## **ALSR, ALVR**

www.vishay.com

**Vishay Huntington** 

### Wirewound Resistors, Commercial Power, Silicone Coated, Axial Lead



### **FEATURES**

- High temperature coating (> 350 °C)
- All welded construction
- Available with "vitreous like appearance" coating as ALVR
- · Available in non-inductive styles with Ayrton-Perry winding for lowest reactive components, special "NI"



• Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT HALOGEN FREE <u>GREEN</u> (5-2008)

STANDARD ELECTRICAL SPECIFICATIONS								
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING <sup>(1)</sup> P <sub>25 °C</sub> W CHARACTERISTIC U +250 °C	POWER RATING <sup>(1)</sup> P <sub>25 °C</sub> W CHARACTERISTIC V +350 °C	RESISTANCE RANGE Ω	TOLERANCE <sup>(2)</sup> %	WEIGHT (typical) g		
ALSR01	ALSR-1	1	-	0.10 to 6.37K	1, 3, 5, 10	0.27		
ALVR01	ALVR-1	1	-	0.10 to 6.37K	1, 3, 5, 10	0.27		
ALSR03	ALSR-3	3	-	0.10 to 12K	1, 3, 5, 10	0.68		
ALVR03	ALVR-3	3	-	0.10 to 12K	1, 3, 5, 10	0.68		
ALSR5A	ALSR-5A	4	5	0.10 to 40.3K	1, 3, 5, 10	2.1		
ALVR5A	ALVR-5A	4	5	0.10 to 40.3K	1, 3, 5, 10	2.1		
ALSR05	ALSR-5	5	7	0.10 to 58.5K	1, 3, 5, 10	3.2		
ALVR05	ALVR-5	5	7	0.10 to 58.5K	1, 3, 5, 10	3.2		
ALSR10	ALSR-10	7	10	0.10 to 92K	1, 3, 5, 10	4.9		
ALVR10	ALVR-10	7	10	0.10 to 92K	1, 3, 5, 10	4.9		

#### Notes

Vishay Huntington ALSR / ALVR models have two power ratings depending on operation temperature and stability requirements. Models (1) not available for characteristic V are: ALSR01, ALVR01, ALSR03, and ALVR03.

<sup>(2)</sup> Other tolerances may be available, contact factory.

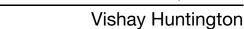
GLOBAL PART NUMBER INFORMATION								
Global Part Numbering example: ALSR0325R00FE12NI								
A L S R 0 3 2 5 R 0 0 F E 1 2 N I								
		LUE TOLERANCE (1 digit)			PACKAGING (3 digits)		SPECIAL (up to 2 digits)	
Specifications GlobalK =Model column for1R5		ecimal ousand = 1.5 Ω = 1.5 kΩ	and $\mathbf{H} = \pm 3.0 \%$ $\mathbf{J} = \pm 5.0 \%$		<b>E07</b> = tape / reel (ALSR5A / ALVR5A, ALSR05 / ALVR05) <b>E08</b> = tape / reel (ALSR01 / ALVR01) <b>E29</b> = tape / reel (ALSR10 / ALVR10)		(dash number) from <b>1</b> to <b>99</b> as applicable <b>NI</b> = non-inductive	
					E48 = tape / reel (ALSR03 / ALVR03) E70 = tape / reel, 1K pieces (smaller than ALSR05 / ALVR05) E73 = tape / reel, 500 pieces E12 = bulk, 100 pc boxes			
Historical Part Number example: ALSR-3-25-1 %-NI								
ALSR-3			25 Ω		1 %		NI	
HISTORICAL MODEL RE		RESIS	SISTANCE VALUE		TOLERANCE		SPECIAL	

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1 For technical questions, contact: ww2aresistors@vishay.com Document Number: 31800

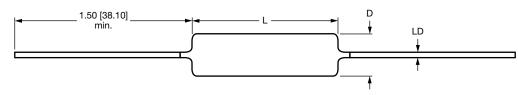
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# ALSR, ALVR





#### **DIMENSIONS** in inches [millimeters]



	DIMENSIONS in inches [millimeters]					
GLOBAL MODEL	L ± 0.032 [0.813]	D ± 0.032 [0.813]	LD ± 0.002 [0.051]			
ALSR01	0.406 [10.31]	0.110 [2.79]	0.020 [0.508]			
ALVR01	0.406 [10.31]	0.110 [2.79]	0.020 [0.508]			
ALSR03	0.500 [12.70]	0.180 [4.57]	0.032 [0.813]			
ALVR03	0.500 [12.70]	0.180 [4.57]	0.032 [0.813]			
ALSR5A	0.920 [23.37]	0.200 [5.08]	0.032 [0.813]			
ALVR5A	0.920 [23.37]	0.200 [5.08]	0.032 [0.813]			
ALSR05	0.875 [22.23]	0.312 [7.92]	0.032 [0.813]			
ALVR05	0.875 [22.23]	0.312 [7.92]	0.032 [0.813]			
ALSR10	1.730 [43.94]	0.312 [7.92]	0.032 [0.813]			
ALVR10	1.730 [43.94]	0.312 [7.92]	0.032 [0.813]			

#### **MATERIAL SPECIFICATIONS**

**Element:** copper-nickel alloy or nickel-chrome alloy, depending on resistance value

**Core:** ceramic: steatite or alumina, depending on physical size

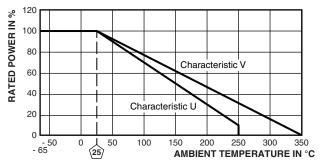
End Caps: stainless steel

**Coating:** special high temperature silicone or special formula of "vitreous like appearance" coating on ALVR

Terminals: tinned Copper clad steel

Part Marking: HEI, model, value, tolerance, date code

### DERATING



TECHNICAL SPECIFICATIONS					
PARAMETER	UNIT	RESISTOR CHARACTERISTICS			
Temperature Coefficient	ppm/°C	$\pm$ 30 for 10 $\Omega$ and above; $\pm$ 50 for 1 $\Omega$ to 9.9 $\Omega;$ $\pm$ 90 for 0.5 $\Omega$ to 0.99 $\Omega$			
Terminal Strength	lb	10 minimum			
Dielectric Withstanding Voltage	V <sub>AC</sub>	500 for 1 W and 1000 for 3 W and above			
Operating Temperature Range	°C	Characteristic U = -65 to +250, characteristic V = -65 to +350			
Maximum Working Voltage	V	(P x R) <sup>1/2</sup>			

PERFORMANCE					
TEST	CONDITIONS OF TEST	TEST LIMITS (CHARACTERISTIC V)			
Thermal Shock	Rated power applied until thermally stable, then a minimum of 15 min at -55 °C	$\pm$ (2.0 % + 0.05 Ω) > ΔR			
Short Time Overload	5x rated power (3 W and smaller), 10x rated power (4 W and larger) for 5 s	$\pm$ (2.0 % + 0.05 Ω) > ΔR			
Dielectric Withstanding Voltage	500 $V_{\text{RMS}},$ 1 min for 1 W and 1000 $V_{\text{RMS}},$ 1 min for 3 W and above	$\pm$ (0.1 % + 0.05 Ω) > Δ <i>R</i>			
Low Temperature Storage	-65 °C for 24 h	$\pm$ (2.0 % + 0.05 Ω) > ΔR			
High Temperature Exposure	250 h at U = +250 °C, V = +350 °C	$\pm$ (4.0 % + 0.05 Ω) > ΔR			
Mechanical Shock	MIL-STD-202 method 213, 100 g's for 6 ms, 10 shocks	$\pm$ (0.2 % + 0.05 Ω) > Δ <i>R</i>			
Vibration	Frequency varied 10 Hz to 2000 Hz, 20 g peak, 2 directions 6 h each	$\pm$ (0.2 % + 0.05 Ω) > Δ <i>R</i>			
Load Life	2000 h at rated power, +25 °C, 1.5 h "ON", 0.5 h "OFF"	$\pm$ (3.0 % + 0.05 Ω) > ΔR			
Moisture Resistance	MIL-STD-202 method 106, 7b not applicable	$\pm$ (2.0 % + 0.05 Ω) > ΔR			

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