

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.

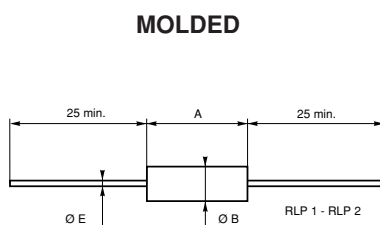
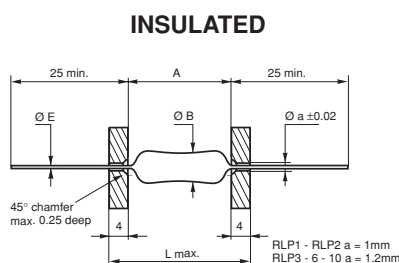
The RLP model resistors comply with the most stringent requirements of the NF C 83-210 specification. The series consists of 5 models covering the power range from 1W to 10W.

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 Watt to 10 Watt at 25°C
- CECC 40201-006
- Conforms to MIL-R-26 E
- Conforms to NF C 83-210
- Excellent stability
- High power
- Low ohmic values
- Low temperature coefficient
- Electrical insulation
- Climatic protection

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	2.5	4.0	5.54	8.71	10.32
max. $\frac{R > 0.15\Omega}{R \leq 0.15\Omega}$			6	9	11
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	RP5	RP6
CECC 40201-006		A	B	C	D	E
MIL-R-26E Conformity		RW 81	RW 80	RW 79	RW74	RW 78
Power Rating at + 25°C	VISHAY SFERNICE Limits	1W	2W	3W	6W	10W
	MIL limits	1W	2W	3W	5W	10W
Ohmic Range in Relation to Tolerance	± 5% E24	0.05Ω 2.2kΩ	0.025Ω 6.8kΩ	0.01Ω 15kΩ	0.02Ω 59kΩ	0.06Ω 150kΩ
	± 2% E48	0.05Ω 2.2kΩ	0.025Ω 6.8kΩ	0.01Ω 15kΩ	0.02Ω 59kΩ	0.06Ω 150kΩ
	± 1% E96	0.05Ω 2.2kΩ	0.025Ω 6.8kΩ	0.01Ω 15kΩ	0.02Ω 59kΩ	0.06Ω 150kΩ
	± 0.5% E96	0.4Ω 2.2kΩ	0.4Ω 6.8kΩ	0.3Ω 15kΩ	0.3Ω 59kΩ	0.3Ω 150kΩ
	± 0.1% E96	Please consult VISHAY SFERNICE				
Qualified Ohmic Range NF C 83-210		1Ω 470Ω	0.2Ω 1.78kΩ	0.1Ω 3.57kΩ	0.1Ω 12.1kΩ	0.1Ω 40.2kΩ
Limiting Element Voltage		50V	120V	200V	300V	720V
Critical Resistance		out of nominal ohmic range			17800Ω	51100Ω

 Undergoes European Quality Insurance System (CECC)

PERFORMANCE				
TESTS	CONDITIONS	REQUIREMENTS		TYPICAL VALUES AND DRIFTS
		MIL-R-26 E	NF C 83-210	
Dielectric W/s Voltage	1000VRMS for RW74-78 500VRMS for RW79-80-81	$\pm (0.1\% + 0.05\Omega)$	—	0.05%
Short Time Overload	5Pn/5s for Pn < 5W 10Pn/5s for Pn $\geq$ 5W	$\pm (0.2\% + 0.05\Omega)$	$\pm 0.25\% + 0.05\Omega$	0.1%
Climatic Sequence	NF C 83-210 fasc. 19A – 55°C/+ 200°C 5 cycles	—	$\pm 0.5\% + 0.05\Omega$ Insulation R > 100M Ω	0.2% Ins. resistance > 10 ³ M Ω
Humidity (Steady State)	NF C 83-210 fasc. 3A 56 days 95% R.H.	—	$\pm 0.5\% + 0.05\Omega$ Insulation R > 100M Ω	0.25% Ins. resistance > 10 ³ M Ω
Thermal Shock	Load at 100% P followed by cold temp. exposure at – 55°C	$\pm (0.2\% + 0.05\Omega)$	$\pm 0.25\% + 0.05\Omega$	0.1%
Vibration	MIL-STD-202 Method 204 - Test D: 20g 10/2000Hz	$\pm (0.1\% + 0.05\Omega)$	$\pm 0.25\% + 0.05\Omega$	0.05%
Load Life	MIL-STD-202 Method 108Ph 2000h	$\pm (0.5\% + 0.05\Omega)$	$\pm 0.5\% + 0.05\Omega$ Insulation R $\geq$ 1G Ω	0.3%
Moisture Resistance	MIL-STD-202 Method 106	$\pm (0.2\% + 0.05\Omega)$ Insulation resistance >100M	—	1% Ins. resistance > 10 ³ M Ω
High Temperature	250h at + 275°C	$\pm (0.5\% + 0.05\Omega)$	$\pm 0.5\% + 0.05\Omega$ Insulation R $\geq$ 1G Ω	0.25%
Shock	MIL-STD-202 100g Method 205 - Test C	$\pm (0.1\% + 0.05\Omega)$	$\pm 0.25\% + 0.05\Omega$	0.05%

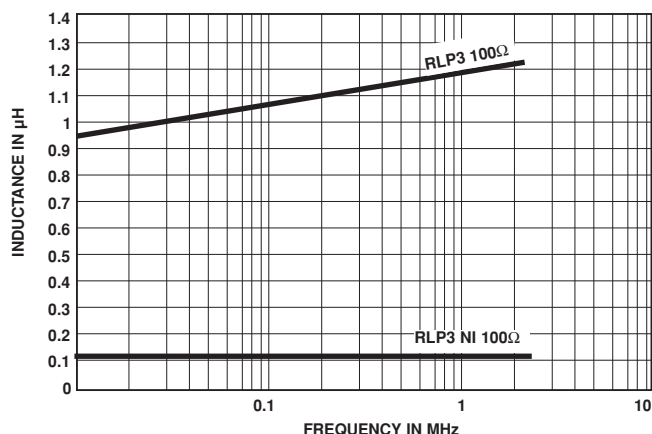
TEMPERATURE COEFFICIENT IN THE RANGE - 55° + 200°C			
OHMIC RANGE	LIMITS		TYPICAL VALUE
	NF C	MIL	
< 1 Ω	$\pm 100\text{ppm}/^\circ\text{C}$	$\pm 90\text{ppm}/^\circ\text{C}$	$\pm 50\text{ppm}/^\circ\text{C}$
1 Ω to < 10 Ω	$\pm 50\text{ppm}/^\circ\text{C}$	$\pm 50\text{ppm}/^\circ\text{C}$	
$\geq 10\Omega$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

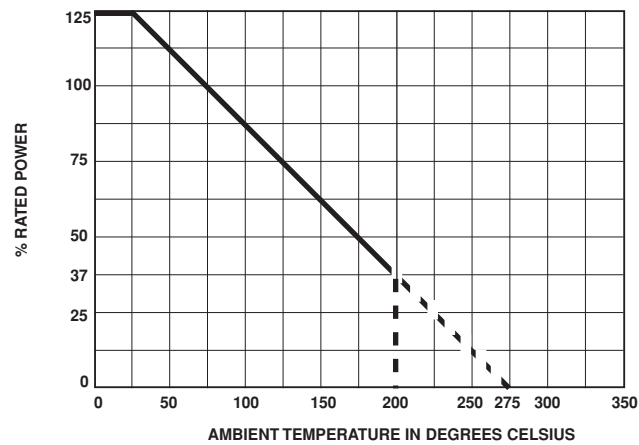
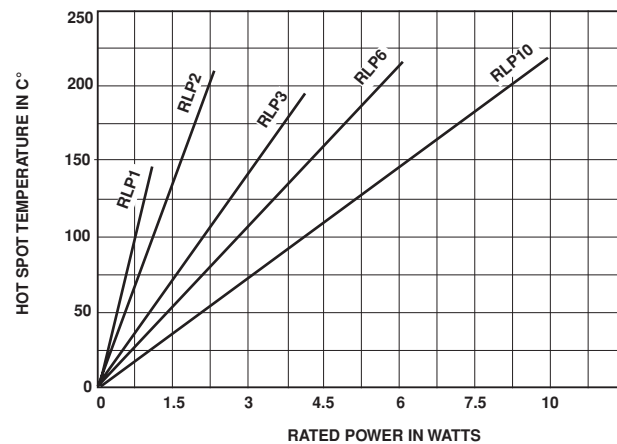
STABILITY AND POWER RATING

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 2000h life test made under the 90°/30° conditions and at an ambient temperature of 25°C, are:

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

INDUCTANCE (Example)



**POWER RATING CHART****TEMPERATURE RISE****MARKING**

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

ORDERING INFORMATION

RLP	3	NI		4.7k Ω	$\pm 1\%$	
MODEL	STYLE	NON INDUCTIVE WINDING	SPECIAL DESIGN	OHMIC VALUE	TOLERANCE	PACKAGING
		Optional	Method N° Optional	Custom items are subject to extra-charge and min. order. Please see price list.		Optional