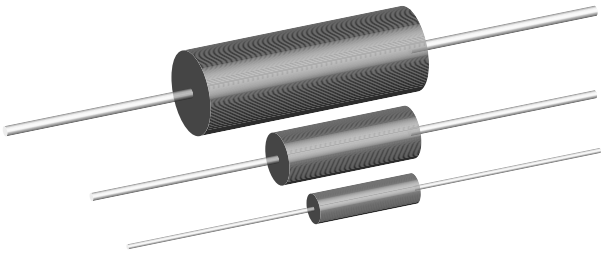
Wirewound Resistors, Precision Power, Low Value, Commercial, Military, MIL-PRF-49465 Type RLV, Axial Lead



FEATURES

- Ideal for all types of current sensing applications including switching and linear power supplies, instruments and power amplifiers
- Proprietary processing technique produces extremely low resistance values
- Excellent load life stability
- Low temperature coefficient
- Low inductance
- Cooler operation for high power to size ratio

Pb-free Available

e3

RoHS* COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	MIL-PRF-49465 TYPE	POWER RATING $P_{25\ °C}$ W	RESISTANCE RANGE Ω (1) ± 1 %, ± 3 %, ± 5 %, ± 10 %	TECHNOLOGY
LVR01	LVR-1	-	1	0.01 - 0.1 (2)	Metal Strip
LVR03	LVR-3	-	3	0.005 - 0.2	Metal Strip
LVR03...26	**LVR-3-26**	**RLV30 (M4946506)**	**3**	**0.01 - 0.2**	**Metal Strip**
LVR05	LVR-5	-	5	0.005 - 0.3	Metal Strip
LVR05...26	**LVR-5-26**	**RLV31 (M4946507)**	**5**	**0.01 - 0.3**	**Metal Strip**
LVR10	LVR-10	-	10	0.01 - 0.8	Coil Spacewound

Notes

(1) Resistance is measured 3/8" [9.52 mm] from the body of the resistor, or at 1.183" [30.05 mm], 1.315" [33.40 mm], 1.675" [42.545 mm] or 2.575" [65.405 mm] spacing for the LVR01, LVR03, LVR05 and LVR10 respectively

(2) Standard resistance values are 0.01 Ω, 0.015 Ω, 0.02 Ω, 0.025 Ω, 0.03 Ω, 0.033 Ω, 0.04 Ω, 0.05 Ω, 0.051 Ω, 0.06 Ω, 0.068 Ω, 0.07 Ω, 0.08 Ω, 0.09 Ω and 0.1 Ω with 1 % tolerance. Other resistance values may be available upon request

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	LVR01	LVR03	LVR05	LVR10
Rated Power at + 25 °C	W	1	3	5	10
Operating Temperature Range	°C	- 65 to + 175	- 65 to + 275		
Dielectric Withstanding Voltage	V_{AC}	1000	1000	1000	1000
Insulation Resistance	Ω	10 000 MΩ minimum dry			
Short Time Overload	-	5 x rated power for 5 s			10 x rated power for 5 s
Terminal Strength (minimum)	lb	5	10	10	10
Temperature Coefficient	ppm/°C	See TCR vs. Resistance Value chart			
Maximum Working Voltage	V	$(P \times R)^{1/2}$			
Weight (maximum)	g	2	2	5	11

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: LVR055L000FS73 (preferred part number format)

L	V	R	0	5	5	L	0	0	0	F	S	7	3			

GLOBAL MODEL	VALUE	TOLERANCE	PACKAGING	SPECIAL
LVR01 **LVR03** **LVR05** **LVR10**	**R** = Decimal **L** = mΩ (values < 0.010 Ω) **R1500** = 0.15 Ω **7L000** = 0.007 Ω	**D** = ± 0.5 % **F** = ± 1.0 % **G** = ± 2.0 % **H** = ± 3.0 % **J** = ± 5.0 % **K** = ± 10.0 %	**E12** = Lead (Pb)-free bulk **E03** = Lead (Pb)-free lacer pack (LVR10) **E70** = Lead (Pb)-free, tape/reel 1000 pieces (LVR01, 03) **E73** = Lead (Pb)-free, tape/reel 500 pieces **B12** = Tin/lead bulk **L03** = Tin/lead lacer pack (LVR10) **S70** = Tin/lead, tape/reel 1000 pieces (LVR01, 03) **S73** = Tin/lead, tape/reel 500 pieces	(Dash Number) (up to 3 digits) From **1 - 999** as applicable

Historical Part Number Example: LVR-5 0.005 Ω 1 % S73 (will continue to be accepted for tin/lead product only)

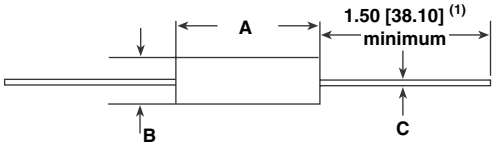
LVR-5	0.005 Ω	1 %	S73
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

* Pb containing terminations are not RoHS compliant, exemptions may apply

For technical questions, contact: ww2aresistors@vishay.com

Document Number: 30206
Revision: 29-Feb-08

DIMENSIONS in inches [millimeters]



MODEL	DIMENSIONS in inches [millimeters]		
	A ± 0.010 [0.254]	B ± 0.010 [0.254]	C ± 0.002 [0.051]
LVR01	0.427 [10.85]	0.115 [2.92]	0.020 [0.508]
LVR03	0.560 [14.22]	0.205 [5.21]	0.032 [0.813]
LVR05	0.925 [23.50]	0.330 [8.38]	0.040 [1.02]
LVR10	1.828 [46.43]	0.392 [9.96]	0.040 [1.02]

Note
(1) On some standard reel pack methods, the leads may be trimmed to a shorter length than shown

MATERIAL SPECIFICATIONS

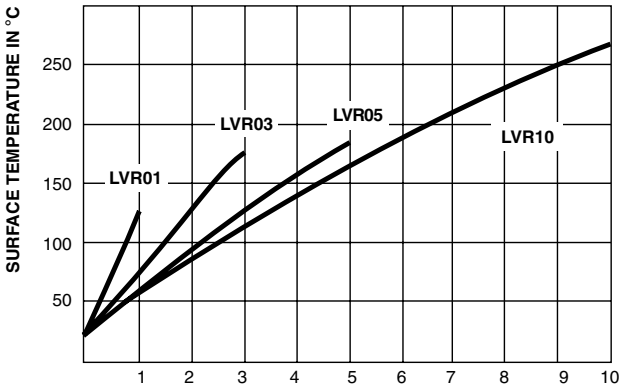
Element: Self-supporting nickel-chrome alloy (LVR10 also utilizes manganin)

Encapsulation: High temperature mold compound

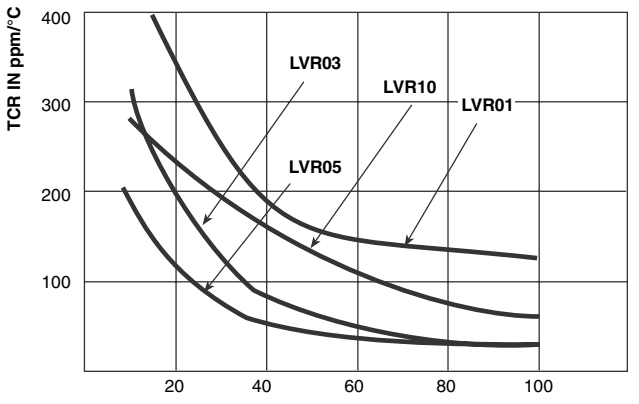
Terminals: Tinned copper

Part Marking: DALE, model, wattage, value, tolerance, date code

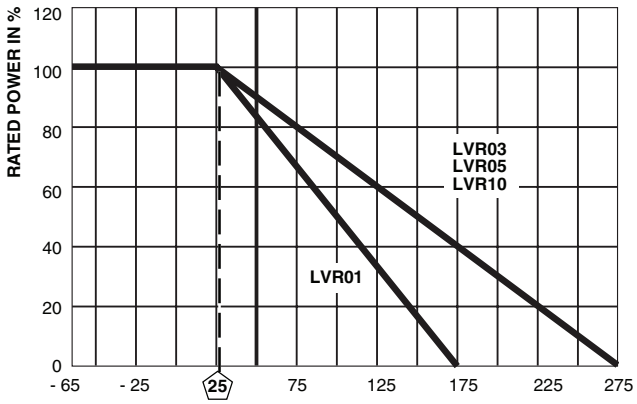
The improved TCR characteristics of these LVR models from - 55 °C to + 125 °C (reference to + 25 °C) are as follows:



Surface Temperature vs Power



TCR vs. Resistance Value



Derating

PERFORMANCE		
TEST	**CONDITIONS OF TEST**	**TEST LIMITS**
Thermal Shock	- 65 °C to + 125 °C, 5 cycles, 15 min at each extrem	± (0.2 % + 0.0005 Ω) Δ*R*
Short Time Overload	5 x rated power (LVR01, 03, 05), 10 x rated power (LVR10) for 5 s	± (0.5 % + 0.0005 Ω) Δ*R*
Low Temperature Storage	- 65 °C for 24 h	± (0.2 % + 0.0005 Ω) Δ*R*
High Temperature Exposure	250 h at + 275 °C (+ 175 °C for LVR01)	± (2.0 % + 0.0005 Ω) Δ*R*
Dielectric Withstanding Voltage	1000 V_{rms}, 1 min	± (0.1 % + 0.0005 Ω) Δ*R*
Insulation Resistance	MIL-STD-202 Method 302, 100 V	1000 MΩ minimum
Moisture Resistance	MIL-STD-202 Method 106, 100 7b not applicable	± (0.2 % + 0.0005 Ω) Δ*R*
Shock, Specified Pulse	MIL-STD-202 Method 213, 100 g's for 6 ms, 10 shocks	± (0.1 % + 0.0005 Ω) Δ*R*
Vibration, High Frequency	Frequency varied 10 to 2000 Hz, 20 g peak, 2 directions 6 h each	± (0.1 % + 0.0005 Ω) Δ*R*
Load Life	2000 h at rated power, + 25 °C, 1.5 h "ON", 0.5 h "OFF"	± (2.0 % + 0.0005 Ω) Δ*R*
Solderability	ANSI J-STD-002	95 % coverage
Bias Humidity	+ 85 °C, 85 % RH, 10 % bias, 1000 h	± (1.0 % + 0.0005 Ω) Δ*R*

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