



Wirewound Resistors, Industrial Power, Tubular, Roundwire (RD), Fixed (RDEF, RDSF)



FEATURES

- High temperature silicone or vitreous enamel coatings
- Non-inductive options available
- All welded construction
- Wide range of available resistances
- Hardware mounting options and enclosures available
- Wirewound
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



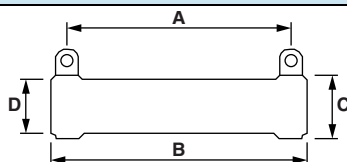
RoHS
COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | HISTORICAL MODEL | POWER RATING W | RESISTANCE RANGE Ω | TOLERANCE % | TERMINAL STYLE | |
|-------------------------|--------------------|----------------|---------------------------|-------------|----------------|--------|
| | | | | | STANDARD | OPTION |
| RDEF0008 ⁽¹⁾ | 5-16- Ω | 8 | 0.82 to 13.5K | 5 | A | H |
| RDEF0012 ⁽¹⁾ | 5-28- Ω | 12 | 0.12 to 49K | 5 | A | H |
| RDEF0015 ⁽¹⁾ | 7-24- Ω | 15 | 0.16 to 28.7K | 5 | A | H |
| RDEF0020 ⁽¹⁾ | 7-32- Ω | 20 | 0.13 to 53.2K | 5 | A | H |
| RDEF0025 ⁽¹⁾ | 9-32- Ω | 25 | 0.22 to 35K | 5 | D | H |
| RDEF0030 ⁽¹⁾ | 12-32- Ω | 30 | 0.28 to 29K | 5 | D | H |
| RDEF0045 ⁽¹⁾ | 12-48- Ω | 45 | 0.18 to 63K | 5 | D | H |
| RDEF0050 ⁽¹⁾ | 9-64- Ω | 50 | 0.21 to 119K | 5 | D | H |
| RDEF0051 ⁽¹⁾ | 12-56- Ω | 51 | 0.22 to 83K | 5 | D | H |
| RDEF0061 ⁽¹⁾ | 12-64- Ω | 61 | 0.27 to 97K | 5 | D | H |
| RDEF0065 ⁽¹⁾ | 12-72- Ω | 65 | 0.31 to 122K | 5 | D | H |
| RDEF0075 ⁽¹⁾ | 9-96- Ω | 75 | 0.33 to 207K | 5 | D | H |
| RDEF0076 ⁽¹⁾ | 12-80- Ω | 76 | 0.35 to 134K | 5 | D | H |
| RDEF0080 ⁽¹⁾ | 18-64- Ω | 80 | 0.06 to 53K | 5 | F | H |
| RDEF0090 ⁽¹⁾ | 12-96- Ω | 90 | 0.43 to 172K | 5 | D | H |
| RDEF0095 ⁽¹⁾ | 18-80- Ω | 95 | 0.08 to 79K | 5 | F | H |
| RDEF0100 ⁽¹⁾ | 12-104- Ω | 100 | 0.47 to 186K | 5 | D | H |
| RDEF0120 ⁽¹⁾ | 18-96- Ω | 120 | 0.11 to 100K | 5 | F | H |
| RDEF0130 ⁽¹⁾ | 18-104- Ω | 130 | 0.12 to 111K | 5 | F | H |
| RDEF0160 ⁽¹⁾ | 18-128- Ω | 160 | 0.15 to 144K | 5 | F | H |
| RDEF0175 ⁽¹⁾ | 18-136- Ω | 175 | 0.16 to 156K | 5 | F | H |
| RDSF0220 | 26-136- Ω | 220 | 0.21 to 69K | 5 | G | - |
| RDEF0225 ⁽¹⁾ | 18-168- Ω | 225 | 0.21 to 200K | 5 | F | H |
| RDEF0235 ⁽¹⁾ | 18-180- Ω | 235 | 0.22 to 216K | 5 | F | H |
| RDEF0240 ⁽¹⁾ | 18-188- Ω | 240 | 0.24 to 227K | 5 | F | H |
| RDSF0275 | 26-168- Ω | 275 | 0.27 to 90K | 5 | G | - |
| RDSF0300 | 26-188- Ω | 300 | 0.31 to 104K | 5 | G | - |
| RDSF0500 | 40-192- Ω S | 500 | 0.49 to 34K | 5 | G | - |
| RDSF0750 | 40-240- Ω S | 750 | 0.63 to 44K | 5 | G | - |
| RDSF1000 | 40-320- Ω S | 1000 | 0.89 to 62K | 5 | G | - |
| RDSF1150 | 52-320- Ω S | 1150 | 1.14 to 41K | 5 | G | - |

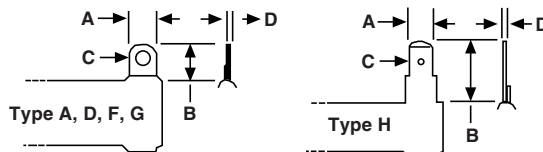
Note

⁽¹⁾ Vitreous enamel coating is standard (RDEF type), silicone coating is optional (RDSF type).

**DIMENSIONS** in inches (millimeters)

- For Terminal Data and Mounting Hardware, see www.vishay.com/doc?31811
- For Enclosures and Frames, see www.vishay.com/doc?31810

| GLOBAL MODEL | CORE DIMENSIONS (REF.) | | | A DISTANCE BETWEEN TERMINAL (REF.) | WEIGHT (TYP.) g |
|--------------|------------------------|---------------------|---------------------|---------------------------------------------|-----------------------|
| | B LENGTH | C OUTER DIAMETER | D INNER DIAMETER | | |
| RDEF0008 | 1 (25.4) | 0.313 (7.95) | 0.188 (4.775) | 0.63 (15.875) | 4 |
| RDEF0012 | 1.75 (44.45) | 0.313 (7.95) | 0.188 (4.775) | 1.38 (34.925) | 6 |
| RDEF0015 | 1.5 (38.1) | 0.438 (11.125) | 0.313 (7.95) | 1.06 (26.9875) | 8 |
| RDEF0020 | 2 (50.8) | 0.438 (11.125) | 0.313 (7.95) | 1.56 (39.6875) | 15 |
| RDEF0025 | 2 (50.8) | 0.563 (14.3) | 0.313 (7.95) | 1.50 (38.1) | 20 |
| RDEF0030 | 2 (50.8) | 0.75 (19.05) | 0.5 (12.7) | 1.50 (38.1) | 30 |
| RDEF0045 | 3 (76.2) | 0.75 (19.05) | 0.5 (12.7) | 2.50 (63.5) | 50 |
| RDEF0050 | 4 (101.6) | 0.563 (14.3) | 0.313 (7.95) | 3.50 (88.9) | 65 |
| RDEF0051 | 3.5 (88.9) | 0.75 (19.05) | 0.5 (12.7) | 3.00 (76.2) | 58 |
| RDEF0061 | 4 (101.6) | 0.75 (19.05) | 0.5 (12.7) | 3.50 (88.9) | 62 |
| RDEF0065 | 4.5 (114.3) | 0.75 (19.05) | 0.5 (12.7) | 4.00 (101.6) | 68 |
| RDEF0075 | 6 (152.4) | 0.563 (14.3) | 0.313 (7.95) | 5.50 (139.7) | 90 |
| RDEF0076 | 5 (127) | 0.75 (19.05) | 0.5 (12.7) | 4.50 (114.3) | 75 |
| RDEF0080 | 4 (101.6) | 1.125 (28.575) | 0.75 (19.05) | 3.13 (79.375) | 127 |
| RDEF0090 | 6 (152.4) | 0.75 (19.05) | 0.5 (12.7) | 5.50 (139.7) | 95 |
| RDEF0095 | 5 (127) | 1.125 (28.575) | 0.75 (19.05) | 4.13 (104.775) | 145 |
| RDEF0100 | 6.5 (165.1) | 0.75 (19.05) | 0.5 (12.7) | 6.00 (152.4) | 100 |
| RDEF0120 | 6 (152.4) | 1.125 (28.575) | 0.75 (19.05) | 5.13 (130.175) | 165 |
| RDEF0130 | 6.5 (165.1) | 1.125 (28.575) | 0.75 (19.05) | 5.63 (142.875) | 200 |
| RDEF0160 | 8 (203.2) | 1.125 (28.575) | 0.75 (19.05) | 7.13 (193.675) | 225 |
| RDEF0175 | 8.5 (215.9) | 1.125 (28.575) | 0.75 (19.05) | 7.63 (177.8) | 250 |
| RDSF0220 | 8.5 (215.9) | 1.625 (41.275) | 1.125 (28.575) | 7.00 (177.8) | 400 |
| RDEF0225 | 10.5 (266.7) | 1.125 (28.575) | 0.75 (19.05) | 9.63 (244.475) | 270 |
| RDEF0235 | 11.25 (285.75) | 1.125 (28.575) | 0.75 (19.05) | 10.38 (263.525) | 310 |
| RDEF0240 | 11.75 (298.45) | 1.125 (28.575) | 0.75 (19.05) | 10.88 (276.225) | 325 |
| RDSF0275 | 10.5 (266.7) | 1.625 (41.275) | 1.125 (28.575) | 9.00 (228.6) | 500 |
| RDSF0300 | 11.75 (298.45) | 1.625 (41.275) | 1.125 (28.575) | 10.25 (260.35) | 510 |
| RDSF0500 | 12 (304.8) | 2.5 (63.5) | 1.75 (44.45) | 10.50 (266.7) | 1000 |
| RDSF0750 | 15 (381) | 2.5 (63.5) | 1.75 (44.45) | 13.50 (342.9) | 1300 |
| RDSF1000 | 20 (508) | 2.5 (63.5) | 1.75 (44.45) | 18.50 (469.9) | 1625 |
| RDSF1150 | 20 (508) | 3.25 (82.55) | 1.75 (44.45) | 18.50 (469.9) | 3800 |

TERMINAL STYLE in inches (millimeters)

| DIMENSIONS | A (3/16" LUG) | D (1/4" LUG) | F (3/8" LUG) | G (1/2" LUG) | H (1/4" SQC) |
|---------------|-----------------|--------------|----------------|------------------|----------------|
| Width (A) | 0.1875 (4.7625) | 0.25 (6.35) | 0.375 (9.525) | 0.5 (12.7) | 0.25 (6.35) |
| Height (B) | 0.375 (9.525) | 0.5 (12.7) | 0.625 (15.875) | 0.9375 (23.8125) | 0.625 (15.875) |
| Diameter (C) | 0.13 (3.302) | 0.17 (4.318) | 0.2 (5.08) | 0.26 (6.604) | 0.065 (1.651) |
| Thickness (D) | 0.02 (0.508) | 0.02 (0.508) | 0.035 (0.889) | 0.046 (1.1684) | 0.032 (0.8128) |

**METRIC OPTIONS AVAILABLE****Metric Hardware on Terminal Lugs**

Use terminal designation "1" example: RDEF03001R000K1B00

Metric Mounting Hardware

Vertical mount: use special designation "VM" example: RDEF03001R000K1BVM

1 high bracket: use special designation "1A" example: RDEF03001R000K1B1M

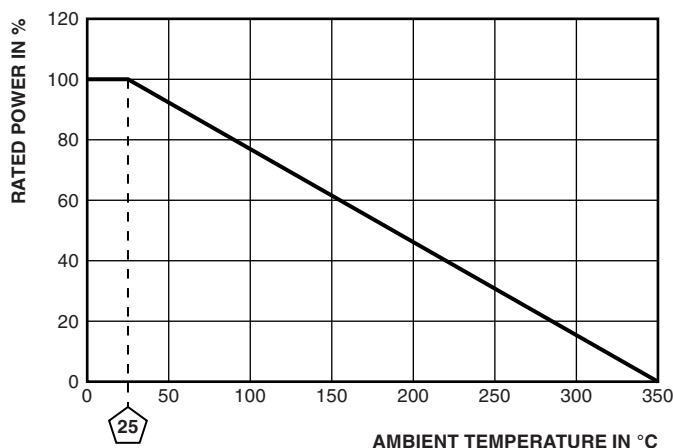
2 high bracket: use special designation "2A" example: RDEF03001R000K1B2M

3 high bracket: use special designation "3A" example: RDEF03001R000K1B3M

4 high bracket: use special designation "4A" example: RDEF03001R000K1B4M

TECHNICAL SPECIFICATIONS

| PARAMETER | UNIT | RESISTOR CHARACTERISTICS |
|----------------------------------------|---------------------|-----------------------------------------------------------------------------------|
| Power rating | W | 8 to 1150 |
| Resistance range | Ω | 0.12 to 227K |
| Resistance tolerance | % | 5 for above 1 Ω , 10 below 1 Ω |
| TCR | ppm/°C | ± 400 , ± 180 , ± 130 , ± 20 (varies by wattage and resistance) |
| Operating temperature | °C | -55 to +350 |
| Temperature rise | °C | 325 above an ambient of 25 °C |
| Maximum altitude | f.a.s.l. (m.a.s.l.) | derate above 4921 f.a.s.l. (1500 m.a.s.l.) |
| Short-term overload (surge) | | 10 x rated power for 5 s |
| Surge windings | | available |
| Maximum working voltage | | $(P \times R)^{1/2}$ |
| Insulation resistance | Ω | 1M |
| Dielectric voltage | V _{RMS} | up to 1500 (upon request) |
| Creepage | inch (mm) | minimum 0.125 (3.175), typical (varies by wattage) |
| Terminal sleeves | | n/a |
| Inductance | μ H | 0.2 to 10 300 (varies by wattage and resistance) |
| Non-inductive winding | | available |
| Terminal strength | lb | 10 |
| Electrical or mechanical customization | | available: www.vishay.com/doc?31857 |

DERATING CURVE**MATERIAL SPECIFICATIONS**

| | |
|--------------------|------------------------------------------------------|
| Element | copper-nickel, nickel-chrome, iron-chrome-aluminum |
| Core | cordierite, steatite |
| Coating | special high temperature silicone or vitreous enamel |
| Standard terminals | nickel-iron |
| Part marking | value, date code, MRC |



GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: RDEF00201K00JABVT (RDEF0020-VT 1K 5 % 3/16L B)

R D E F 0 0 2 0 1 K 0 0 0 J A B V T

| GLOBAL MODEL | RESISTANCE VALUE | TOLERANCE | TERMINAL | PACKAGING CODE | SPECIAL |
|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RDEF0020 (see "Standard Electrical Specifications" table above for additional P/N's) | R = decimal K = thousand R1500 = 0.15 Ω 1K500 = 1.5 k Ω | J = ± 5.0 % K = ± 10 % | A = 3/16" lug D = 1/4" lug F = 3/8" lug G = 1/2" lug H = 1/4" single quick-connect | B = bulk | 00 = standard NI = non-inductive SW = surge winding CP = push in clips (bulk) CA = push in clips (assembled) VT = vertical mount 1A = 1 high bracket zinc plated steel 2A = 2 high bracket zinc plated steel 3A = 3 high bracket zinc plated steel 4A = 4 high bracket zinc plated steel Note 2A, 3A, and 4A assemblies: include identical resistors only wiring to be supplied by customer reference CS series for further customization Note 3A and 4A limitations: brackets fit 40 W to 550 W RB resistors |



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