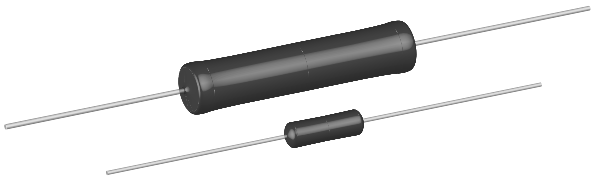
Vishay Dale

Wirewound Resistors, Military, MIL-PRF-26 Qualified, Type RW, Precision Power, Silicone Coated



FEATURES

- High temperature coating
- Complete welded construction
- Meets applicable requirements of MIL-PRF-26
- Available in non-inductive styles (type NS) with Aryton-Perry winding for lowest reactive components
- Excellent stability in operation

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	MIL-PRF-26	POWER RATING** $P_{25°C}$ W		RESISTANCE RANGE MIL. RANGE SHOWN IN BOLD FACE Ω				WEIGHT (Typical)
	TYPE	U ±0.05% thru ±0.5%	V ±3% & ±5%	±.05%	±0.1%	±.25%	±.5%, ±1% ±3%, ±5%	g
RS-1/8	—	.125	—	—	—	—	0.1 - 950	0.15
RS-1/4	—	.4	—	1 - 1k	0.499 - 1k	0.499 - 3.4k	0.1 - 3.4k	0.21
RS-1/2	—	.75	—	1 - 1.3k	0.499 - 1.3k	0.499 - 4.9k	0.1 - 4.9k	0.23
RS-1A	—	1.0	—	1 - 2.74k	0.499 - 2.74k	0.499 - 10.4k	0.1 - 10.4k	0.34
RS-1A-300	**RW70**	**1.0**	**—**	**—**	**0.499 - 2.74k**	**0.499 - 2.74k**	**0.1 - 2.74k**	**0.34**
RS-1M	—	1.0	—	1 - 1.32k	0.499 - 1.67k	0.499 - 6.85k	0.1 - 6.85k	0.30
RS-2	—	4.0	5.5	0.499 - 12.7k	0.499 - 12.7k	0.1 - 47.1k	0.1 - 47.1k	2.10
RS-2M	—	3.0	—	0.499 - 4.49k	0.499 - 4.49k	0.1 - 18.74k	0.1 - 18.74k	0.65
RS-2B	—	3.0	3.75	0.499 - 6.5k	0.499 - 6.5k	0.1 - 24.5k	0.1 - 24.5k	0.70
RS-2B-300	**RW79**	**3.0**	**—**	**—**	**0.499 - 6.49k**	**0.1 - 6.49k**	**0.1 - 6.49k**	**0.70**
RS-2C	—	2.5	3.25	0.499 - 8.6k	0.499 - 8.6k	0.1 - 32.3k	0.1 - 32.3k	1.6
RS-2C-17	—	2.5	3.25	0.499 - 6.8k	0.499 - 8.6k	0.1 - 32.3k	0.1 - 32.3k	1.6
RS-2C-23*	**RW69**	**—**	**3.0**	**—**	**—**	**—**	**0.1 - 2.0k**	**1.6**
RS-5	—	5.0	6.5	0.499 - 25.7k	0.499 - 25.7k	0.1 - 95.2k	0.1 - 95.2k	4.2
RS-5-69	**RW74**	**5.0**	**—**	**—**	**0.499 - 24.3k**	**0.1 - 24.3k**	**0.1 - 24.3k**	**4.2**
RS-5-70*	**RW67**	**—**	**6.5**	**—**	**—**	**—**	**0.1 - 8.2k**	**4.2**
RS-7	—	7.0	9.0	0.499 - 41.4k	0.499 - 41.4k	0.1 - 154k	0.1 - 154k	4.7
RS-10	—	10.0	13.0	0.499 - 73.4k	0.499 - 73.4k	0.1 - 273k	0.1 - 273k	9.0
RS-10-38	**RW78**	**10.0**	**—**	**—**	**0.499 - 71.5k**	**0.1 - 71.5k**	**0.1 - 71.5k**	**9.0**
RS-10-39*	**RW68**	**—**	**11.0**	**—**	**—**	**—**	**0.1 - 20k**	**9.0**

*Standard tolerance is ± 5% 1 ohm and above, ± 10% below 1 ohm.

**Vishay Dale RS models have two power ratings depending on operation temperature and stability requirements.

NOTE: Shaded area indicates most popular models.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RS RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 90 for below 1Ω, ± 50 for 1Ω to 9.9Ω, ± 20 for 10Ω and above
Dielectric Withstanding Voltage	V_{AC}	500 minimum for RS-1/8 thru RS-1A, 1000 minimum for all others
Short Time Overload	–	5 x rated power for 5 seconds for 3.75 watt size and smaller, 10 x rated power for 5 seconds for 4 watt size and greater
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Insulation Resistance	Ω	1000 Megohm minimum dry, 100 Megohm minimum after moisture test
Terminal Strength	lb	5 minimum for RS-1/8 thru RS-1A, 10 minimum for all others
Solderability	–	MIL-PRF-26 type - Meets requirements of ANSI J-STD-002 Non Mil type - Terminals are 60/40 electro tin plated to facilitate soldering
Operating Temperature Range	°C	Characterisitic U = - 65/+ 250, Characteristic V = - 65/+ 350
Power Rating	–	Characteristic U - + 250°C max. hot spot temperature, ± 0.5% max. ΔR in 2000 hr. load life Characteristic V - + 350°C max. hot spot temperature, ± 3.0% max. ΔR in 2000 hr. load life

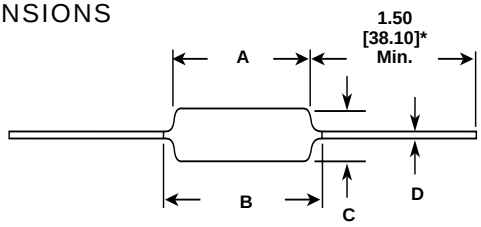
ORDERING INFORMATION

RS-1A	**10Ω**	**1.0%**
MODEL	RESISTANCE	TOLERANCE
	Ω	± %

For technical questions, contact ww2bresistors@vishay.com

Wirewound Resistors, Military, MIL-PRF-26 Qualified, Type RW, Precision Power, Silicone Coated

DIMENSIONS



*On some standard reel pack methods, the leads may be trimmed to a shorter length than shown.

NOTE: RS-1/8 terminal length will be 1.0" [25.4mm] minimum.

MODEL	DIMENSIONS in inches [millimeters]			
	A	B (Max.)**	C	D
RS-1/8	0.155 ± 0.015 [3.94 ± 0.381]	—	0.065 ± 0.015 [1.65 ± 0.381]	0.020 ± 0.002 [0.508 ± 0.051]
RS-1/4	0.250 ± 0.031 [6.35 ± 0.787]	0.281 [7.14]	0.085 ± 0.020 [2.16 ± 0.508]	0.020 ± 0.002 [0.508 ± 0.051]
RS-1/2	0.312 ± 0.016 [7.92 ± 0.406]	0.328 [8.33]	0.078 + 0.016 - 0.031 [1.98 + 0.406 - 0.787]	0.020 ± 0.002 [0.508 ± 0.051]
RS-1A RS-1A-300	0.406 ± 0.031 [10.31 ± 0.787]	0.437 [11.10]	0.094 ± 0.031 [2.39 ± 0.787]	0.020 ± 0.002 [0.508 ± 0.051]
RS-1M	0.285 ± 0.025 [7.24 ± 0.635]	0.311 [7.90]	0.110 ± 0.015 [2.79 ± 0.381]	0.020 ± 0.002 [0.508 ± 0.051]
RS-2	0.625 ± 0.062 [15.88 ± 1.57]	0.765 [19.43]	0.250 ± 0.031 [6.35 ± 0.787]	0.040 ± 0.002 [1.02 ± 0.051]
RS-2M	0.500 ± 0.062 [12.70 ± 1.57]	0.562 [14.27]	0.185 ± 0.015 [4.70 ± 0.381]	0.032 ± 0.002 [0.813 ± 0.051]
RS-2B RS-2B-300	0.560 ± 0.062 [14.22 ± 1.57]	0.622 [15.80]	0.187 ± 0.031 [4.75 ± 0.787]	0.032 ± 0.002 [0.813 ± 0.051]
RS-2C	0.500 ± 0.062 [12.70 ± 1.57]	0.593 [15.06]	0.218 ± 0.031 [5.54 ± 0.787]	0.040 ± 0.002 [1.02 ± 0.051]
RS-2C-17	0.500 ± 0.062 [12.70 ± 1.57]	0.593 [15.06]	0.218 ± 0.031 [5.54 ± 0.787]	0.032 ± 0.002 [0.813 ± 0.051]
RS-2C-23	0.500 ± 0.062 [12.70 ± 1.57]	0.593 [15.06]	0.218 ± 0.031 [5.54 ± 0.787]	0.032 ± 0.002 [0.813 ± 0.051]
RS-5	0.875 ± 0.062 [22.23 ± 1.57]	1.0 [25.4]	0.312 ± 0.031 [7.92 ± 0.787]	0.040 ± 0.002 [1.02 ± 0.051]
RS-5-69	0.875 ± 0.062 [22.23 ± 1.57]	0.937 [23.80]	0.312 ± 0.031 [7.92 ± 0.787]	0.040 ± 0.002 [1.02 ± 0.051]
RS-5-70	0.875 ± 0.062 [22.23 ± 1.57]	1.0 [25.4]	0.312 ± 0.031 [7.92 ± 0.787]	0.040 ± 0.002 [1.02 ± 0.051]
RS-7	1.22 ± 0.062 [30.99 ± 1.57]	1.28 [32.51]	0.312 ± 0.031 [7.92 ± 7.87]	0.040 ± 0.002 [1.02 ± 0.051]
RS-10	1.78 ± 0.062 [45.21 ± 1.57]	1.87 [47.50]	0.375 ± 0.031 [9.53 ± 0.787]	0.040 ± 0.002 [1.02 ± 0.051]
RS-10-38	1.78 ± 0.062 [45.21 ± 1.57]	1.84 [46.74]	0.375 ± 0.031 [9.53 ± 0.787]	0.040 ± 0.002 [1.02 ± 0.051]
RS-10-39	1.78 ± 0.062 [45.21 ± 1.57]	1.87 [47.50]	0.375 ± 0.031 [9.53 ± 0.787]	0.040 ± 0.002 [1.02 ± 0.051]

**B (Max.) dimension is clean lead to clean lead.

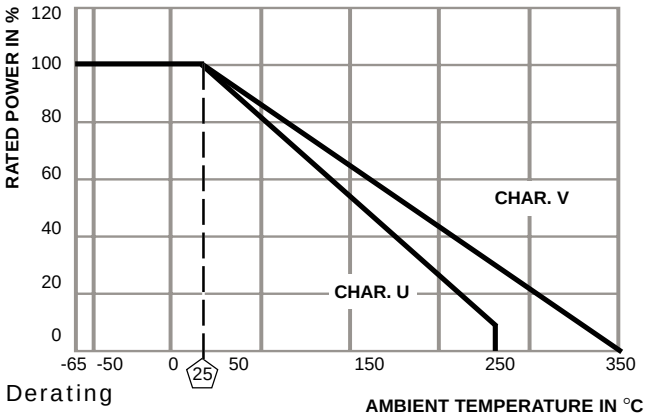
MATERIAL SPECIFICATIONS

Element: Copper-nickel alloy or nickel-chrome alloy, depending on resistance value
Core: Ceramic, steatite or alumina, depending on physical size
Coating: Special high temperature silicone
Standard Terminals: Tinned Copperweld®
End Caps: Stainless steel
Deviations for RS-1/8: Thermoset silicone molded construction, endcaps will be nickel-silver alloy and terminals will be tinned copper
Part Marking: DALE, Model, Wattage*, Value, Tolerance, Date Code
*Wattage marked on part will be "U" characteristic

NS NON-INDUCTIVE

Models of equivalent physical and electrical specifications are available with non-inductive (Aryton-Perry) winding. They are identified by substituting the letter N for R in the model number (NS-5, for example). Two conditions apply:

1. For NS models, divide maximum resistance values by two
2. Body O.D. on NS-2C may exceed that of the RS-2C by 010"



Derating

PERFORMANCE*

TEST	CONDITIONS OF TEST	TEST LIMITS	
		Characteristic U	Characteristic V
Thermal Shock	Rated power applied until thermally stable, then a min. of 15 minutes at - 55°C	± (0.2% + 0.05Ω) ΔR	± (2.0% + 0.05Ω) ΔR
Short Time Overload	5 x rated power (3.75 watt and smaller), 10 x rated power (4 watt and larger) for 5 seconds	± (0.2% + 0.05Ω) ΔR	± (2.0% + 0.05Ω) ΔR
Dielectric Withstanding Voltage	500 minimum for RS-1/8 thru RS-1A, 1000 for all others, duration of 1 minute	± (0.1% + 0.05Ω) ΔR	± (0.1% + 0.05Ω) ΔR
Low Temperature Storage	- 65°C for 24 hours	± (0.2% + 0.05Ω) ΔR	± (2.0% + 0.05Ω) ΔR
High Temperature Exposure	250 hours at: U = + 250°C, V = + 350°C	± (0.5% + 0.05Ω) ΔR	± (2.0% + 0.05Ω) ΔR
Moisture Resistance	MIL-STD-202 Method 106, 7b not applicable	± (0.2% + 0.05Ω) ΔR	± (2.0% + 0.05Ω) ΔR
Shock, Specified Pulse	MIL-STD-202 Method 213, 100g's for 6 milliseconds, 10 shocks	± (0.1% + 0.05Ω) ΔR	± (0.2% + 0.05Ω) ΔR
Vibration, High Frequency	Frequency varied 10 to 2000Hz, 20g peak, 2 directions 6 hours each	± (0.1% + 0.05Ω) ΔR	± (0.2% + 0.05Ω) ΔR
Load Life	2000 hours at rated power, + 25°C, 1.5 hours "ON", 0.5 hours "OFF"	± (0.5% + 0.05Ω) ΔR	± (3.0% + 0.05Ω) ΔR
Terminal Strength	5 to 10 sec., 5 or 10 lb pull test (depending on size), torsion test - 3 alternating directions, 360° each	± (0.1% + 0.05Ω) ΔR	± (1.0% + 0.05Ω) ΔR

*All ΔR figures shown are maximum, based upon testing requirements per MIL-PRF-26.