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 CECC 40-201-006 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

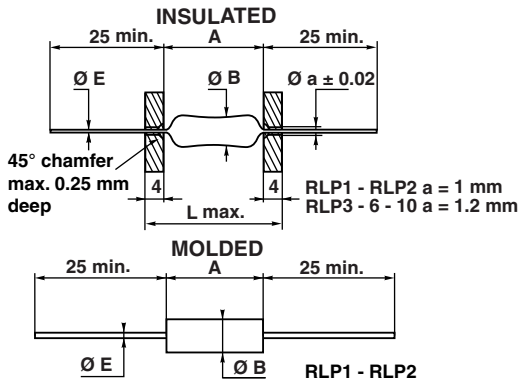
- 1 W to 10 W at 25 °C
- According to CECC 40-201-006
- According to MIL-R-26/5C and MIL-R-26/6C
- Excellent stability < ± 0.3 % after 1000 h
- High power up to 10 W at 25 °C
- Low ohmic values 10 mΩ available
- Low temperature coefficient ≤ ± 50 ppm/°C
- Electrical insulation
- Climatic protection
- Termination = Pure matte tin or Sn/Ag/Cu according to the ohmic value
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e1

RoHS COMPLIANT

DIMENSIONS in millimeters



SERIES AND STYLE	A MAX.	Ø B MAX.		E ± 0.1	WEIGHT g
		R > 0.15 Ω	*R* ≤ 0.15 Ω		
RLP1	7	2.5	-	0.6	0.27
RLP2	10.2	4.0	-	0.6	0.48
RLP3	14	5.54	6	0.8	1.3
RLP6	23.82	8.71	9	0.8	3.4
RLP10	46.78	10.32	11	0.8	8.6

TECHNICAL SPECIFICATIONS

VISHAY SFERNICE SERIES AND STYLE			RLP1	RLP2	RLP3	RLP6	RLP10
Reference CECC 40-201-006			A	B	C	D	E
Cross-Reference NF C83-210			RP8	RP7	RP4	RP5	RP6
Cross-Reference MIL-R-26/5C and MIL-R-26/6C			RW81	RW80	RW79	RW74	RW78
Power Rating, Pr	CECC 40-201-006 Power	at 25 °C, P_{25} at 70 °C, P_{70}	1 W 0.8 W	1.5 W 1.25 W	2.5 W 2 W	-	-
	Extended Sfernice Power	at 25 °C, P_{25} at 70 °C, P_{70}	1 W 0.8 W	2 W 1.65 W	3 W 2.5 W	6 W 5 W	10 W 8.2 W
Ohmic Range in Relation to Tolerance		± 5 % E24	0.05 Ω to 2 kΩ	0.025 Ω to 6.8 kΩ	0.01 Ω to 15 kΩ	0.02 Ω to 59 kΩ	0.06 Ω to 150 kΩ
		± 2 % E48	0.05 Ω to 2 kΩ	0.025 Ω to 6.8 kΩ	0.03 Ω to 15 kΩ	0.02 Ω to 59 kΩ	0.06 Ω to 150 kΩ
		± 1 % E96	0.05 Ω to 2 kΩ	0.025 Ω to 6.8 kΩ	0.03 Ω to 15 kΩ	0.02 Ω to 59 kΩ	0.06 Ω to 150 kΩ
		± 0.5 % E96	0.4 Ω to 2 kΩ	0.4 Ω to 6.8 kΩ	0.0499 Ω to 15 kΩ	0.3 Ω to 59 kΩ	0.3 Ω to 150 kΩ
		± 0.1 % E96	Please consult Vishay Sfernice				
Qualified Ohmic Value Range CECC 40-201-006			1 Ω to 470 Ω	0.2 Ω to 1.78 kΩ	0.1 Ω to 3.57 kΩ	0.1 Ω to 12.1 kΩ	0.1 Ω to 40.2 kΩ
Limiting Element Voltage, $U_{max.}$ AC/DC			50 V	120 V	200 V	300 V	720 V
Critical Resistance			Out of nominal ohmic range			17 800 W	51 100 W

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	RESISTANCE RANGE Ω	RATED POWER $P_{25\ °C}$ W	TOLERANCE ± %
RLP1	0.05 to 2K	1	0.1, 0.2, 0.5, 1, 2, 5
RLP2	0.025 to 6.8K	2	0.1, 0.2, 0.5, 1, 2, 5
RLP3	0.01 to 15K	3	0.1, 0.2, 0.5, 1, 2, 5
RLP6	0.02 to 59K	6	0.1, 0.2, 0.5, 1, 2, 5
RLP10	0.06 to 150K	10	0.1, 0.2, 0.5, 1, 2, 5

MECHANICAL SPECIFICATIONS

Series and Style	RLP1, RLP2	RLP3, RLP6, RLP10
Encapsulant	High temperature mold compound	High temperature silicone coating
Resistive Element	CuNi or NiCr	
Ceramic Substrate	Alumina or steatite	
Termination	Pure matte tin or Sn/Ag/Cu	

ENVIRONMENTAL SPECIFICATIONS

Temperature Range	-55 °C to +275 °C
Climatic Category (LCT/UCT/days)	55/200/56

PERFORMANCE

TESTS	CONDITIONS	REQUIREMENTS (Δ*R*/*R* OR INDICATED PARAMETER)
Short Time Overload	IEC 60115-1 6.25 $Pr_{Extended\ Sfernice\ Power}$ or $U = 2\ U_{max.}/5$ s for RLP1, RLP2, RLP3 12 $Pr_{Extended\ Sfernice\ Power}$ or $U = 2\ U_{max.}/5$ s for RLP6, RLP10	± (0.25 % + 0.05 Ω)
Load Life	IEC 60115-1 90'/30' cycles 1000 h $Pr_{Extended\ Sfernice\ Power}$ + 25 °C	± (0.5 % + 0.05 Ω) Insulation $R \geq 1$ GΩ
Dielectric w/s Voltage	IEC 60115-1 U_{RMS} = 500 V/60 s	No flashover or breakdown Leakage current < 10 µA
Rapid Change of Temperature	IEC 60115-1 IEC 60068-2-14 Test Na 5 cycles (30' at LCT/30' at UCT) -55 °C / +200 °C	± (0.25 % + 0.05 Ω)
Climatic Sequence	IEC 60115-1 -55 °C / +200 °C/56 days	± (0.5 % + 0.05 Ω)
Humidity (Steady State)	IEC 60115-1 IEC 60068-2-3 Test Ca 95 % HR/40 °C 56 days	± (0.5 % + 0.05 Ω) Insulation $R \geq 100$ MΩ
Shock	IEC 60115-1 IEC 60068-2-27 Test Ea 50 *g*'s/half sine/ 3 times by direction (i.e. 18 shocks)	± (0.25 % + 0.05 Ω)
Vibration	IEC 60115-1 IEC 60068-2-6 Test Fc 10 Hz / 55 Hz	± (0.25 % + 0.05 Ω)
Load Life at Upper Category Temperature	IEC 60115-1 90' / 30' cycles 1000 h $Pr_{Extended\ Sfernice\ Power}$ +200 °C	± (0.5 % + 0.05 Ω) Insulation $R \geq 1$ GΩ

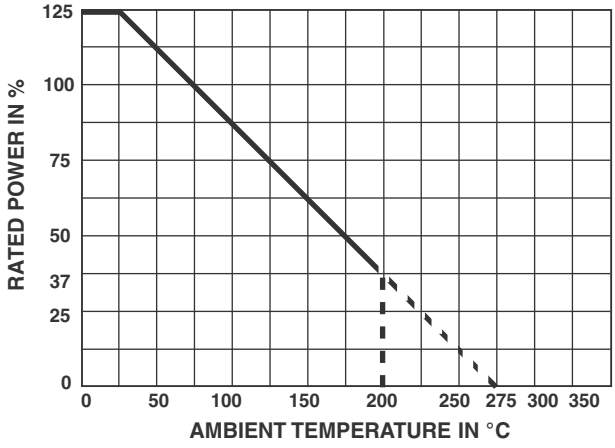
TEMPERATURE COEFFICIENT in the range -55 °C to +200 °C	
OHMIC RANGE	**REQUIREMENT**
< 1 Ω	± 100 ppm/°C
1 Ω to < 10 Ω	± 50 ppm/°C
≥ 10 Ω	± 25 ppm/°C

STABILITY AND POWER RATING

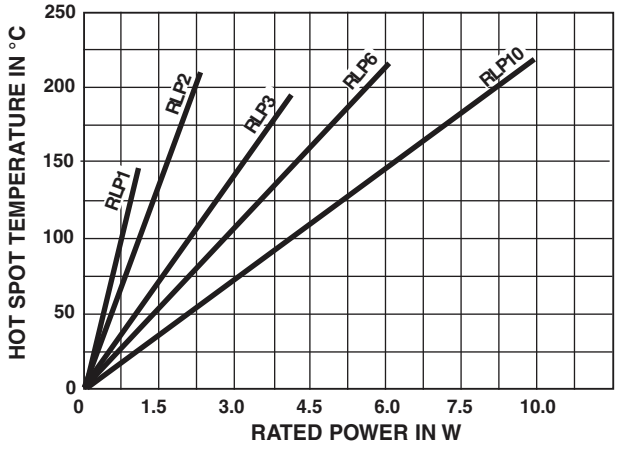
Stability changes slightly according to power rating and ambient temperature. This fact is especially important for users needing a life drift lower than the initial resistance tolerance. Typical drifts, after 2000 h life test made under the 90' / 30' conditions and at an ambient temperature of 25 °C,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

OHMIC RANGE	RLP1	RLP2	RLP3	RLP6	RLP10	ΔR %/R %
Pr	1 W	2 W	3 W	5 W	10 W	0.3
0.5 Pr	0.5 W	1 W	1.5 W	2.5 W	5 W	0.15

POWER RATING



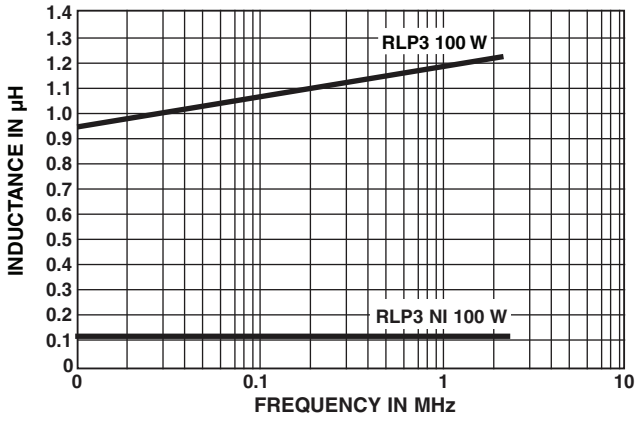
TEMPERATURE RISE



NON INDUCTIVE WINDING (NI)

Non inductive (Ayrton Perry) winding available.
Please consult Vishay Sfernice.

INDUCTANCE (Example)



PACKAGING (see datasheet 50032 and 50033)
Reel of 1000 units for RLP1, RLP2, RLP3 Ammopack of 500 units for RLP1, RLP2, RLP3 Bag of 100 units for RLP1, RLP2 Blister of 20 units for RLP3 Box of 50 units for RLP6, RLP10

MARKING

Vishay Sfernice trademark, series, style, CECC style (if applicable) nominal resistance (in Ω, kΩ), tolerance (in %), manufacturing date.

ORDERING INFORMATION

RLP	01	5R500	J	R15
MODEL	STYLE	OHMIC VALUE	TOLERANCE	PACKAGING

GLOBAL PART NUMBER INFORMATION

R	L	P	0	6	1	5	0	R	0	J	B	0	0

GLOBAL MODEL	SIZE	OPTION	OHMIC VALUE	TOLERANCE	PACKAGING	SPECIAL
RLP	**01** **02** **03** **06** **10**	**N** = 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. **680R0** = 680 Ω **20301** = 20.3 kΩ **88R88** = 88.88 Ω ...	**B** = 0.1 % **C** = 0.2 % **D** = 0.5 % **F** = 1 % **G** = 2 % **J** = 5 %	**Standard packaging:** Size 01 and 02: **S14** = bag, 100 pieces size 03: **B15** = bulk, 20 pieces size 06 and 10: **B25** = box, 50 pieces **A20** = ammopack, 500 pieces for RLP1, RLP2, and RLP3 **R15** = tape and reel, 1000 pieces for RLP1, RLP2, and RLP3	As applicable **Ex** = MEX

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

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 in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

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

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Wirewound Resistors - Through Hole ***category:***

Click to view products by Vishay ***manufacturer:***

Other Similar products are found below :

75822-2K4 90J56R PW10-39R-5% ALSR1-20 EP3WS47RJ RWR81S12R4FRB12 RWR81SR511FRB12 RWR81SR619FRBSL RWR89S9310FPB12 27J1K0 93J62RE AC10000002208JAB00 1HJ-25 FSQ5WR47J 25J39K 25J5R0-B 25W1D0 272-303-JBW 280-PRM5-150-RC CP0005270R0JE1491 CPCC0510R00JE32 CPCC051R000JB31 CPW052K500JE143 CPW05700R0JE143 C1010RJL CA000210R00JE14 VPR5F1500 RS02B887R0FE73 RWR74SR604FRB12 RWR84S1001FRB12 RWR84S20R0FSBSL RWR89S6190FSB12 CPW055R000JB143 ULW5-39R0JT075 W31-R47JA1 VP25K-120 VC3D900 ULW5-68RJT075 65888-3R3 RWR81S4R22FRB12 CPW151K500JE313 RWR80N3400FSB12 RWR81S1000FRB12 RWR81S1000FSB12 RWR89S6R81FRB12 RWR89N30R1FRB12 RWR81S4R99FPB12 RWR74S4R02FRRSL WW1JT33R0 VC3D.5