# Vishay Sfernice

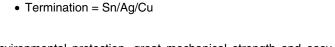


# **Heatsink Encased Wirewound Power Resistors**



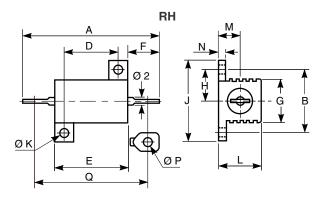
#### **FEATURES**

- 5 Watt to 50 Watt at 25 °C
- NF C 83-210
- CECC 40 203
- High stability < 0.05 % year
- Low temperature coefficient typically ± 15 ppm/°C
- $\bullet$  Wide range of values from 0.006  $\Omega$  to 130  $k\Omega$



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).

#### **DIMENSIONS** in millimeters



MODEL AND STYLE	RH5	RH10	RH25	RH50	
A	28.5 ± 1.5	35 ± 1.5	49 ± 1.3	70.2 ± 1.4	
B ± 0.2	12.5	15.9	19.8	21.4	
D ± 0.2	11.3	14	18.3	39.7	
E ± 0.5 F			19 28 7.9 ± 1.5 11.1 ± 1.5		
G ± 1	8.5	11	14	15.5	
H ± 0.7	6.2	7.9	9.9	10.7	
J ± 0.5	16.4	20.6	27.5	29.4	
Ø K ± 0.1	2.4	2.4	3.2	3.2	
L max.	8.9	11	15	15	
M ± 0.5	4.3	5.6	8	8	
N ± 0.3 1.6		2	2.4	2.4	
Ø P min. 2.1		2.1	2.1	2.1	
Q	Q 25.3 ± 1.5		44.6 ± 1.3	66.5 ± 1.4	
Weight in g	3	8.8	16.5	30.8	

EL	ECTRICAL SPECIFICA	TIONS					
VIS	HAY SFERNICE MODEL AND ST	RH5	RH10 🗲	RH25 🗲	RH50 <b>=</b>		
NF	C 83-210 (CECC 40 203)			RE4	RE1	RE2	RE3
- Chassis Mounted Resistors		MIL	25 °C	5 W	10 W	20 W	30 W
Rating	Chassis Mounted Resistors	Limits	70 °C	4 W	8 W	16 W	24 W
Rat	# 413 cm <sup>2</sup> for RH5 and RH10	VISHAY SFERNICE	25 °C	10 W	12.5 W	25 W	50 W
Power	536 cm <sup>2</sup> for RH25 and RH50	Limits	70 °C	8 W	10 W	20 W	40 W
Po	No.	VISHAY SFERNICE	25 °C	4 W	6 W	9W	12 W
Unmounted Resistors		Limits	70 °C	3.2 W	4.8 W	7.2 W	9.6 W
Rate	ed Maximum Voltage (VRMS)			160 V	250 V	550 V	1285 V
Diel	ectric Strength VRMS			1000 V	1500 V	2500 V	2500 V
Ohmic Range VISHAY SFERNIO		FERNICE	0.01 Ω 12 kΩ	0.006 Ω 20 kΩ	0.006 Ω 62 kΩ	0.006 Ω 130 kΩ	
Qua	lified 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 0.01 Ω 0.01 Ω		0.05 Ω 0.01 Ω	
		E 48	± 2 %				
		E 24	± 5 %			0.01 Ω	
		E 12	± 10 %	0.01 Ω	0.008 Ω	0.0	06 Ω

Undergoes European Quality Insurance System (CECC)



### Heatsink Encased Wirewound Power Resistors

PERFORMANCE								
MII	TYPICAL DRIFTS							
TESTS		CONDITIONS		REQUIREMENTS	1 TPICAL DRIFTS			
Operating Temperature Range	- 55	°C + 200	O °C	-	-			
Momentary Overload		5 Pr/5 s		± (0.25 % + 0.05 Ω)	± (0.1 % + 0.05 Ω)			
Climatic Sequence	- 55	°C + 200 5 cycles	) °C	± (0.25 % + 0.05 Ω)	± (0.1 % + 0.05 Ω)			
Load Life Test at High Temperature	2	2 h at + 275 °C		$\pm$ (1 % + 0.05 $\Omega$ ) Ins. resistance $\geq$ 1 G $\Omega$	± (0.1 % + 0.05 Ω)			
Humidity (Steady State)		56 days		$\pm$ (1 % + 0.05) Ins. resistance $\geq$ 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	1000 h 25 °C	Pn MIL	VISHAY	± (1 % + 0.05 Ω)	$\pm (0.1 \% + 0.05 \Omega)$			
at Maximum Temperature	200 °C 30 % of Pn 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:

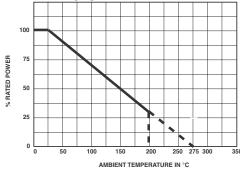
- the 12 Pn overload applies only to ohmic values 0.1.
- the overload voltage shall not be higher than that used for the dielectric strength test (see Standard Electrical Specifications).

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

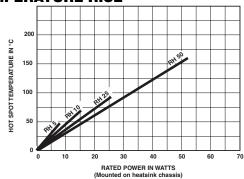
For times shorter than 2 seconds, higher overloads can be sustained in some cases. Consult VISHAY SFERNICE.

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





#### **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								
RH	5	NI		18U	± 5 %	BA10	e1	
MODEL	STYLE	NON INDUCTIVE WINDING Optional	SPECIAL DESIGN Method N° Optional	OHMIC VALUE Custom items are subject to extra-charge and min. order. Please see price list.	TOLERANCE	PACKAGING	LEAD (Pb)-FREE	

SAP PART NUMBERING GUIDELINES								
RH	05	N	18R00	J	S03			
MODEL	STYLE	NON INDUCTIVE WINDING Optional	OHMIC VALUE	TOLERANCE	PACKAGING			

Document Number: 50013 Revision: 07-Dec-06 For technical questions, contact: sfer@vishay.com



Vishay

## **Disclaimer**

All product specifications and data are subject to change without notice.

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 herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

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.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Document Number: 91000
Revision: 18-Jul-08
www.vishay.com