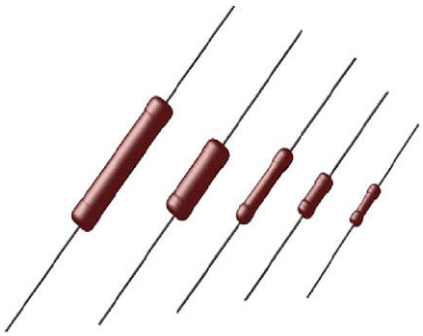
Wirewound Resistors, Commercial Power, Silicone Coated, Axial Lead



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

Pb-free

e3

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

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

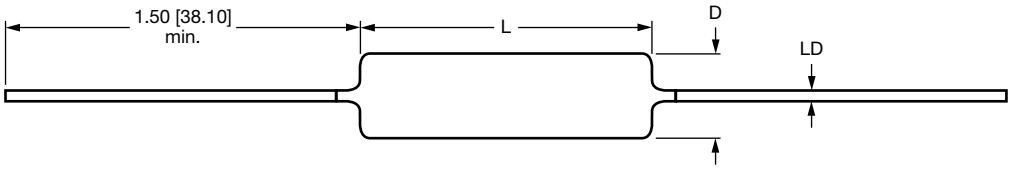
A	L	S	R	0	3	2	5	R	0	0	F	E	1	2	N	I

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** = ± 1.0 % **H** = ± 3.0 % **J** = ± 5.0 % **K** = ± 10.0 %	**E07** = tape / reel (ALSR5A / ALVR5A, ALSR05 / ALVR05) **E08** = tape / reel (ALSR01 / ALVR01) **E29** = tape / reel (ALSR10 / ALVR10) **E48** = tape / reel (ALSR03 / ALVR03) **E70** = tape / reel, 1K pieces (smaller than ALSR05 / ALVR05) **E73** = tape / reel, 500 pieces **E12** = bulk, 100 pc boxes	(dash number) from **1** to **99** as applicable **NI** = non-inductive

Historical Part Number Example: ALSR-3-25-1 %-NI

ALSR-3	25 Ω	1 %	NI
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE	SPECIAL

DIMENSIONS in inches [millimeters]



GLOBAL MODEL	DIMENSIONS in inches [millimeters]		
	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

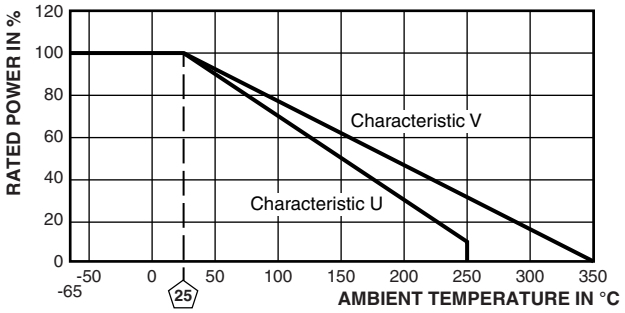
End Caps: stainless steel

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	± 30 for 10 Ω and above; ± 50 for 1 Ω to 9.9 Ω; ± 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	$(P \times R)^{1/2}$

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	± (2.0 % + 0.05 Ω) > Δ*R*
Short Time Overload	5x rated power (3 W and smaller), 10x rated power (4 W and larger) for 5 s	± (2.0 % + 0.05 Ω) > Δ*R*
Dielectric Withstanding Voltage	500 V_{RMS}, 1 min for 1 W and 1000 V_{RMS}, 1 min for 3 W and above	± (0.1 % + 0.05 Ω) > Δ*R*
Low Temperature Storage	-65 °C for 24 h	± (2.0 % + 0.05 Ω) > Δ*R*
High Temperature Exposure	250 h at U = +250 °C, V = +350 °C	± (4.0 % + 0.05 Ω) > Δ*R*
Mechanical Shock	MIL-STD-202 method 213, 100 *g*’s for 6 ms, 10 shocks	± (0.2 % + 0.05 Ω) > Δ*R*
Vibration	Frequency varied 10 Hz to 2000 Hz, 20 *g* peak, 2 directions 6 h each	± (0.2 % + 0.05 Ω) > Δ*R*
Load Life	2000 h at rated power, +25 °C, 1.5 h “ON”, 0.5 h “OFF”	± (3.0 % + 0.05 Ω) > Δ*R*
Moisture Resistance	MIL-STD-202 method 106, 7b not applicable	± (2.0 % + 0.05 Ω) > Δ*R*

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