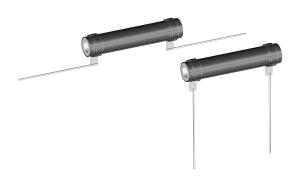


HLW, NHLW

Vishay Dale

Wirewound Resistors, Industrial Power, Tubular



www.vishay.com

FEATURES

- High temperature silicon coating
- Complete welded construction
- Excellent for intermittent power and pulsing applications
- Available in non-inductive styles (model NHLW) with Ayrton-Perry winding
- Axial or radial terminals for through hole or lead weld applications
- Excellent stability in operation (< 3 % change in resistance)
- Material categorization: for definitions of compliance please see www.vishav.com/doc?99912









(5-2008) Available

Note

^{*} This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details.

STANDARD ELECTRICAL SPECIFICATIONS								
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING P _{25 °C} W	RESISTANCE RANGE Ω ± 5 %	RESISTANCE RANGE Ω ± 10 %	WEIGHT (typical)			
HLW03 NHLW03	HLW-3 NHLW-3	3	1.0 to 6K 1.0 to 700	0.10 to 6K 1.0 to 700	1.16			
HLW05 NHLW05	HLW-5 NHLW-5	5.25	1.0 to 15K 1.0 to 1.9K	0.10 to 15K 1.0 to 1.9K	2.12			
HLW06 NHLW06	HLW-6 NHLW-6	8	1.0 to 20.5K 1.0 to 2.7K	0.10 to 20.5K 1.0 to 2.7K	4.60			
HLW10 NHLW10	HLW-10 NHLW-10	10	1.0 to 29K 1.0 to 3.7K	0.10 to 29K 1.0 to 3.7K	6.24			
HLW12 NHLW12	HLW-12 NHLW-12	12	1.0 to 58K 1.0 to 3.9K	0.10 to 58K 1.0 to 3.9K	6.60			
HLW15 NHLW15	HLW-15 NHLW-15	15	1.0 to 60K 1.0 to 4.3K	0.10 to 60K 1.0 to 4.3K	8.82			
HLW20 NHLW20	HLW-20 NHLW-20	20	1.0 to 95K 1.0 to 6.8K	0.10 to 95K 1.0 to 6.8K	11.36			

TECHNICAL SPECIFICATIONS							
PARAMETER	UNIT	HLW RESISTOR CHARACTERISTICS					
Temperature Coefficient	ppm/°C	\pm 30 for 10 Ω and above; \pm 50 for 1 Ω to 9.9 Ω ; \pm 90 for 0.1 Ω to 0.99 Ω					
Short Time Overload	-	10 x rated power for 5 s					
Dielectric Withstanding Voltage	V_{AC}	1000, from terminal to mounting hardware					
Maximum Working Voltage	V	$(P \times R)^{1/2}$					
Insulation Resistance	Ω	1000 M Ω minimum dry, 100 M Ω minimum after moisture test					
Operating Temperature Range	°C	-55 to +350					

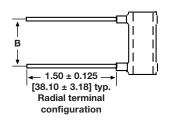
GLOBAL PART NUMBER INFORMATION									
Global Part Numbering example: NHLW12A1Z10R00JF N H L W 1 2 A 1 Z 1 0 R 0 0 J F									
GLOBAL MODEL	TERMINAL DESIGNATION	TERMINAL FINIS	SH	RESISTANCE VALUE	TOLERANCE	PACKAGING	CODE	SPECIAL	
NHLW12 (see "Standard Electrical Specifications" table above for additional P/N's)	A1 A2 R1 R2	E = lead (Pb)-fre Z = tin / lead			$J = \pm 5.0 \%$ $K = \pm 10.0 \%$	E = lead (Pb)-free foam pack F = tin / lead foam pack (F01)		(dash number) (up to 2 digits) from 1 to 99 as applicable	
Historical Part Numbering example: NHLW-12-A1Z 10 Ω 5 % F01									
NHLW-12		A1Z	1Z 10		5 %	b		F01	
HISTORICAL M	MINAL/FINISH	RE	SISTANCE VALUE	TOLER	ANCE	PA	CKAGING		

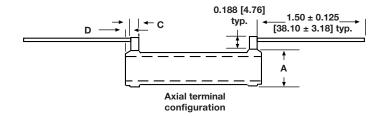


HLW, NHLW

Vishay Dale

DIMENSIONS in inches [millimeters]





					CORE DIMENSIONS			AXIAL	DADIAL	
GLOBAL MODEL	A (MAX.)	B TYP.	C ± 0.031 [0.79]	D TYP.	LENGTH ± 0.063 [1.59]	O.D.	I.D. ± 0.031 [0.79]	TERMINAL DESIGNATION	RADIAL TERMINAL DESIGNATION	BRACKET TYPE (1)
HLW03	0.297	0.282	0.063	0.047	0.438	0.203	0.125	A2Z	R2Z	-
NHLW03	[7.54]	[7.16]	[1.59]	[1.19]	[11.11]	[5.16]	[3.18]	AZZ		
HLW05	0.344	0.469	0.063	0.047	0.625	0.250	0.125	A2Z	R2Z	-
NHLW05	[8.73]	[11.91]	[1.59]	[1.19]	[15.88]	[6.35]	[3.18]	AZZ		
HLW06	0.406	0.688	0.125	0.094	1.000	0.313	0.188	A1Z	R1Z	101, 204, 301
NHLW06	[10.32]	[17.48]	[3.18]	[2.38]	[25.40]	[7.94]	[4.76]	AIZ		
HLW10	0.563	0.688	0.125	0.094	1.000	0.438	0.313	A1Z	R1Z	101, 203, 301
NHLW10	[14.28]	[17.48]	[3.18]	[2.38]	[25.40]	[11.11]	[7.94]	AIZ		
HLW12	0.406	1.438	0.125	0.094	1.750	0.313	0.188	A1Z	R1Z	101, 204, 301
NHLW12	[10.32]	[36.53]	[3.18]	[2.38]	[44.45]	[7.94]	[4.76]	AIZ		
HLW15	0.563	1.188	0.125	0.094	1.500	0.438	0.313	A 1 7	R1Z 10	101, 203, 301
NHLW15	[14.29]	[30.18]	[3.18]	[2.38]	[38.10]	[11.11]	[7.94]	A1Z		101, 203, 301
HLW20	0.563	1.688	0.125	0.094	2.000	0.438	0.313	A1Z	R1Z 10	101, 203, 301
NHLW20	[14.29]	[42.88]	[3.18]	[2.38]	[50.80]	[11.11]	[7.94]	AIZ		101, 203, 301

Note

TERMINAL FINISH

Terminals are 20 AWG for HLW03 and HLW05 size and 18 AWG for all other sizes. "E" Finish - 100 % Sn, coated Copperweld®. "Z" Finish - 60/40 Sn/Pb coated Copperweld®.

MOUNTING HARDWARE

Mounting hardware is available for HLW resistors, see "HL Brackets and Sliders" datasheet for more information: www.vishay.com/doc?30279.

MATERIAL SPECIFICATIONS

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

Core: ceramic, steatite

Coating: special high temperature silicone

Standard Terminals: model "E" terminals are tinned

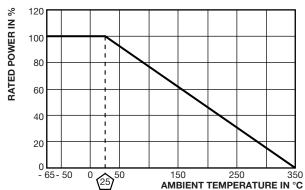
Copperweld®

Terminal Bands: steel

Part Marking: Dale, model, wattage, value, tolerance, date

code

DERATING



⁽¹⁾ Brackets are available for mounting HLW series resistors - see "Mounting Hardware" section.



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