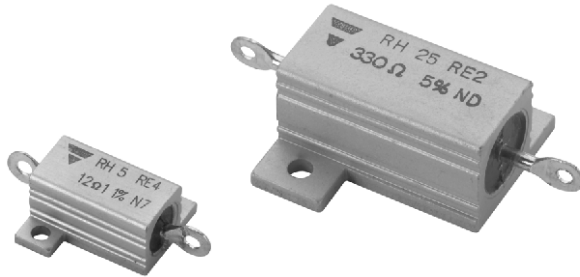


# Heatsink Encased Wirewound Power Resistors



## FEATURES

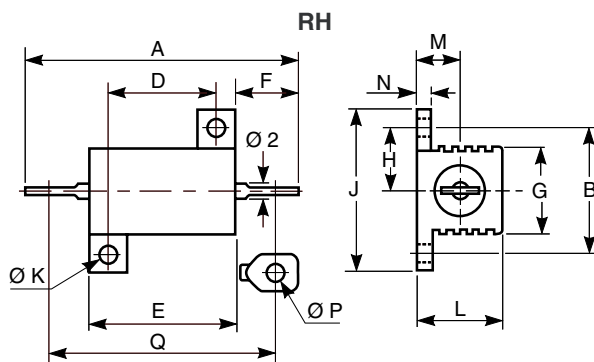
- 5 W to 50 W at 25 °C
- NF C 83-210
- CECC 40 203
- High stability < 0.05 % year
- Low temperature coefficient typically  $\pm 15$  ppm/°C
- Wide range of values from 0.006  $\Omega$  to 130 k $\Omega$
- Termination = Sn/Ag/Cu
- Compliant to RoHS directive 2002/95/EC


**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



MODEL AND STYLE	RH5	RH10	RH25	RH50
<b>A</b>	28.5 $\pm$ 1.5	35 $\pm$ 1.5	49 $\pm$ 1.3	70.2 $\pm$ 1.4
<b>B <math>\pm</math> 0.2</b>	12.5	15.9	19.8	21.4
<b>D <math>\pm</math> 0.2</b>	11.3	14	18.3	39.7
<b>E <math>\pm</math> 0.5</b>	16.3	19	28	50
<b>F</b>	6.8 $\pm$ 1.5	7.9 $\pm$ 1.5	11.1 $\pm$ 1.5	11 $\pm$ 1.2
<b>G <math>\pm</math> 1</b>	8.5	11	14	15.5
<b>H <math>\pm</math> 0.7</b>	6.2	7.9	9.9	10.7
<b>J <math>\pm</math> 0.5</b>	16.4	20.6	27.5	29.4
<b>K <math>\pm</math> 0.1</b>	2.4	2.4	3.2	3.2
<b>L max.</b>	8.9	11	15	15
<b>M <math>\pm</math> 0.5</b>	4.3	5.6	8	8
<b>N <math>\pm</math> 0.3</b>	1.6	2	2.4	2.4
<b>P min.</b>	2.1	2.1	2.1	2.1
<b>Q</b>	25.3 $\pm$ 1.5	30.6 $\pm$ 1.5	44.6 $\pm$ 1.3	66.5 $\pm$ 1.4
<b>Weight in g</b>	4	6.4	16.1	28.6

ELECTRICAL 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	5 W	10 W	20 W	30 W
			70 °C	4 W	8 W	16 W	24 W
	413 cm² for RH5 and RH10 536 cm² 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 (VRMS)				160 V	250 V	550 V	1285 V
Dielectric Strength VRMS				1000 V	1500 V	2500 V	2500 V
Ohmic Range		VISHAY SFERNICE		0.01 Ω 12 kΩ	0.006 Ω 20 kΩ	0.006 Ω 62 kΩ	0.006 Ω 130 kΩ
Qualified Ohmic Range		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	

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 Pr/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 to 10 > 10		± 50 ppm/°C ± 25 ppm/°C		± 15 ppm/°C
Load Life at Maximum Temperature	1000 h 25 °C	Pn MIL	VISHAY	± (1 % + 0.05 Ω)	± (0.1 % + 0.05 Ω)
	200 °C	30 % of Pn	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:

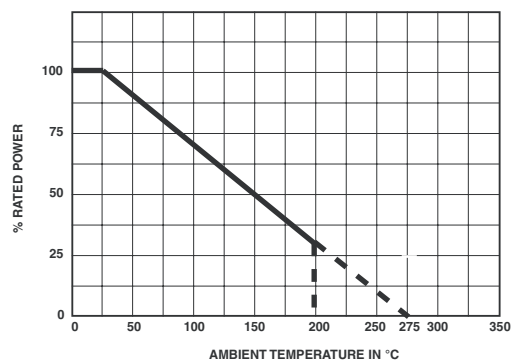
- The 12 Pn overload applies only to ohmic values 0.1.
- The overload voltage shall not be higher than that used for the dielectric strength test (see Standard Electrical Specifications).

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

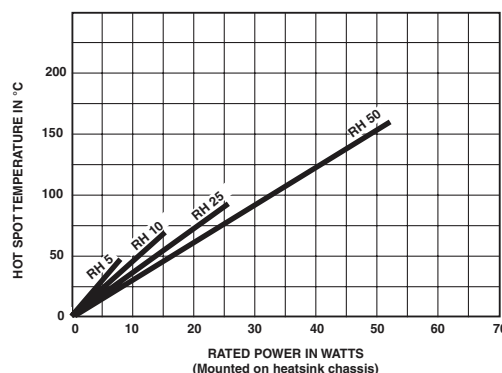
For times shorter than 2 s, higher overloads can be sustained in some cases. Consult VISHAY SFERNICE.

POWER LOADING	DURATION
2.5 Pn	10 s
5 Pn	5 s
12 Pn	2 s

## POWER RATING CHART



## 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**

		<b>R</b>	<b>H</b>	<b>5</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>J</b>	<b>S</b>	<b>0</b>	<b>3</b>	
GLOBAL MODEL	SIZE	OPTION		OHMIC VALUE				TOLERANCE		PACKAGING		SPECIAL			
<b>RH</b>	<b>05</b> <b>10</b> <b>25</b> <b>50</b>	<b>N</b> = 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.  <b>33001</b> = 33 k $\Omega$ <b>680R0</b> = 680 $\Omega$ <b>20302</b> = 20.3 k $\Omega$ <b>88R88</b> = 88.88 $\Omega$ ...				<b>D</b> = 0.5 % <b>F</b> = 1 % <b>G</b> = 2 % <b>J</b> = 5 %		<b>Standard Packaging:</b> S03 = Bag, 10 pieces		As applicable <b>Ex</b> = HDX			



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