COMPLIANT



## **Heatsink Encased Wirewound Power Resistors**

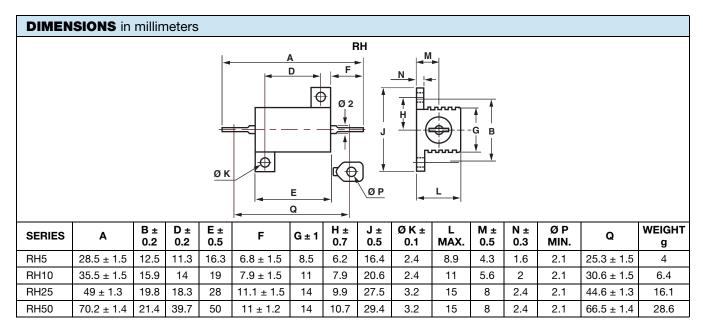


#### **FEATURES**

- 5 W to 50 W at 25 °C
- NF C 83-210
- According to CECC 40 203
- High stability < 0.05 % year
- Low temperature coefficient typically ± 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 <a href="https://www.vishay.com/doc?99912"><u>www.vishay.com/doc?99912</u></a>

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).



OHMIC RANGE IN RELATION TO TOLERANCE						
		RH5	RH10	RH25	RH50	
10 %	E24	0.01 $\Omega$ to 12 k $\Omega$	$0.006~\Omega$ to $20~\text{k}\Omega$	$0.006~\Omega$ to $62~k\Omega$	$0.006~\Omega$ to 130 k $\Omega$	
5 %	E24	0.01 Ω to 12 kΩ	0.01 $\Omega$ to 20 k $\Omega$	0.01 Ω to 62 kΩ	0.01 $\Omega$ to 130 k $\Omega$	
2 %	E48	0.01 $\Omega$ to 12 k $\Omega$	0.01 $\Omega$ to 20 k $\Omega$	0.01 $\Omega$ to 62 k $\Omega$	0.01 $\Omega$ to 130 k $\Omega$	
1 %	E96	0.1 Ω to 12 kΩ	0.1 Ω to 20 kΩ	0.05 Ω to 62 kΩ	$0.05~\Omega$ to 130 k $\Omega$	
0.5 %	E96	0.1 Ω to 12 kΩ	0.1 $\Omega$ to 20 k $\Omega$	0.1 Ω to 62 kΩ	0.1 Ω to 130 kΩ	



# Vishay Sfernice

STANDARD ELECTRICAL SPECIFICATIONS						
MODEL	RATED POWER  P <sub>25 °C</sub> W	VOLTAGE LIMIT V <sub>RMS</sub>	TOLERANCE ± %	RESISTANCE RANGE Ω	TEMPERATURE COEFFICIENT ± ppm/°C	
RH5	10	160	2, 5, 10	0.01 to 12K		
NIII	10	100	0.5, 1	0.1 to 12K		
	12.5		10	0.006 to 20K		
RH10	12.5	250	2, 5	0.01 to 20K	< 5 Ω ± 100,	
	12.5		0.5, 1	0.1 to 20K		
	25	550	10	0.006 to 62K		
RH25	25		2, 5	0.01 to 62K	$5 \Omega$ to $10 \Omega \pm 50$ ,	
RH25	25		1	0.05 to 62K	> 10 Ω ± 25	
	25		0.5	0.1 to 62K		
	50	1285	10	0.006 to 130K		
RH50	50		2, 5	0.01 to 130K		
ที่เมือน	50		1	0.05 to 130K		
	50		0.5	0.1 to 130K		

TECHNICAL SPECIFICATIONS						
VISHAY SFERNICE MODEL AND STYLE			RH5	RH10	RH25	RH50
Power Rating	MIL Limits	25 °C	5 W	10 W	20 W	30 W
Chassis Mounted Resistors		70 °C	4 W	8 W	16 W	24 W
413 cm <sup>2</sup> for RH5 and RH10		25 °C	10 W	12.5 W	25 W	50 W
536 cm <sup>2</sup> for RH25 and RH50		70 °C	8 W	10 W	20 W	40 W
Unmounted Resistors	Vishay Sfernice	25 °C	4 W	6 W	9 W	12 W
Offitiouffied nesistors	Limits	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

PERFORMANCE						
MI	L-R-18546 D	18546 D NF C 83-210 CONDITIONS			TYPICAL DRIFTS	
TESTS				REQUIREMENTS	I TPICAL DRIFTS	
Operating Temperature Range	-	-55 °C +200 °C		-	-	
Momentary Overload		5 P <sub>r</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		$\pm$ (1 % + 0.05 Ω) Ins. resistance $\geq$ 1 GΩ	± (0.1 % + 0.05 Ω)	
Humidity (Steady State) 56 days		$\pm$ (1 % + 0.05) Ins. resistance $\geq$ 100 M $\Omega$	± (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		$5 \Omega$ to $10 \Omega$ > $10 \Omega$		± 50 ppm/°C ± 25 ppm/°C	± 15 ppm/°C	
Load Life	1000 h 25 °C	$P_{n}MIL$	Vishay	± (1 % + 0.05 Ω)	± (0.1 % + 0.05 Ω)	
at Maximum Temperature	200 °C	30 % of <i>P</i> <sub>n</sub>	Sfernice	Ins. resistance $\geq$ 1 G $\Omega$	± (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:

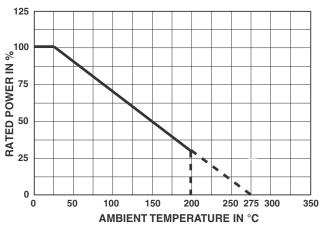
- The 12 P<sub>n</sub> overload applies only to ohmic values 0.1.
- The overload voltage shall not be higher than that used for the dielectric strength test (see Standard Electrical Specifications).

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

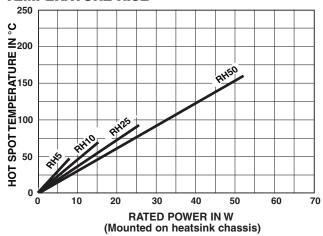
For times shorter than 2 s, higher overloads can be sustained in some cases. Consult Vishay Sfernice.

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





#### **TEMPERATURE RISE**

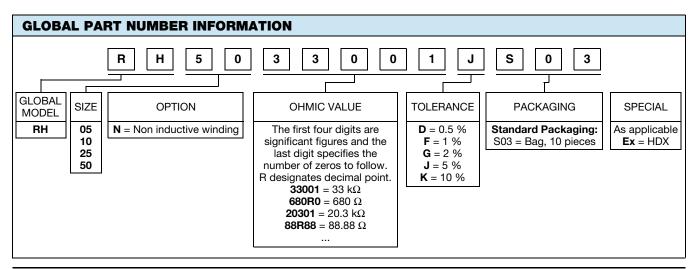


#### **MARKING**

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

PACKAGING
Bag of 10 units

ORDERING INFORMATION						
RH	05	N	18R00	J	S03	
MODEL	STYLE	NON INDUCTIVE WINDING Optional	OHMIC VALUE	TOLERANCE	PACKAGING	







www.vishay.com Vishay Sfernice

RELATED DOCUMENTS				
APPLICATION NOTES				
Potentiometers and Trimmers	www.vishay.com/doc?51001			
Guidelines for Vishay Sfernice Resistive and Inductive Components	www.vishay.com/doc?52029			



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