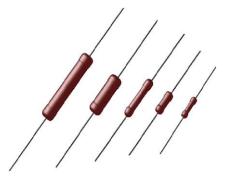
ALSR, ALVR

VISHAY, 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"
- For non-inductive models, divide maximum resistance values by two

COMPLIANT HALOGEN FREE GREEN

 Material categorization: for definitions of (5-2008) compliance please see <u>www.vishay.com/doc?99912</u>

STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING ⁽¹⁾ P _{25 °C} W CHARACTERISTIC U +250 °C	POWER RATING ⁽¹⁾ P _{25 °C} W CHARACTERISTIC V +350 °C	RESISTANCE RANGE Ω	TOLERANCE ⁽²⁾ %	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

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

⁽²⁾ 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			
GLOBAL MODEL (6 digits)	VALUE (5 digits)	TOLERANCE (1 digit)	PACKAGING (3 digits)	SPECIAL (up to 2 digits)			
(see Standard Electrical Specifications Global Model column for options)	R = decimal K = thousand 1R500 = 1.5 Ω 1K500 = 1.5 kΩ	$F = \pm 1.0 \%$ $H = \pm 3.0 \%$ $J = \pm 5.0 \%$ $K = \pm 10.0 \%$	E07 = tape / reel (ALSR5A / ALVR5A, ALSR05 / / E08 = tape / reel (ALSR01 / A E29 = tape / reel (ALSR10 / A	LVR01) as applicable NI = non-inductive			
			E48 = tape / reel (ALSR03 / A E70 = tape / reel, 1K piec (smaller than ALSR05 / ALV E73 = tape / reel, 500 piec E12 = bulk, 100 pc boxe	ces /R05) ces			
Historical Part Number Example: ALSR-3-25-1 %-NI							
ALSR-3		25 Ω	1 %	NI			
HISTORICAL MOD	EL RESIS	TANCE VALUE	TOLERANCE	SPECIAL			

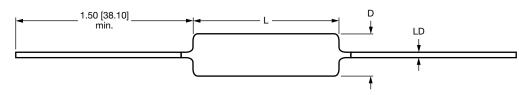
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ALSR, ALVR



DIMENSIONS in inches [millimeters]

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	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

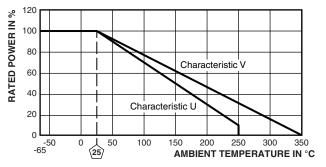
End Caps: stainless steel

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 Ω and above; \pm 50 for 1 Ω to 9.9 $\Omega;$ \pm 90 for 0.5 Ω to 0.99 Ω	
Terminal Strength	lb	10 minimum	
Dielectric Withstanding Voltage	V _{AC}	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) ^{1/2}	

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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