



Wirewound Resistors, Industrial, Precision Power, Silicone Coated, Axial Lead



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 resistance shift < 0.5 %)
- MIL-PRF-26 qualified, type RW resistors can be found at: www.vishay.com/doc?30281
- Compliant to RoHS Directive 2002/95/EC







COMPLIANT <u>GREEN</u> <u>(5-2008)</u>** Available

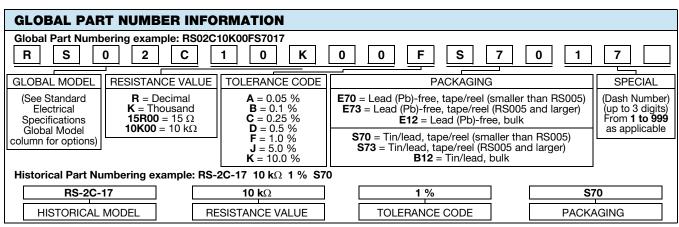
Notes

- * Pb containing terminations are not RoHS compliant, exemptions may apply
- ** Please see document "Vishay Material Category Policy": www.vishay.com/doc?99902

STANDARD ELECTRICAL SPECIFICATIONS									
GLOBAL MODEL	HIST. MODEL	POWER RATING ⁽¹⁾ P _{25°C} W U ± 0.05 % to ± 5 %	POWER RATING ⁽¹⁾ P _{25°C} W V±3% to±10%	RESISTANCE RANGE Ω ± 0.05 %	RESISTANCE RANGE Ω ± 0.1 %	RESISTANCE RANGE Ω ± 0.25 %	RESISTANCE RANGE Ω ± 0.5 %, ± 1 %	RESISTANCE RANGE Ω ± 3 %, ± 5 %, ± 10 %	WEIGHT (typical) g
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	ı	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
RS01A300	RS-1A-300	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
RS02B300	RS-2B-300	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
RS02C17	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
RS02C23	RS-2C-23	-	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
RS00569	RS-5-69	5.0	-	-	0.499 to 25.7K	0.1 to 95.2K	0.1 to 95.2K	0.1 to 95.2K	4.2
RS00570	RS-5-70	-	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
RS01038	RS-10-38	10.0	1	-	0.499 to 73.4K	0.1 to 273K	0.1 to 273K	0.1 to 273K	9.0
RS01039	RS-10-39	i	13.0	-	_	-	-	0.1 to 273K	9.0

Notes

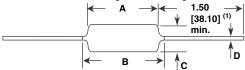
- Models not available as lead (Pb)-free; RS01A...300, RS02B...300, RS02C...23, RS005...69, RS005...70, RS010...38, RS010...39
- Shaded area indicates most popular models
- Vishay Dale RS models have two power ratings depending on operation temperature and stability requirements. Models not available for characteristic V are: RS1/4, RS01A, RS01A, RS01A...300, RS01M, RS02M, RS02B...300, RS005...69, and RS010...38



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DIMENSIONS in inches [millimeters]



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

Coating: Special high temperature silicone

Standard Terminals: 100 % Sn, or 60/40 Sn/Pb coated

Copperweld®

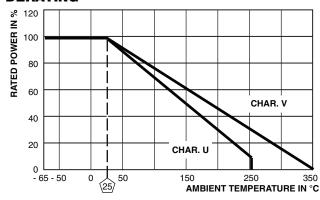
End Caps: Stainless steel

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

date code

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

DERATING



GLOBAL	DIMENSIONS in inches [millimeters]						
MODEL	Α	B ⁽³⁾ (max.)	С	D			
RS1/4	0.250 ± 0.031	0.281	0.085 ± 0.020	0.020 ± 0.002			
	[6.35 ± 0.787]	[7.14]	[2.16 ± 0.508]	[0.508 ± 0.051]			
RS1/2	0.312 ± 0.016	0.328	0.078 + 0.016 - 0.031	0.020 ± 0.002			
	[7.92 ± 0.406]	[8.33]	[1.98 + 0.406 - 0.787]	[0.508 ± 0.051]			
RS01A	0.406 ± 0.031	0.437	0.094 ± 0.031 [2.39 ± 0.787]	0.020 ± 0.002			
RS01A300	[10.31 ± 0.787]	[11.10]		[0.508 ± 0.051]			
RS01M	0.285 ± 0.025	0.311	0.110 ± 0.015	0.020 ± 0.002			
	[7.24 ± 0.635]	[7.90]	[2.79 ± 0.381]	[0.508 ± 0.051]			
RS002	0.625 ± 0.062	0.765	0.250 ± 0.031	0.040 ± 0.002			
	[15.88 ± 1.57]	[19.43]	[6.35 ± 0.787]	[1.02 ± 0.051]			
RS02M	0.500 ± 0.062	0.562	0.185 ± 0.015	0.032 ± 0.002			
	[12.70 ± 1.57]	[14.27]	[4.70 ± 0.381]	[0.813 ± 0.051]			
RS02B	0.560 ± 0.062	0.622	0.187 ± 0.031	0.032 ± 0.002 [0.813 ± 0.051]			
RS02B300	[14.22 ± 1.57]	[15.80]	[4.75 ± 0.787]				
RS02C	0.500 ± 0.062	0.593	0.218 ± 0.031	0.040 ± 0.002			
	[12.70 ± 1.57]	[15.06]	[5.54 ± 0.787]	[1.02 ± 0.051]			
RS02C17	0.500 ± 0.062	0.593	0.218 ± 0.031	0.032 ± 0.002			
RS02C23	[12.70 ± 1.57]	[15.06]	[5.54 ± 0.787]	[0.813 ± 0.051]			
RS005 RS00569 RS00570	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	1.28	0.312 ± 0.031	0.040 ± 0.002			
	[30.99 ± 1.57]	[32.51]	[7.92 ± 0.787]	[1.02 ± 0.051]			
RS010	1.78 ± 0.062	1.87	0.375 ± 0.031	0.040 ± 0.002			
RS01039	[45.21 ± 1.57]	[47.50]	[9.53 ± 0.787]	[1.02 ± 0.051]			
RS01038	1.78 ± 0.062	1.84	0.375 ± 0.031	0.040 ± 0.002			
	[45.21 ± 1.57]	[46.74]	[9.53 ± 0.787]	[1.02 ± 0.051]			

Note

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 (NS005, for example).

Two conditions apply:

- 1. For NS models, divide maximum resistance values by two
- 2. Body O.D. on NS02C may exceed that of the RS02C by 0.010"

TECHNICAL SPECIFICATIONS				
PARAMETER	UNIT	RS RESISTOR CHARACTERISTICS		
Temperature Coefficient	ppm/°C	\pm 20 for 10 Ω and above, \pm 50 for 1 Ω to 9.9 $\Omega,$ \pm 90 for 0.5 Ω to 0.99 Ω		
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	Characterisitic U = - 65 to + 250, characteristic V = - 65 to + 350		

PERFORMANCE						
TEST	CONDITIONS OF TEST	TEST LIMITS				
1531	CONDITIONS OF TEST	CHARACTERISTIC U	CHARACTERISTIC V			
Thermal Shock	Rated power applied until thermally stable, then a minimum of 15 min at - 55 °C	$\pm (0.2 \% + 0.05 \Omega) \Delta R$	$\pm (2.0 \% + 0.05 \Omega) \Delta R$			
Short Time Overload	5 x rated power (3.75 W and smaller), 10 x rated power (4 W and larger) for 5 s	$\pm (0.2 \% + 0.05 \Omega) \Delta R$	$\pm (2.0 \% + 0.05 \Omega) \Delta R$			
Dielectric Withstanding Voltage	500 $V_{\mbox{\scriptsize RMS}}$ min. for RS1/4 thru RS01A, 1000 $V_{\mbox{\scriptsize RMS}}$ for all others, duration of 1 min	$\pm (0.1 \% + 0.05 \Omega) \Delta R$	± (0.1 % + 0.05 Ω) ΔR			
Low Temperature Storage	- 65 °C for 24 h	$\pm (0.2 \% + 0.05 \Omega) \Delta R$	$\pm (2.0 \% + 0.05 \Omega) \Delta R$			
High Temperature Exposure	250 h at: U = + 250 °C, V = + 350 °C	$\pm (0.5 \% + 0.05 \Omega) \Delta R$	$\pm (2.0 \% + 0.05 \Omega) \Delta R$			
Moisture Resistance	MIL-STD-202 Method 106, 7b not applicable	$\pm (0.2 \% + 0.05 \Omega) \Delta R$	$\pm (2.0 \% + 0.05 \Omega) \Delta R$			
Shock, Specified Pulse	MIL-STD-202 Method 213, 100 g's for 6 ms, 10 shocks	$\pm (0.1 \% + 0.05 \Omega) \Delta R$	$\pm (0.2 \% + 0.05 \Omega) \Delta R$			
Vibration, High Frequency	Frequency varied 10 Hz to 2000 Hz, 20 g peak, 2 directions 6 h each	$\pm (0.1 \% + 0.05 \Omega) \Delta R$	$\pm (0.2 \% + 0.05 \Omega) \Delta R$			
Load Life	2000 h at rated power, + 25 °C, 1.5 h "ON", 0.5 h "OFF"	$\pm (0.5 \% + 0.05 \Omega) \Delta R$	$\pm (3.0 \% + 0.05 \Omega) \Delta R$			
Terminal Strength	Pull test 5 s to 10 s, 5 lb (RS1/4 thru RS01A), 10 lb for all others; torsion test - 3 alternating directions, 360° each	± (0.1 % + 0.05 Ω) ΔR	± (1.0 % + 0.05 Ω) ΔR			

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



Legal Disclaimer Notice

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Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

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RS02B3K000FB12 RS01A56R00FB12 RS01A50R00FB12 RS010150R0FB12 RS010178R0FB12 RS02B3K600FB12 RS1\84R700FB12 NS02B2R670FB12 RS01A18R00FB12 RS01A10R00FB12 RS01A13R00FB12 NS01A1K000FB12 RS02BR4990FB12 RS01A15R00FB12 RS01A12R00FB12 RS02B1R820FS70 RS02B200R0FB12 NS02B100R0JR50 RS00710R00HB12 RS02B167R0DB12 RS02C250R0FB12 RS01A4K700FB12 NS02BR5000JS70 RS01A6R810FB12 NS01012R20FB12 NS02BR2500FR50 RS02B20R00FS70 NS02C1R000BB12 RS02B402R0FS70 RS02B1K330FB12 RS02C1K400FB12 RS010680R0FB12 NS0106R100FB12 RS02C27K00FB12 RS010600R0FB12 RS02BR3740FR50 RS00568K00FB12 RS02C200R0FS70 RS02C39R20FB12 NS0051R000FB12 RS01A49R90FB12 RS02B200R0FS70 NS02C100R0FB12 RS02C100R0FB12 RS02C3K320FB12 RS02BR1000FS70 RS1\23R010FB12 RS02B47R00FS70 RS02B250R0BS70 RS1\220R00FB12 NS00562R00JB12 NS00518R00JB12 RS02B250R0AS70 RS01068K10FB12 RS00522K50FB12 RS0052R000FB12 RS005225R0FB12 RS0058K000FB12 RS02B1K100JS70 RS005270R0FB12 RS01A680R0FB12 RS02B16R20FS70 RS1\2300R0FB12 RS02CR6800JB12 RS02BR2700JB12 RS02C1K000FS70 RS01A82R00FB12 RS02B3R010FB12 RS0102K500FB12 RS02B3R160FB12 RS01030K00FB12 RS1\2909R0FB12 RS01A60R00FB12 RS01A68R00FB12 RS01A40R00FB12 RS01A24R00FB12 NS01A2K000FB12 RS01A22R00FB12 RS01A20R00FB12 RS01A47R00FB12 RS01A27R00FB12 RS01A25R00FB12 RS02B150R0FB12 RS02B110R0FB12 RS0057R500FB12 RS02B130R0FB12 RS02B9R000FB12 RS005700R0FB12 RS01A6R000FB12 RS01A2R500FB12 RS01A2R700FB12 RS01A225R0FB12 RS1\410R00FS70 RS01A220R0FB12 NS02BR1200JR50 NS01A200R0FB12 RS01A75R50BB12 RS02B15R00FS70 RS02C68R10FB12 RS02B10R00BB12