

## Insulated Precision Wirewound Resistors Axial Leads



In wirewound precision resistors, the RLP series holds a leading position in professional applications whenever an excellent stability of the ohmic value and a correspondingly low temperature coefficient are required at the same time.

The RLP model resistors comply with the most stringent requirements of the EN 140-100 specification. The series consists of 5 models covering the power range from 1 W to 10 W.

Non-inductive versions can be supplied on request by specifying RLP-NI. For higher power dissipations, the use of RH series resistors is recommended.

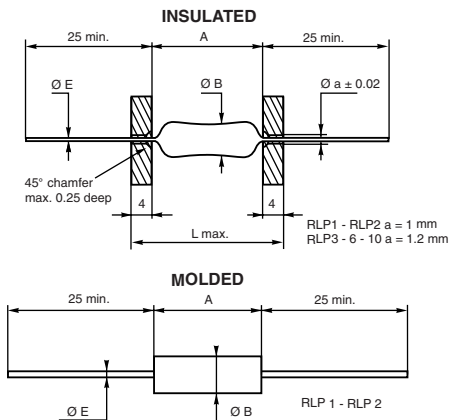
### FEATURES

- 1 W to 10 W at 25 °C
- CECC 40201-006
- Conforms to EN 140-100
- Excellent stability <math>\pm 0.3\%</math> after 1000 h
- High power up to 10 W at 25 °C
- Low ohmic values 10 m $\Omega$  available
- Low temperature coefficient  $\leq \pm 50$  ppm/°C
- Electrical insulation
- Climatic protection
- Termination = Pure matte tin or Sn/Ag/Cu according to the ohmic value



**RoHS**  
COMPLIANT

### DIMENSIONS in millimeters



### DIMENSIONS in millimeters

	MOLDED		INSULATED		
SERIES AND STYLE	RLP 1	RLP 2	RLP 3	RLP 6	RLP 10
<b>A max.</b>	7	10.2	14	23.82	46.78
<b><math>\varnothing B</math> max.</b>	$R > 0.15 \Omega$	2.5	4.0	5.54	8.71
	$R \leq 0.15 \Omega$	-	6	9	11
<b>E <math>\pm 0.1</math></b>	0.6	0.6	0.8	0.8	0.8
<b>Weight in g</b>	0.27	0.48	1.3	3.4	8.6

### TECHNICAL SPECIFICATIONS

VISHAY SFERNICE SERIES AND STYLE		RLP1 $\text{€}$	RLP2 $\text{€}$	RLP3 $\text{€}$	RLP6	RLP10
NF C 83-210		RP8	RP7	RP4	-	-
CECC 40201-006		A	B	C	-	-
<b>Power Rating at + 25 °C</b>	<b>VISHAY SFERNICE Limits</b>	1 W	2 W	3 W	6 W	10 W
<b>Ohmic Range in Relation to Tolerance</b>	<b><math>\pm 5\%</math> E24</b>	0.05 $\Omega$ 2 k $\Omega$	0.025 $\Omega$ 6.8 k $\Omega$	0.01 $\Omega$ 15 k $\Omega$	0.02 $\Omega$ 59 k $\Omega$	0.06 $\Omega$ 150 k $\Omega$
	<b><math>\pm 2\%</math> E48</b>	0.05 $\Omega$ 2 k $\Omega$	0.025 $\Omega$ 6.8 k $\Omega$	0.03 $\Omega$ 15 k $\Omega$	0.02 $\Omega$ 59 k $\Omega$	0.06 $\Omega$ 150 k $\Omega$
	<b><math>\pm 1\%</math> E96</b>	0.05 $\Omega$ 2 k $\Omega$	0.025 $\Omega$ 6.8 k $\Omega$	0.03 $\Omega$ 15 k $\Omega$	0.02 $\Omega$ 59 k $\Omega$	0.06 $\Omega$ 150 k $\Omega$
	<b><math>\pm 0.5\%</math> E96</b>	0.4 $\Omega$ 2 k $\Omega$	0.4 $\Omega$ 6.8 k $\Omega$	0.0499 $\Omega$ 15 k $\Omega$	0.3 $\Omega$ 59 k $\Omega$	0.3 $\Omega$ 150 k $\Omega$
	<b><math>\pm 0.1\%</math> E96</b>	Please consult VISHAY SFERNICE				
<b>Qualified Ohmic Range NF C 83-210</b>	1 $\Omega$ 470 $\Omega$	0.2 $\Omega$ 1.78 k $\Omega$	0.1 $\Omega$ 3.57 k $\Omega$	0.1 $\Omega$ 12.1 k $\Omega$	0.1 $\Omega$ 40.2 k $\Omega$	
<b>Limiting Element Voltage</b>	50 V	120 V	200 V	300 V	720 V	
<b>Critical Resistance</b>	out of nominal ohmic range			17 800 $\Omega$	51 100 $\Omega$	

Undergoes European Quality Insurance System (CECC)



Insulated Precision Wirewound Resistors  
Axial Leads

Vishay Sfernice

PERFORMANCE				
TESTS	CONDITIONS	REQUIREMENTS		TYPICAL VALUES AND DRIFTS
		MIL-R-26 E	CECC40201-06	
Dielectric w/s Voltage	500 VRMS for RLP 1-2-3 1000 VRMS for RLP 6-10	$\pm (0.1 \% + 0.05 \Omega)$	-	$\pm (0.05 \% + 0.05 \Omega)$
Short Time Overload	5 Pn/5 s for Pn < 5 W 10 Pn/5 s for Pn $\geq$ 5 W	$\pm (0.2 \% + 0.05 \Omega)$	$\pm 0.25 \% + 0.05 \Omega$	$\pm (0.1 \% + 0.05 \Omega)$
Climatic Sequence	EN 140-201 fasc. 19A - 55 °C/+ 200 °C 5 cycles	-	$\pm 0.5 \% + 0.05 \Omega$ Insulation R > 100 M $\Omega$	$\pm (0.2 \% + 0.05 \Omega)$ Ins. resistance > 10 <sup>3</sup> M $\Omega$
Humidity (Steady State)	EN 140-201 fasc. 3A 56 days 95 % R.H.	-	$\pm 0.5 \% + 0.05 \Omega$ Insulation R > 100 M $\Omega$	$\pm (0.25 \% + 0.05 \Omega)$ Ins. resistance > 10 <sup>3</sup> M $\Omega$
Vibration	MIL-STD-202 Method 204 - Test D: 20 g 10/2000 Hz	$\pm (0.1 \% + 0.05 \Omega)$	$\pm 0.25 \% + 0.05 \Omega$	$\pm (0.05 \% + 0.05 \Omega)$
Load Life	MIL-STD-202 Method 108 Pn 1000 h	$\pm (0.5 \% + 0.05 \Omega)$	$\pm 0.5 \% + 0.05 \Omega$ Insulation R $\geq$ 1 G $\Omega$	$\pm (0.3 \% + 0.05 \Omega)$
Moisture Resistance	MIL-STD-202 Method 106	$\pm (0.2 \% + 0.05 \Omega)$ Insulation resistance > 100 M $\Omega$	-	$\pm (1 \% + 0.05 \Omega)$ Ins. resistance > 10 <sup>3</sup> M $\Omega$
High Temperature	250 h at + 275 °C	$\pm (0.5 \% + 0.05 \Omega)$	$\pm 0.5 \% + 0.05 \Omega$ Insulation R $\geq$ 1 G $\Omega$	$\pm (0.25 \% + 0.05 \Omega)$
Shock	MIL-STD-202 100 g Method 205 - Test C	$\pm (0.1\% + 0.05 \Omega)$	$\pm 0.25 \% + 0.05 \Omega$	$\pm (0.05 \% + 0.05 \Omega)$

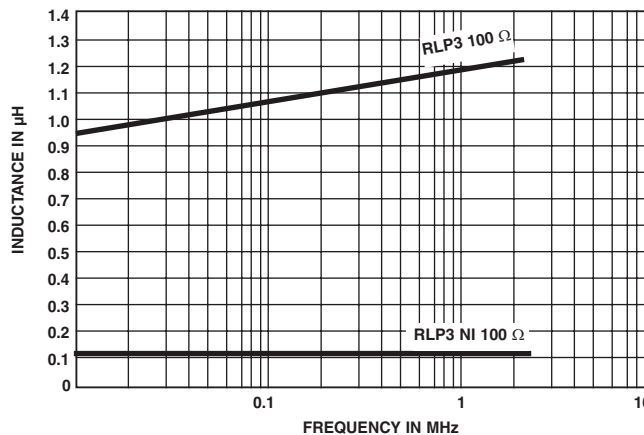
TEMPERATURE COEFFICIENT IN THE RANGE - 55 °C TO + 200 °C			
OHMIC RANGE	LIMITS		TYPICAL VALUE
	NF C	MIL	
< 1 $\Omega$	$\pm 100 \text{ ppm}/^\circ\text{C}$	$\pm 90 \text{ ppm}/^\circ\text{C}$	$\pm 50 \text{ ppm}/^\circ\text{C}$
1 $\Omega$ to < 10 $\Omega$	$\pm 50 \text{ ppm}/^\circ\text{C}$	$\pm 50 \text{ ppm}/^\circ\text{C}$	
$\geq 10 \Omega$	$\pm 25 \text{ ppm}/^\circ\text{C}$	$\pm 30 \text{ ppm}/^\circ\text{C}$	+ 0 to - 20 ppm/°C

**STABILITY AND POWER RATING**

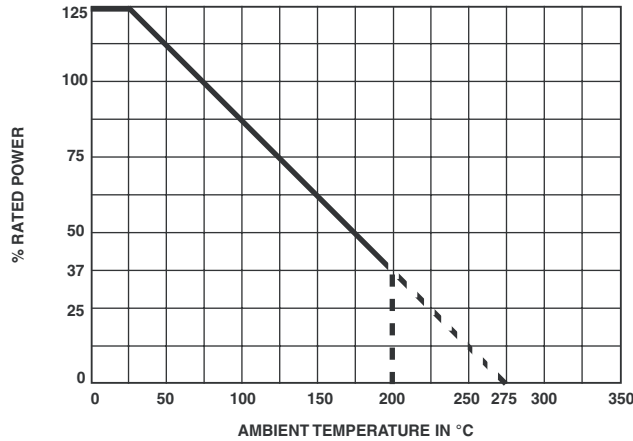
Stability changes slightly according to power rating and ambient temperature. This fact is especially important for users needing a life drift lower than the initial resistance tolerance. Typical drifts, after 2000 hours life test made under the 90°/30' conditions and at an ambient temperature of 25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

OHMIC RANGE	RLP1	RLP2	RLP3	RLP6	RLP10	$\frac{\Delta R \%}{R \%}$
Pn	1 W	2 W	3 W	5 W	10 W	0.3
0.5 Pn	0.5 W	1 W	1.5 W	2.5 W	5 W	0.15

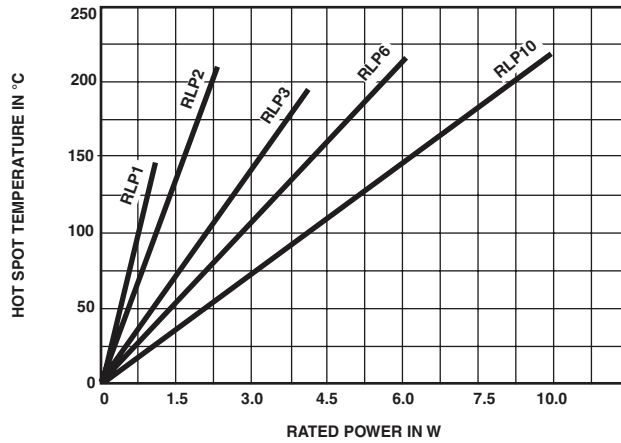
**INDUCTANCE (Example)**



**POWER RATING CHART**



**TEMPERATURE RISE**



**MARKING**

SFERNICE trademark, series, style, CECC style (if applicable) nominal resistance (in  $\Omega$ , k $\Omega$ ), tolerance (in %), manufacturing date.

ORDERING INFORMATION							
RLP	1		XXX	5U5	$\pm 5\%$	TR100	e1 (e3: RLP1 < 1R RLP2 < 3R52)
MODEL	STYLE	NON INDUCTIVE WINDING	SPECIAL DESIGN	OHMIC VALUE	TOLERANCE	PACKAGING	LEAD (Pb)-FREE
		Optional (NI)	Method N° Optional	Custom items are subject to extra-charge and min. order. Please see price list.		Optional	

SAP PART NUMBERING GUIDELINES				
RLP	01	5R500	J	R15
MODEL	STYLE	OHMIC VALUE	TOLERANCE	PACKAGING



## 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.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.