



## 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](http://www.vishay.com/doc?99912)



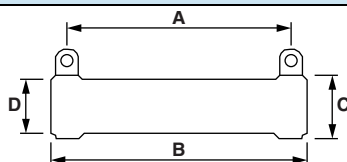
**RoHS**  
COMPLIANT

### STANDARD ELECTRICAL SPECIFICATIONS

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

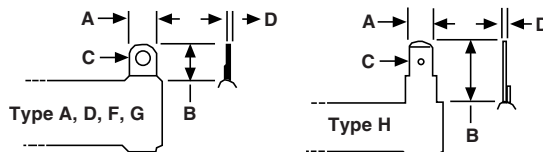
#### Note

<sup>(1)</sup> 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](http://www.vishay.com/doc?31811)
- For Enclosures and Frames, see [www.vishay.com/doc?31810](http://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

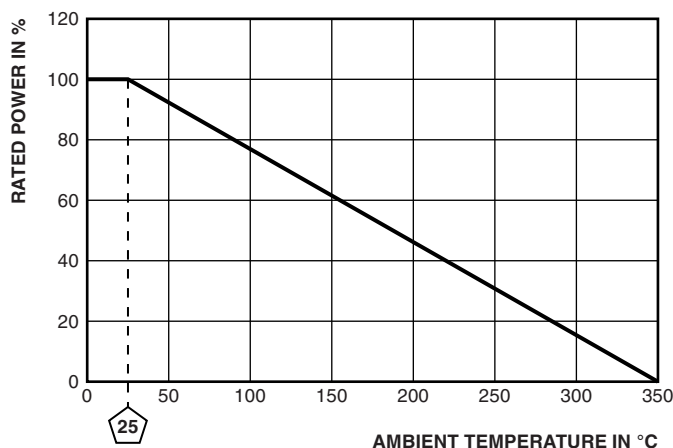
2 high bracket: use special designation "2A" example: RDEF03001R000K1B2M

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	$\Omega$	0.12 to 227K
Resistance tolerance	%	5 for above 1 $\Omega$ , 10 below 1 $\Omega$
TCR	ppm/°C	$\pm 400$ , $\pm 180$ , $\pm 130$ , $\pm 20$ (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	$\Omega$	1M
Dielectric voltage	V <sub>RMS</sub>	up to 1500 (upon request)
Creepage	inch (mm)	minimum 0.125 (3.175), typical (varies by wattage)
Terminal sleeves		n/a
Inductance	$\mu$ H	0.2 to 10 300 (varies by wattage and resistance)
Non-inductive winding		available
Terminal strength	lb	10
Electrical or mechanical customization		available: <a href="http://www.vishay.com/doc?31857">www.vishay.com/doc?31857</a>

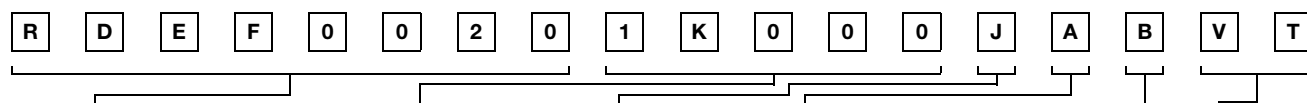
**DERATING CURVE****MATERIAL SPECIFICATIONS**

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)



### GLOBAL MODEL

**RDEF0020**  
(see "Standard Electrical Specifications" table above for additional P/N's)

### RESISTANCE VALUE

**R** = decimal  
**K** = thousand  
**R1500** = 0.15  $\Omega$   
**1K500** = 1.5 k $\Omega$

### TOLERANCE

**J** =  $\pm 5.0$  %  
**K** =  $\pm 10$  %

### TERMINAL

**A** = 3/16" lug  
**D** = 1/4" lug  
**F** = 3/8" lug  
**G** = 1/2" lug  
**H** = 1/4" single quick-connect

### PACKAGING CODE

**B** = bulk

### SPECIAL

**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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