0.008 Ω	0.006 Ω	

**Note**

- Undergoes European Quality Insurance System (CECC)

PERFORMANCE				
MIL-R-18546 D		NF C 83-210		TYPICAL DRIFTS
TESTS	CONDITIONS	REQUIREMENTS		
Operating Temperature Range	- 55 °C + 200 °C	-	-	-
Momentary Overload	5 P <sub>n</sub> /5 s	± (0.25 % + 0.05 Ω)		± (0.1 % + 0.05 Ω)
Climatic Sequence	- 55 °C + 200 °C 5 cycles	± (0.25 % + 0.05 Ω)		± (0.1 % + 0.05 Ω)
Load Life Test at High Temperature	2 h at + 275 °C	± (1 % + 0.05 Ω) Ins. resistance ≥ 1 GΩ		± (0.1 % + 0.05 Ω)
Humidity (Steady State)	56 days	± (1 % + 0.05) Ins. resistance ≥ 100 MΩ		± (0.5 % + 0.05 Ω)
Resistance to Moisture	Climatic sequences test, with load and polarisation	± (1 % + 0.05 Ω)		± (0.5 % + 0.05 Ω)
Temperature Coefficient	5 Ω to 10 Ω > 10 Ω	± 50 ppm/°C ± 25 ppm/°C		± 15 ppm/°C
Load Life at Maximum Temperature	1000 h 25 °C	P <sub>n</sub> MIL Vishay		± (0.1 % + 0.05 Ω)
	200 °C	30 % of P <sub>n</sub> Sfernice		Ins. resistance ≥ 1 GΩ ± (0.5 % + 0.05 Ω)

**MOMENTARY OVERLOAD****1. Momentary overload (> 2 s):**

See example in table below. In all cases, it should be understood that:

- The 12 P<sub>n</sub> overload applies only to ohmic values 0.1.

- The overload voltage shall not be higher than that used for the dielectric strength test (see Standard Electrical Specifications).

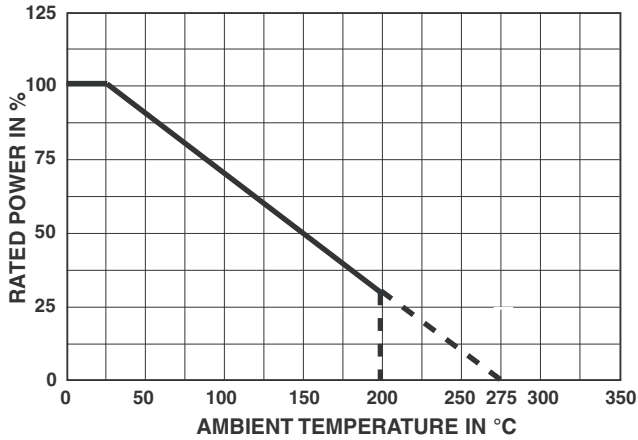
**2. Short time overload (< 2 s):**

For times shorter than 2 s, higher overloads can be sustained in some cases. Consult Vishay Sfernice.

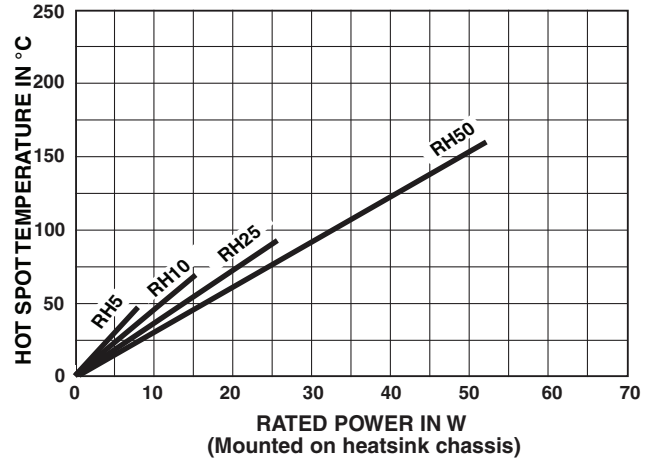
POWER LOADING	DURATION
2.5 P <sub>n</sub>	10 s
5 P <sub>n</sub>	5 s
12 P <sub>n</sub>	2 s



**POWER RATING**



**TEMPERATURE RISE**



**MARKING**

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

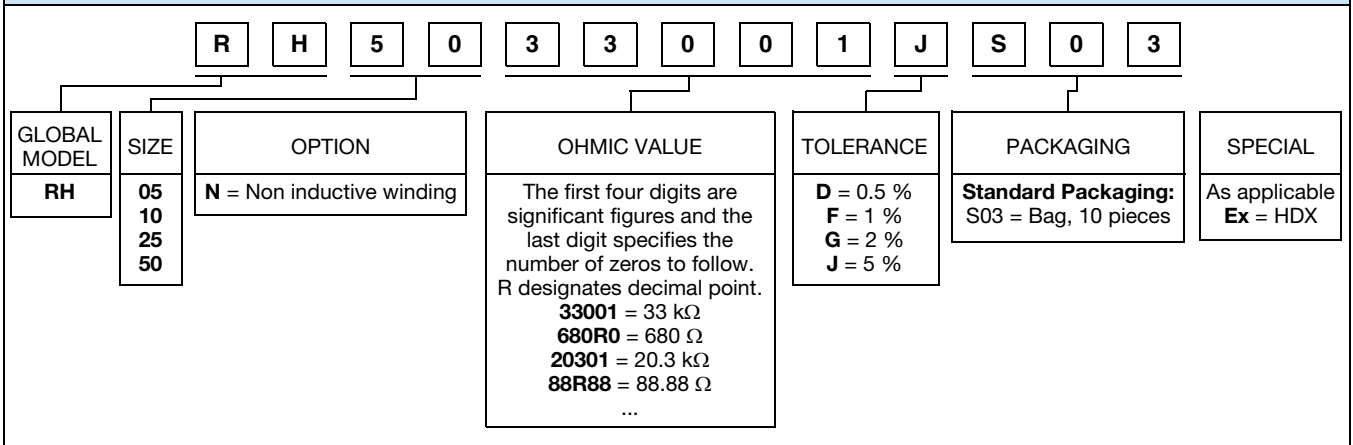
**PACKAGING**

Bag of 10 units

**ORDERING INFORMATION**

<b>RH</b>	<b>05</b>	<b>N</b>	<b>18R00</b>	<b>J</b>	<b>S03</b>
MODEL	STYLE	NON INDUCTIVE WINDING Optional	OHMIC VALUE	TOLERANCE	PACKAGING

**GLOBAL PART NUMBER INFORMATION**





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## Material Category Policy

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.**

**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.**



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- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
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- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
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- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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