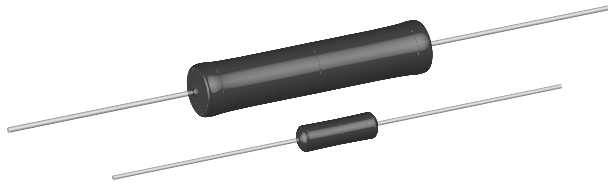


Wirewound Resistors, Military, MIL-PRF-26 Qualified, Type RW, Precision Power, Silicone Coated



FEATURES

- High temperature coating (> 350 °C)
- 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 (typical resistance shift < 0.5 %)
- Lead (Pb)-Free version is RoHS Compliant



RoHS*
COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	MIL-PRF-26 TYPE	POWER RATING**** P _{25 °C} W		RESISTANCE RANGE MIL. RANGE SHOWN IN BOLD FACE Ω					WEIGHT (Typical) g
			± 0.05 % thru ± 5 %	± 3 % thru ± 10 %	± 0.05 %	± 0.1 %	± 0.25 %	± 0.5 % & ± 1 %	± 3 %, ± 5 %, ± 10 %	
RS1/8	RS-18	—	0.125	—	—	—	—	0.1 - 950	0.1 - 950	0.15
RS1/4	RS-1/4	—	0.4	—	1 - 1 k	0.499 - 1k	0.499 - 3.4 k	0.1 - 3.4 k	0.1 - 3.4 k	0.21
RS1/2	RS-1/2	—	0.75	—	1 - 1.3 k	0.499 - 1.3k	0.499 - 4.9 k	0.1 - 4.9 k	0.1 - 4.9 k	0.23
RS01A	RS-1A	—	1.0	—	1 - 2.74 k	0.499 - 2.74 k	0.499 - 10.4 k	0.1 - 10.4 k	0.1 - 10.4 k	0.34
RS01A...300	RS-1A-300	RW70***	1.0 1.0	—	—	0.499 - 2.74 k	0.499 - 10.4 k	0.1 - 10.4 k 0.1 - 2.74 k	0.1 - 10.4 k	0.34
RS01M	RS-1M	—	1.0	—	1 - 1.32 k	0.499 - 1.67 k	0.499 - 6.85 k	0.1 - 6.85 k	0.1 - 6.85 k	0.30
RS002	RS-2	—	4.0	5.5	0.499 - 12.7 k	0.499 - 12.7 k	0.1 - 47.1 k	0.1 - 47.1 k	0.1 - 47.1 k	2.10
RS02M	RS-2M	—	3.0	—	0.499 - 4.49 k	0.499 - 4.49 k	0.1 - 18.74 k	0.1 - 18.74 k	0.1 - 18.74 k	0.65
RS02B	RS-2B	—	3.0	3.75	0.499 - 6.5 k	0.499 - 6.5 k	0.1 - 24.5 k	0.1 - 24.5 k	0.1 - 24.5 k	0.70
RS02B...300	RS-2B-300	RW79***	3.0 3.0	—	—	0.499 - 6.5 k	0.1 - 24.5 k	0.1 - 24.5 k 0.1 - 6.49 k	0.1 - 24.5 k	0.70
RS02C	RS-2C	—	2.5	3.25	0.499 - 8.6 k	0.499 - 8.6 k	0.1 - 32.3 k	0.1 - 32.3 k	0.1 - 32.3 k	1.6
RS02C...17	RS-2C-17	—	2.5	3.25	0.499 - 6.8 k	0.499 - 8.6 k	0.1 - 32.3 k	0.1 - 32.3 k	0.1 - 32.3 k	1.6
RS02C...23	RS-2C-23	RW69**	—	3.25 3.0	—	—	—	—	0.1 - 32.3 k 0.1 - 2.0 k	16
RS005	RS-5	—	5.0	6.5	0.499 - 25.7 k	0.499 - 25.7 k	0.1 - 95.2 k	0.1 - 95.2 k	0.1 - 95.2 k	4.2
RS005...69	RS-5-69	RW74***	5.0 5.0	—	—	0.499 - 25.7 k	0.1 - 95.2 k	0.1 - 95.2 k 0.1 - 24.3 k	0.1 - 95.2 k	4.2
RS005...70	RS-5-70	RW67**	—	6.5 6.5	—	—	—	—	0.1 - 95.2 k 0.1 - 8.2 k	4.2
RS007	RS-7	—	7.0	9.0	0.499 - 41.4 k	0.499 - 41.4 k	0.1 - 154 k	0.1 - 154 k	0.1 - 154 k	4.7
RS010	RS-10	—	10.0	13.0	0.499 - 73.4 k	0.499 - 73.4 k	0.1 - 273 k	0.1 - 273 k	0.1 - 273 k	9.0
RS010...38	RS-10-38	RW78***	10.0 10.0	—	—	0.499 - 73.4 k	0.1 - 273 k	0.1 - 273 k 0.1 - 71.5 k	0.1 - 273 k	9.0
RS010...39	RS-10-39	RW68**	—	13.0 11.0	—	—	—	—	0.1 - 273 k 0.1 - 20 k	9.0

** Available tolerance for these Mil parts is ± 5 % for 1 Ω and above, ± 10 % below 1 Ω.

*** Available tolerance for these Mil parts is ± 0.5 % & ± 1 % for resistance values 0.1 Ω and above, ± 0.1 % for resistance values 0.499 Ω and above.

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

NOTE: Shaded area indicates most popular models.

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: RS02C10K00FS7017 (preferred part numbering format)

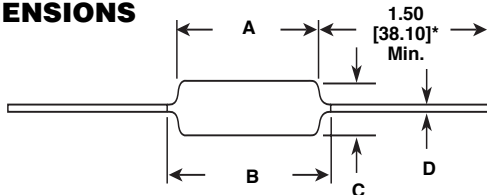
R S 0 2 C 1 0 K 0 0 F S 7 0 1 7

GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
(See Standard Electrical Specifications Global Model column for options)	R = Decimal K = Thousand 15R00 = 15 Ω 10K00 = 10 kΩ	A = ± 0.05 % B = ± 0.1 % C = ± 0.25 % D = ± 0.5 % F = ± 1.0 % J = ± 5.0 % K = 10.0 %	E70 = Lead (Pb)-free, Tape/Reel (smaller than RS005) E73 = Lead (Pb)-free, Tape/Reel (RS005 & larger) E12 = Lead (Pb)-free, Bulk Lead (Pb)-free is not available on RW military type S70 = Tin/Lead, Tape/Reel (smaller than RS005) S73 = Tin/Lead, Tape/Reel (RS005 & larger) B12 = Tin/Lead, Bulk	(Dash Number) (up to 3 digits) From 1-999 as applicable

Historical Part Number example: RS-2C-17 10 kΩ 1 % S70 (will continue to be accepted)

RS-2C-17	10 kΩ	1 %	S70
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

* Pb containing terminations are not RoHS compliant, exemptions may apply

**Wirewound Resistors, Military, MIL-PRF-26 Qualified,
Type RW, Precision Power, Silicone Coated**
Vishay Dale
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" [25.4 mm] minimum.

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: 100% Sn, or 60/40 Sn/Pb coated Copperweld®.

NOTE: Military "RW" parts are only available with 60/40 Sn/Pb finish.

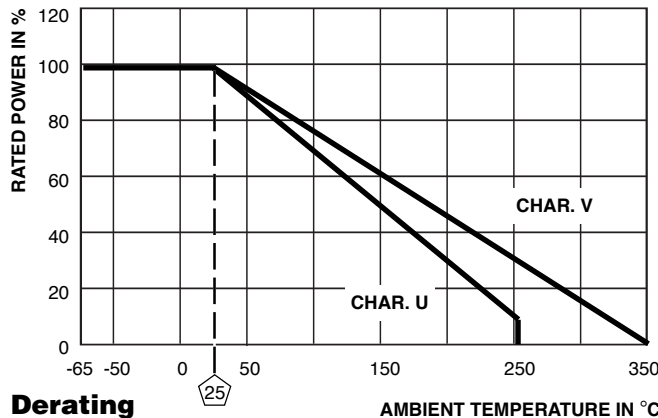
End Caps: Stainless steel

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


Derating
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).

GLOBAL MODEL	DIMENSIONS in inches [millimeters]			
	A	B (Max.)**	C	D
RS1/8	0.155 ± 0.015 [3.94 ± 0.381]	—	0.065 ± 0.015 [1.65 ± 0.381]	0.020 ± 0.002 [0.508 ± 0.051]
RS1/4	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]
RS1/2	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]
RS01A RS01A...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]
RS01M	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]
RS002	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]
RS02M	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]
RS02B RS02B...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]
RS02C	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]
RS02C...17 RS02C...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]
RS005 RS005...69 RS005...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]
RS007	1.22 ± 0.062 [30.99 ± 1.57]	1.28 [32.51]	0.312 ± 0.031 [7.92 ± 0.787]	0.040 ± 0.002 [1.02 ± 0.051]
RS010 RS010...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]
RS010...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]

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

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"

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RS RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 90 for below 1 Ω, ± 50 for 1 Ω to 9.9 Ω, ± 20 for 10 Ω and above
Dielectric Withstanding Voltage	V _{AC}	500 minimum for RS-1/8 thru RS-1A, 1000 minimum for all others
Maximum Working Voltage	V	(P x 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
Operating Temperature Range	°C	Characteristic U = - 65/+ 250, Characteristic V = - 65/+ 350

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 % + 0.05 Ω) ΔF	± (2.0 % + 0.05 Ω) ΔF
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 % + 0.05 Ω) ΔF	± (2.0 % + 0.05 Ω) ΔF
Dielectric Withstanding Voltage	500 minimum for RS-1/8 thru RS-1A, 1000 for all others, duration of 1 minute	± (0.1 % + 0.05 Ω) ΔF	± (0.1 % + 0.05 Ω) ΔF
Low Temperature Storage	- 65 °C for 24 hours	± (0.2 % + 0.05 Ω) ΔF	± (2.0 % + 0.05 Ω) ΔF
High Temperature Exposure	250 hours at: U = + 250 °C, V = + 350 °C	± (0.5 % + 0.05 Ω) ΔF	± (2.0 % + 0.05 Ω) ΔF
Moisture Resistance	MIL-STD-202 Method 106, 7b not applicable	± (0.2 % + 0.05 Ω) ΔF	± (2.0 % + 0.05 Ω) ΔF
Shock, Specified Pulse	MIL-STD-202 Method 213, 100 g's for 6 milliseconds, 10 shocks	± (0.1 % + 0.05 Ω) ΔF	± (0.2 % + 0.05 Ω) ΔF
Vibration, High Frequency	Frequency varied 10 to 2000 Hz, 20 g peak, 2 directions 6 hours each	± (0.1 % + 0.05 Ω) ΔF	± (2.0 % + 0.05 Ω) ΔF
Load Life	2000 hours at rated power, + 25 °C, 1.5 hours "ON", 0.5 hours "OFF"	± (0.5 % + 0.05 Ω) ΔF	± (3.0 % + 0.05 Ω) ΔF
Terminal Strength	5 to 10 sec., 5 or 10 lb pull test (depending on size), torsion test - 3 alternating directions, 360° each	± (0.1 % + 0.05 Ω) ΔF	± (1.0 % + 0.05 Ω) ΔF

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



Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.