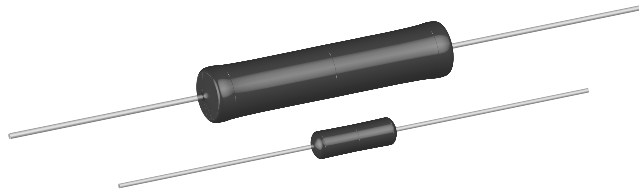


## Wirewound Resistors, Military, MIL-PRF-26 Qualified, Type RW, Precision Power, Silicone Coated



### 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

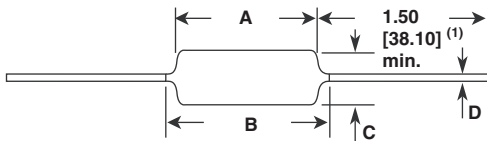
STANDARD ELECTRICAL SPECIFICATIONS										
GLOBAL MODEL	HIST. MODEL	MIL-PRF-26 TYPE	POWER RATING <sup>(3)</sup> <i>P</i> <sub>25 °C W</sub>		RESISTANCE RANGE - MIL. RANGE SHOWN IN BOLD FACE Ω					WEIGHT (typical) g
			U ± 0.05 % thru ± 5 %	V ± 3 % thru ± 10 %	± 0.05 %	± 0.1 %	± 0.25 %	± 0.5 % and ± 1 %	± 3 %, ± 5 %, ± 10 %	
RS1/4	RS-1/4	-	0.4	-	1 to 1K	0.499 to 1K	0.499 to 3.4K	0.1 to 3.4K	0.1 to 3.4K	0.21
RS1/2	RS-1/2	-	0.75	-	1 to 1.3K	0.499 to 1.3K	0.499 to 4.9K	0.1 to 4.9K	0.1 to 4.9K	0.23
RS01A	RS-1A	-	1.0	-	1 to 2.74K	0.499 to 2.74K	0.499 to 10.4K	0.1 to 10.4K	0.1 to 10.4K	0.34
RS01A...300	RS-1A-300	<b>RW70</b> <sup>(2)</sup>	1.0	-	-	0.499 to 2.74K	0.499 to 10.4K	0.1 to 10.4K	0.1 to 10.4K	0.34
RS01M	RS-1M	-	1.0	-	1 to 1.32K	0.499 to 1.67K	0.499 to 6.85K	0.1 to 6.85K	0.1 to 6.85K	0.30
RS002	RS-2	-	4.0	5.5	0.499 to 12.7K	0.499 to 12.7K	0.1 to 47.1K	0.1 to 47.1K	0.1 to 47.1K	2.10
RS02M	RS-2M	-	3.0	-	0.499 to 4.49K	0.499 to 4.49K	0.1 to 18.74K	0.1 to 18.74K	0.1 to 18.74K	0.65
RS02B	RS-2B	-	3.0	3.75	0.499 to 6.5K	0.499 to 6.5K	0.1 to 24.5K	0.1 to 24.5K	0.1 to 24.5K	0.70
RS02B...300	RS-2B-300	<b>RW79</b> <sup>(2)</sup>	3.0	-	-	0.499 to 6.5K	0.1 to 24.5K	0.1 to 24.5K	0.1 to 24.5K	0.70
RS02C	RS-2C	-	2.5	3.25	0.499 to 8.6K	0.499 to 8.6K	0.1 to 32.3K	0.1 to 32.3K	0.1 to 32.3K	1.6
RS02C...17	RS-2C-17	-	2.5	3.25	0.499 to 8.6K	0.499 to 8.6K	0.1 to 32.3K	0.1 to 32.3K	0.1 to 32.3K	1.6
RS02C...23	RS-2C-23	<b>RW69</b> <sup>(1)</sup>	-	3.25	-	-	-	-	0.1 to 32.3K	1.6
RS005	RS-5	-	5.0	6.5	0.499 to 25.7K	0.499 to 25.7K	0.1 to 95.2K	0.1 to 95.2K	0.1 to 95.2K	4.2
RS005...69	RS-5-69	<b>RW74</b> <sup>(2)</sup>	5.0	-	-	0.499 to 25.7K	0.1 to 95.2K	0.1 to 95.2K	0.1 to 95.2K	4.2
RS005...70	RS-5-70	<b>RW67</b> <sup>(1)</sup>	-	6.5	-	-	-	-	0.1 to 95.2K	4.2
RS007	RS-7	-	7.0	9.0	0.499 to 41.4K	0.499 to 41.4K	0.1 to 154K	0.1 to 154K	0.1 to 154K	4.7
RS010	RS-10	-	10.0	13.0	0.499 to 73.4K	0.499 to 73.4K	0.1 to 273K	0.1 to 273K	0.1 to 273K	9.0
RS010...38	RS-10-38	<b>RW78</b> <sup>(2)</sup>	10.0	-	-	0.499 to 73.4K	0.1 to 273K	0.1 to 273K	0.1 to 273K	9.0
RS010...39	RS-10-39	<b>RW68</b> <sup>(1)</sup>	-	13.0	-	-	-	-	0.1 to 273K	9.0
			-	11.0	-	-	-	-	0.1 to 20K	

**Notes**

- (1) Available tolerance for these MIL parts is ± 5 % for 1 Ω and above, ± 10 % below 1 Ω
- (2) Available tolerance for these MIL parts is ± 0.5 % and ± 1 % for resistance values 0.1 Ω and above, ± 0.1 % for resistance values 0.499 Ω and above
- (3) Vishay Dale RS models have two power ratings depending on operation temperature and stability requirements
- Shaded area indicates most popular models

GLOBAL PART NUMBER INFORMATION																
New Global Part Numbering: RS02C10K00FS7017 (preferred part number format)																
R	S	0	2	C	1	0	K	0	0	F	S	7	0	1	7	
GLOBAL MODEL (See Standard Electrical Specifications Global Model column for options)	RESISTANCE VALUE <b>R</b> = Decimal <b>K</b> = Thousand <b>15R00</b> = 15 Ω <b>10K00</b> = 10 kΩ		TOLERANCE CODE <b>A</b> = 0.05 % <b>B</b> = 0.1 % <b>C</b> = 0.25 % <b>D</b> = 0.5 % <b>F</b> = 1.0 % <b>J</b> = 5.0 % <b>K</b> = 10.0 %		PACKAGING <b>E70</b> = Lead (Pb)-free, tape/reel (smaller than RS005) <b>E73</b> = Lead (Pb)-free, tape/reel (RS005 and larger) <b>E12</b> = Lead (Pb)-free, bulk <b>Lead (Pb)-free is not available on RW military type</b> <b>S70</b> = Tin/lead, tape/reel (smaller than RS005) <b>S73</b> = Tin/lead, tape/reel (RS005 and larger) <b>B12</b> = Tin/lead, bulk				SPECIAL (Dash Number) (up to 3 digits) From <b>1 to 999</b> 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

**DIMENSIONS** in inches [millimeters]

**Note**

(1) On some standard reel pack methods, the leads may be trimmed to a shorter length than shown

**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®

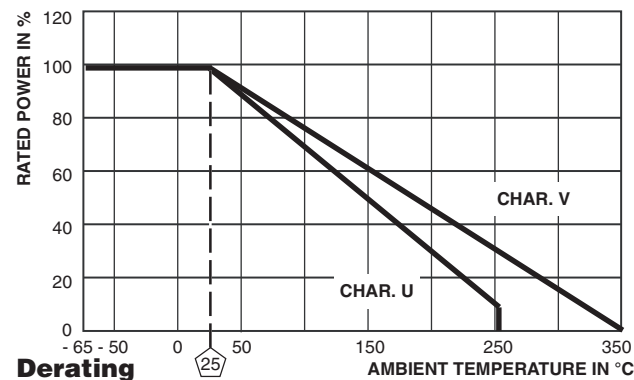
**End Caps:** Stainless steel

**Part Marking:** DALE, model, wattage (2), value, tolerance, date code

**Note**

(2) Wattage marked on part will be "U" characteristic

• Military "RW" parts are only available with 60/40 Sn/Pb finish


**Derating**

GLOBAL MODEL	DIMENSIONS in inches [millimeters]			
	A	B <sup>(3)</sup> (max.)	C	D
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	0.406 ± 0.031	0.437	0.094 ± 0.031	0.020 ± 0.002
RS01A...300	[10.31 ± 0.787]	[11.10]	[2.39 ± 0.787]	[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	0.560 ± 0.062	0.622	0.187 ± 0.031	0.032 ± 0.002
RS02B...300	[14.22 ± 1.57]	[15.80]	[4.75 ± 0.787]	[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	0.500 ± 0.062	0.593	0.218 ± 0.031	0.032 ± 0.002
RS02C...23	[12.70 ± 1.57]	[15.06]	[5.54 ± 0.787]	[0.813 ± 0.051]
RS005	0.875 ± 0.062	1.0	0.312 ± 0.031	0.040 ± 0.002
RS005...69	[22.23 ± 1.57]	[25.4]	[7.92 ± 0.787]	[1.02 ± 0.051]
RS005...70				
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	1.78 ± 0.062	1.87	0.375 ± 0.031	0.040 ± 0.002
RS010...39	[45.21 ± 1.57]	[47.50]	[9.53 ± 0.787]	[1.02 ± 0.051]
RS010...38	1.78 ± 0.062	1.84	0.375 ± 0.031	0.040 ± 0.002
RS010...38	[45.21 ± 1.57]	[46.74]	[9.53 ± 0.787]	[1.02 ± 0.051]

**Note**

(3) B (max.) dimension is clean lead to clean lead

**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"

**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 <sub>AC</sub>	500 minimum for RS-1/4 thru RS-1A, 1000 minimum for all others
Maximum Working Voltage	V	(P x R) <sup>1/2</sup>
Insulation Resistance	Ω	1000 MΩ minimum dry, 100 MΩ minimum after moisture test
Terminal Strength	lb	5 minimum for RS-1/4 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 to + 250, characteristic V = - 65 to + 350

**PERFORMANCE (1)**

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

**Note**

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



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