



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

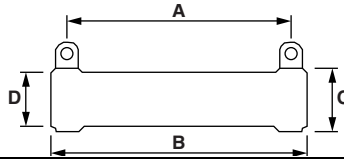


RoHS COMPLIANT

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-ΩS	500	0.49 to 34K	5	G	-
RDSF0750	40-240-ΩS	750	0.63 to 44K	5	G	-
RDSF1000	40-320-ΩS	1000	0.89 to 62K	5	G	-
RDSF1150	52-320-ΩS	1150	1.14 to 41K	5	G	-

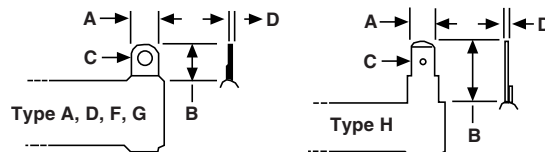
Note

⁽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

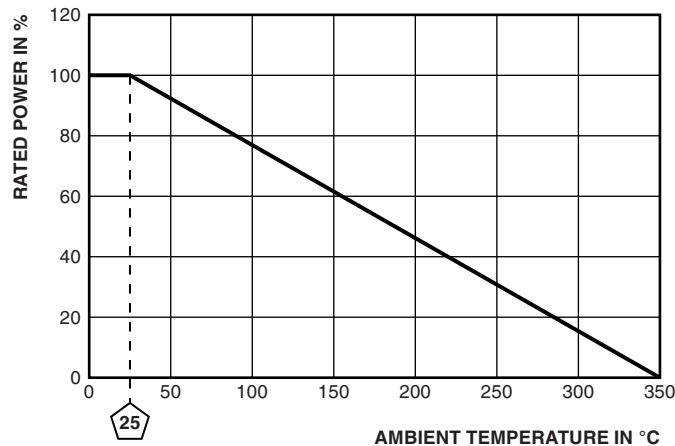
3 high bracket: use special designation "3A" example: RDEF03001R000K1B3M

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/ $^{\circ}$ C	$\pm 400, \pm 180, \pm 130, \pm 20$ (varies by wattage and resistance)
Operating temperature	$^{\circ}$ C	-55 to +350
Temperature rise	$^{\circ}$ C	325 above an ambient of 25 $^{\circ}$ 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: RDEF00201K000JABVT (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 kΩ	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



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.