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.

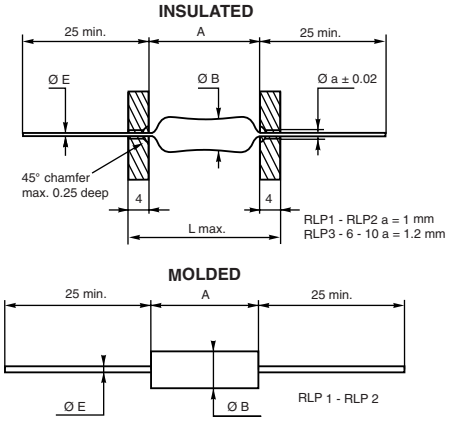
FEATURES

- 1 W to 10 W at 25 °C
- CECC 40201-006
- Conforms to EN 140-100
- Excellent stability < ± 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

Pb-free

RoHS
COMPLIANT

DIMENSIONS in millimeters



DIMENSIONS in millimeters						
		MOLDED		INSULATED		
SERIES AND STYLE		RLP 1	RLP 2	RLP 3	RLP 6	RLP 10
A max.		7	10.2	14	23.82	46.78
Ø B max.	R > 0.15 Ω	2.5	4.0	5.54	8.71	10.32
	R ≤ 0.15 Ω	-	6	9	11	180K
E ± 0.1		0.6	0.6	0.8	0.8	0.8
Weight in g		0.27	0.48	1.3	3.4	8.6

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

Undergoes European Quality Insurance System (CECC)

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	± (0.1 % + 0.05 Ω)	-	± (0.05 % + 0.05 Ω)
Short Time Overload	5 Pn/5 s for Pn < 5 W 10 Pn/5 s for Pn ≥ 5 W	± (0.2 % + 0.05 Ω)	± 0.25 % + 0.05 Ω	± (0.1 % + 0.05 Ω)
Climatic Sequence	EN 140-201 fasc. 19A - 55 °C/+ 200 °C 5 cycles	-	± 0.5 % + 0.05 Ω Insulation R > 100 MΩ	± (0.2 % + 0.05 Ω) Ins. resistance > 10^3 MΩ
Humidity (Steady State)	EN 140-201 fasc. 3A 56 days 95 % R.H.	-	± 0.5 % + 0.05 Ω Insulation R > 100 MΩ	± (0.25 % + 0.05 Ω) Ins. resistance > 10^3 MΩ
Vibration	MIL-STD-202 Method 204 - Test D: 20 g 10/2000 Hz	± (0.1 % + 0.05 Ω)	± 0.25 % + 0.05 Ω	± (0.05 % + 0.05 Ω)
Load Life	MIL-STD-202 Method 108 Pn 1000 h	± (0.5 % + 0.05 Ω)	± 0.5 % + 0.05 Ω Insulation R ≥ 1 GΩ	± (0.3 % + 0.05 Ω)
Moisture Resistance	MIL-STD-202 Method 106	± (0.2 % + 0.05 Ω) Insulation resistance > 100 MΩ	-	± (1 % + 0.05 Ω) Ins. resistance > 10^3 MΩ
High Temperature	250 h at + 275 °C	± (0.5 % + 0.05 Ω)	± 0.5 % + 0.05 Ω Insulation R ≥1 GΩ	± (0.25 % + 0.05 Ω)
Shock	MIL-STD-202 100 g Method 205 - Test C	± (0.1% + 0.05 Ω)	± 0.25 % + 0.05 Ω	± (0.05 % + 0.05 Ω)

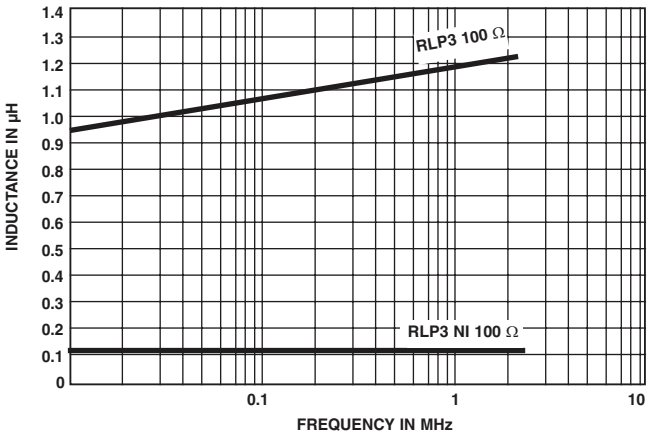
TEMPERATURE COEFFICIENT IN THE RANGE - 55 °C TO + 200 °C			
OHMIC RANGE	LIMITS		TYPICAL VALUE
	NF C	MIL	
< 1 Ω	± 100 ppm/°C	± 90 ppm/°C	± 50 ppm/°C
1 Ω to < 10 Ω	± 50 ppm/°C	± 50 ppm/°C	
≥ 10 Ω	± 25 ppm/°C	± 30 ppm/°C	+ 0 to - 20 ppm°C

STABILITY AND POWER RATING

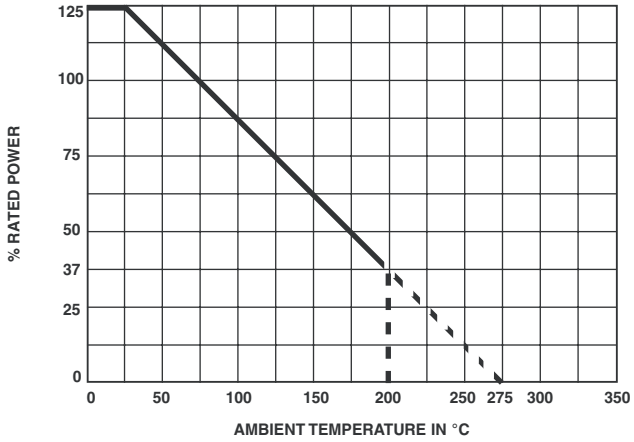
Stability changes slightly according to power rating and ambient temperature. This fact is especially important for users needing a life drift lower than the initial resistance tolerance. Typical drifts, after 2000 hours life test made under the 90'/30' conditions and at an ambient temperature of 25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

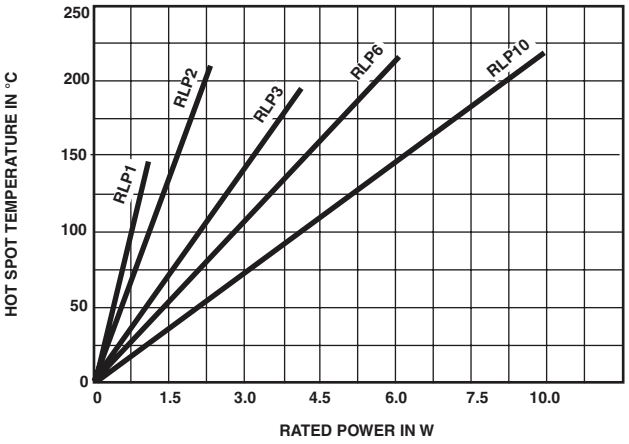
INDUCTANCE (Example)



POWER RATING CHART



TEMPERATURE RISE



MARKING

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

ORDERING INFORMATION

RLP	1		XXX	5U5	± 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

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