



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



## LINKS TO ADDITIONAL RESOURCES



## FEATURES

- High temperature coating (> 350 °C)
- Complete welded construction
- Meets applicable requirements of MIL-PRF-26
- Available in non-inductive styles (type NS) with Ayrton-Perry winding for lowest reactive components
- Excellent stability in operation (typical resistance shift < 0.5 %)
- MIL-PRF-26 qualified, type RW resistors can be found at: [www.vishay.com/doc?30281](http://www.vishay.com/doc?30281)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS\* Available

HALOGEN FREE Available

GREEN (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

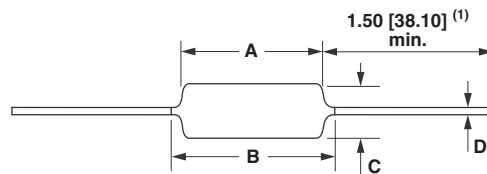
| STANDARD ELECTRICAL SPECIFICATIONS |             |                 |   |   |                             |                            |                             |                                   |   |                    |
|------------------------------------|-------------|-----------------|---|---|-----------------------------|----------------------------|-----------------------------|-----------------------------------|---|--------------------|
| GLOBAL MODEL                       | HIST. MODEL | MIL-PRF-26 TYPE | POWER RATING (3) P <sub>25 °C</sub> W U ± 0.05 % TO ± 5 % | POWER RATING (3) P <sub>25 °C</sub> 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  | -   | 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   | RW70 (2)        | 1.0   | -   | -                           | 0.499 to 2.74K             | 0.499 to 2.74K              | 0.1 to 2.74K                      | 0.1 to 2.74K                            | 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   | RW79 (2)        | 3.0   | -   | -                           | 0.499 to 6.49K             | 0.1 to 6.49K                | 0.1 to 6.49K                      | 0.1 to 6.49K                            | 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    | RW69 (1)        | -   | 3.25  | -                           | -                          | -                           | -                                 | 0.1 to 2.0K                             | 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     | RW74 (2)        | 5.0   | -   | -                           | 0.499 to 24.3K             | 0.1 to 24.3K                | 0.1 to 24.3K                      | 0.1 to 24.3K                            | 4.2                |
| RS005...70                         | RS-5-70     | RW67 (1)        | -   | 6.5   | -                           | -                          | -                           | 0.1 to 8.5K                       | 0.1 to 8.5K                             | 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    | RW78 (2)        | 10.0  | -   | -                           | 0.499 to 71.5K             | 0.1 to 71.5K                | 0.1 to 71.5K                      | 0.1 to 71.5K                            | 9.0                |
| RS010...39                         | RS-10-39    | RW68 (1)        | -   | 13.0  | -                           | -                          | -                           | 0.1 to 20K                        | 0.1 to 20K                              | 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
- (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. Models not available for characteristic V are: RS1/4, RS1/2, RS01A, RS01A...300, RS01M, RS02M, RS02B...300, RS005...69, and RS010...38

| GLOBAL PART NUMBER INFORMATION   |  |   |                  |   |   |                |  |   |           |   |   |   |   |   |   |  |
|--|--|---|------------------|---|---|----------------|--|---|-----------|---|---|---|---|---|---|--|
| Global Part Numbering Example: RS02C10K00FS7017                          |  |   |                  |   |   |                |  |   |           |   |   |   |   |   |   |  |
| R  | S  | 0   | 2                | C | 1 | 0              | K  | 0 | 0         | F | S | 7   | 0 | 1 | 7 |  |
| GLOBAL MODEL<br>(5 digits)   | RESISTANCE VALUE<br>(5 digits)                               | TOLERANCE CODE<br>(1 digit)   |                  |   |   |                | PACKAGING<br>(3 digits)  |   |           |   |   | SPECIAL<br>(up to 3 digits)                     |   |   |   |  |
| (see Standard Electrical Specifications Global Model column for options) | R = decimal<br>K = thousand<br>15R00 = 15 Ω<br>10K00 = 10 kΩ | A = 0.05 %<br>B = 0.1 %<br>C = 0.25 %<br>D = 0.5 %<br>F = 1.0 %<br>H = 3.0 %<br>J = 5.0 %<br>K = 10.0 % |                  |   |   |                | E70 = lead (Pb)-free, tape / reel (smaller than RS005)<br>E73 = lead (Pb)-free, tape / reel<br>E12 = lead (Pb)-free, bulk<br><br>S70 = tin / lead, tape / reel (smaller than RS005)<br>S73 = tin / lead, tape / reel<br>B12 = tin / lead, bulk |   |           |   |   | (dash number)<br>From 1 to 999<br>as applicable |   |   |   |  |
| Historical Part Numbering Example: RS-2C-17 10 kΩ 1 % S70                |  |   |                  |   |   |                |  |   |           |   |   |   |   |   |   |  |
| RS-2C-17   |  |   | 10 kΩ            |   |   | 1 %            |  |   | S70       |   |   |   |   |   |   |  |
| HISTORICAL MODEL   |  |   | RESISTANCE VALUE |   |   | TOLERANCE CODE |  |   | PACKAGING |   |   |   |   |   |   |  |

**DIMENSIONS** in inches [millimeters]



| GLOBAL MODEL                      | DIMENSIONS in inches [millimeters] |                  |   |                                  |
|-----------------------------------|------------------------------------|------------------|---|----------------------------------|
|                                   | A                                  | B (2)<br>(max.)  | C   | D                                |
| RS1/4                             | 0.250 ± 0.031<br>[6.35 ± 0.787]    | 0.281<br>[7.14]  | 0.085 ± 0.020<br>[2.16 ± 0.508]                 | 0.020 ± 0.002<br>[0.508 ± 0.051] |
| RS1/2                             | 0.312 ± 0.016<br>[7.92 ± 0.406]    | 0.328<br>[8.33]  | 0.078 + 0.016 - 0.031<br>[1.98 + 0.406 - 0.787] | 0.020 ± 0.002<br>[0.508 ± 0.051] |
| RS01A<br>RS01A...300              | 0.406 ± 0.031<br>[10.31 ± 0.787]   | 0.437<br>[11.10] | 0.094 ± 0.031<br>[2.39 ± 0.787]                 | 0.020 ± 0.002<br>[0.508 ± 0.051] |
| RS01M                             | 0.270 ± 0.031<br>[6.86 ± 0.787]    | 0.311<br>[7.90]  | 0.110 ± 0.015<br>[2.79 ± 0.381]                 | 0.020 ± 0.002<br>[0.508 ± 0.051] |
| RS002                             | 0.625 ± 0.062<br>[15.88 ± 1.57]    | 0.765<br>[19.43] | 0.250 ± 0.031<br>[6.35 ± 0.787]                 | 0.040 ± 0.002<br>[1.02 ± 0.051]  |
| RS02M                             | 0.500 ± 0.062<br>[12.70 ± 1.57]    | 0.562<br>[14.27] | 0.185 ± 0.031<br>[4.70 ± 0.787]                 | 0.032 ± 0.002<br>[0.813 ± 0.051] |
| RS02B<br>RS02B...300              | 0.560 ± 0.062<br>[14.22 ± 1.57]    | 0.622<br>[15.80] | 0.187 ± 0.031<br>[4.75 ± 0.787]                 | 0.032 ± 0.002<br>[0.813 ± 0.051] |
| RS02C                             | 0.500 ± 0.062<br>[12.70 ± 1.57]    | 0.593<br>[15.06] | 0.218 ± 0.031<br>[5.54 ± 0.787]                 | 0.040 ± 0.002<br>[1.02 ± 0.051]  |
| RS02C...17<br>RS02C...23          | 0.500 ± 0.062<br>[12.70 ± 1.57]    | 0.593<br>[15.06] | 0.218 ± 0.031<br>[5.54 ± 0.787]                 | 0.032 ± 0.002<br>[0.813 ± 0.051] |
| RS005<br>RS005...69<br>RS005...70 | 0.875 ± 0.062<br>[22.23 ± 1.57]    | 1.0<br>[25.4]    | 0.312 ± 0.031<br>[7.92 ± 0.787]                 | 0.040 ± 0.002<br>[1.02 ± 0.051]  |
| RS007                             | 1.22 ± 0.062<br>[30.99 ± 1.57]     | 1.28<br>[32.51]  | 0.312 ± 0.031<br>[7.92 ± 0.787]                 | 0.040 ± 0.002<br>[1.02 ± 0.051]  |
| RS010<br>RS010...39               | 1.78 ± 0.062<br>[45.21 ± 1.57]     | 1.87<br>[47.50]  | 0.375 ± 0.031<br>[9.53 ± 0.787]                 | 0.040 ± 0.002<br>[1.02 ± 0.051]  |
| RS010...38                        | 1.78 ± 0.062<br>[45.21 ± 1.57]     | 1.84<br>[46.74]  | 0.375 ± 0.031<br>[9.53 ± 0.787]                 | 0.040 ± 0.002<br>[1.02 ± 0.051]  |

**Notes**

- (1) On some standard reel pack methods, the leads may be trimmed to a shorter length than shown
- (2) 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: 100 % Sn, or 60/40 Sn/Pb coated Copperweld®

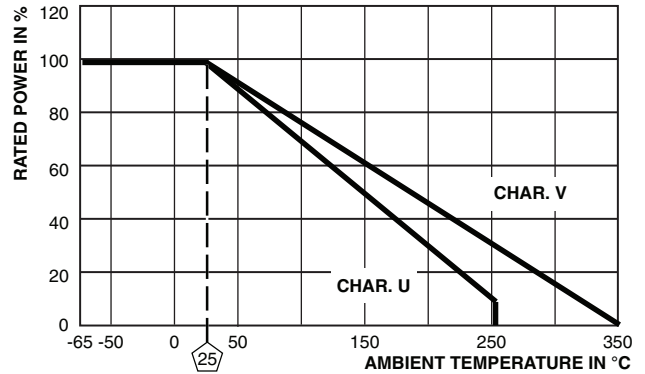
End Caps: stainless steel

Part Marking: DALE, model, wattage (1), value, tolerance, date code

Note

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

DERATING



NS NON-INDUCTIVE

Models of equivalent physical and electrical specifications are available with non-inductive (Ayrton-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"

Table with 3 columns: PARAMETER, UNIT, and RS RESISTOR CHARACTERISTICS. Rows include Temperature Coefficient, Maximum Working Voltage, Insulation Resistance, and Operating Temperature Range.

Table with 4 columns: TEST, CONDITIONS OF TEST, TEST LIMITS (CHARACTERISTIC U, CHARACTERISTIC V). Rows include Thermal Shock, Short Time Overload, Dielectric Withstanding Voltage, Low Temperature Storage, High Temperature Exposure, Moisture Resistance, Shock, Vibration, Load Life, and Terminal Strength.



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