

Wirewound Resistors, Industrial Power, Tubular, Ribwound (RB), Fixed (RBEF, RBSF)


FEATURES

- High temperature silicone or vitreous enamel coatings
- Excellent for pulsing applications
- All welded construction
- Designed to meet heavy-duty requirements where space is at a premium
- 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
RBEF0040 ⁽¹⁾	9-32- Ω R	40	0.010 to 10.6	10	D	H
RBEF0050 ⁽¹⁾	12-32- Ω R	50	0.020 to 8.2	10	F	H
RBEF0075 ⁽¹⁾	12-48- Ω R	75	0.010 to 19.3	10	F	H
RBEF0090 ⁽¹⁾	9-64- Ω R	90	0.015 to 28.3	10	D	H
RBEF0100 ⁽¹⁾	12-56- Ω R	100	0.012 to 24.5	10	F	H
RBEF0110 ⁽¹⁾	12-64- Ω R	110	0.015 to 30.6	10	F	H
RBEF0120 ⁽¹⁾	12-72- Ω R	120	0.018 to 36.8	10	F	H
RBEF0135 ⁽¹⁾	12-80- Ω R	135	0.021 to 42.9	10	F	H
RBEF0150 ⁽¹⁾	18-64- Ω R	150	0.019 to 44.8	10	F	H
RBEF0160 ⁽¹⁾	12-96- Ω R	160	0.027 to 55.0	10	F	H
RBEF0175 ⁽¹⁾	18-72- Ω R	175	0.023 to 53.7	10	F	H
RBEF0180 ⁽¹⁾	12-104- Ω R	180	0.030 to 61.3	10	F	H
RBEF0220 ⁽¹⁾	18-96- Ω R	220	0.035 to 80.6	10	F	H
RBEF0225 ⁽¹⁾	18-98- Ω R	225	0.036 to 82.8	10	F	H
RBEF0240 ⁽¹⁾	18-104- Ω R	240	0.038 to 89.5	10	F	H
RBEF0300 ⁽¹⁾	18-136- Ω R	300	0.054 to 125	10	F	H
RBEF0375 ⁽¹⁾	18-168- Ω R	375	0.069 to 161	10	F	H
RBEF0400 ⁽¹⁾	26-136- Ω R	400	0.061 to 159	10	G	-
RBEF0420 ⁽¹⁾	18-188- Ω R	420	0.079 to 184	10	F	H
RBEF0500 ⁽¹⁾	26-168- Ω R	500	0.081 to 210	10	G	-
RBEF0550 ⁽¹⁾	26-188- Ω R	550	0.093 to 242	10	G	-
RBSF0750	40-192- Ω R	750	0.128 to 166	10	G	-
RBSF0850	-	850	0.160 to 400	10	F	G, H
RBSF1000	40-240- Ω R	1000	0.168 to 217	10	G	-
RBSF1100	-	1100	0.180 to 525	10	G	-
RBSF1500	40-320- Ω R	1500	0.234 to 303	10	G	-
RBSF1700	-	1700	0.270 to 350	10	G	-
RBSF2000	52-320- Ω R	2000	0.281 to 391	10	G	-

Note

⁽¹⁾ Vitreous enamel coating is standard (RBEF type), silicone coating is optional (RBSF 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		
RBEF0040	2 (50.8)	0.5625 (14.2875)	0.3125 (7.9375)	1.25 (31.75)	20
RBEF0050	2 (50.8)	0.75 (19.05)	0.5 (12.7)	1.15 (29.21)	30
RBEF0075	3 (76.2)	0.75 (19.05)	0.5 (12.7)	2.13 (53.975)	50
RBEF0090	4 (101.6)	0.5625 (14.2875)	0.3125 (7.9375)	3.50 (88.9)	65
RBEF0100	3.5 (88.9)	0.75 (19.05)	0.5 (12.7)	2.63 (66.675)	58
RBEF0110	4 (101.6)	0.75 (19.05)	0.5 (12.7)	3.13 (79.375)	62
RBEF0120	4.5 (114.3)	0.75 (19.05)	0.5 (12.7)	3.63 (92.075)	68
RBEF0135	5 (127)	0.75 (19.05)	0.5 (12.7)	4.13 (104.775)	75
RBEF0150	4 (101.6)	1.125 (28.575)	0.75 (19.05)	3.13 (79.375)	127
RBEF0160	6 (152.4)	0.75 (19.05)	0.5 (12.7)	5.13 (130.175)	95
RBEF0175	4.5 (114.3)	1.125 (28.575)	0.75 (19.05)	3.63 (92.075)	140
RBEF0180	6.5 (165.1)	0.75 (19.05)	0.5 (12.7)	5.63 (142.875)	100
RBEF0220	6 (152.4)	1.125 (28.575)	0.75 (19.05)	5.13 (130.175)	165
RBEF0225	6.125 (155.575)	1.125 (28.575)	0.75 (19.05)	5.25 (133.35)	175
RBEF0240	6.5 (165.1)	1.125 (28.575)	0.75 (19.05)	5.63 (142.875)	200
RBEF0300	8.5 (215.9)	1.125 (28.575)	0.75 (19.05)	7.63 (193.675)	265
RBEF0375	10.5 (266.7)	1.125 (28.575)	0.75 (19.05)	9.63 (244.475)	300
RBEF0400	8.5 (215.9)	1.625 (41.275)	1.125 (28.575)	7.63 (193.675)	410
RBEF0420	11.75 (298.45)	1.125 (28.575)	0.75 (19.05)	10.88 (276.225)	336
RBEF0500	10.5 (266.7)	1.625 (41.275)	1.125 (28.575)	9.00 (228.6)	525
RBEF0550	11.75 (298.45)	1.625 (41.275)	1.125 (28.575)	10.25 (260.35)	535
RBSF0750	12 (304.8)	2.5 (63.5)	1.75 (44.45)	10.50 (266.7)	1200
RBSF0850	25 (635)	1.125 (28.575)	0.75 (19.05)	23.75 (603.25)	715
RBSF1000	15 (381)	2.5 (63.5)	1.75 (44.45)	13.50 (342.9)	1500
RBSF1100	25 (635)	1.625 (41.275)	1.125 (28.58)	23 (584.2)	1140
RBSF1500	20 (508)	2.5 (63.5)	1.75 (44.45)	18.50 (169.9)	1900
RBSF1700	25 (635)	2.5 (63.5)	1.75 (44.45)	23 (584.2)	2450
RBSF2000	20 (508)	3.25 (82.55)	1.75 (44.45)	18.50 (169.9)	3900

TERMINAL STYLE in inches (millimeters)



DIMENSIONS	D (1/4" LUG)	F (3/8" LUG)	G (1/2" LUG)	H (1/4" SQC)
Width (A)	0.25 (6.35)	0.375 (9.525)	0.5 (12.7)	0.25 (6.35)
Height (B)	0.5 (12.7)	0.625 (15.875)	0.9375 (23.8125)	0.625 (15.875)
Diameter (C)	0.17 (4.318)	0.2 (5.08)	0.26 (6.604)	0.065 (1.651)
Thickness (D)	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: RBEF03001R000K1B00

Metric Mounting Hardware

Vertical mount: use special designation "VM" example: RBEF03001R000K1BVM

1 high bracket: use special designation "1A" example: RBEF03001R000K1B1M

2 high bracket: use special designation "2A" example: RBEF03001R000K1B2M

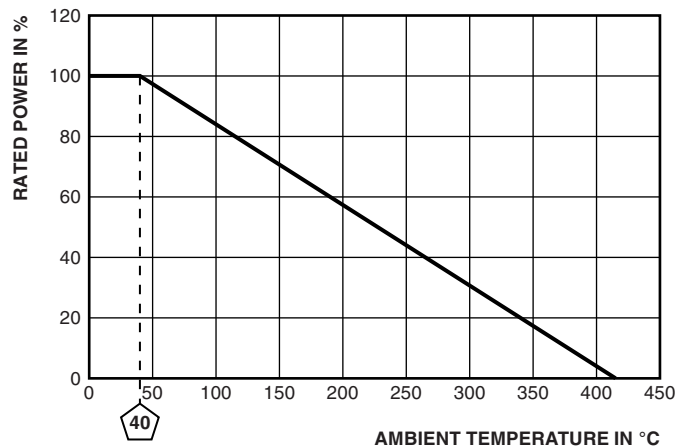
3 high bracket: use special designation "3A" example: RBEF03001R000K1B3M

4 high bracket: use special designation "4A" example: RBEF03001R000K1B4M

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Power rating	W	40 to 200
Resistance range	Ω	0.01 to 391
Resistance tolerance	%	10
TCR	ppm/°C	$\pm 400, \pm 180, \pm 130, \pm 20$ (varies by wattage and resistance)
Operating temperature	°C	-55 to +415
Temperature rise	°C	375 above an ambient of 40 °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	0.1 to 340 (varies by wattage and resistance)
Non-inductive winding		consult factory: www.vishay.com/milwaukee/contact
Terminal strength	lb	10
Electrical or mechanical customization		available: www.vishay.com/doc?31856

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

OPTIONS	EXAMPLE PHOTO	EXAMPLE: 300 W	OPTIONS	EXAMPLE PHOTO	EXAMPLE: 300 W
Standard "00" option		Part number ends with " 00 " example: RBEF0300xxxxxKGB 00	Thru Bolt "VT" option		Part number ends with " VT " example: RBEF0300xxxxxKGB VT
1 High Bracket "1A" option		Part number ends with " 1A " example: RBEF0300xxxxxKGB 1A	Clips "CP" option		Part number ends with " CP " example: RBEF0300xxxxxKGB CP
2 High Bracket "2A" option		Part number ends with " 2A " example: RBEF0300xxxxxKGB 2A	Adjustable		Part model starts with " RBEA " example: RBEA 0300xxxxxKFB00
3 High Bracket "3A" option		Part number ends with " 3A " example: RBEF0300xxxxxKGB 3A	Enclosures		Consult factory for options: vishaymilwaukeeeresistor@vishay.com
4 High Bracket "4A" option		Part number ends with " 4A " example: RBEF0300xxxxxKGB 4A	Electrical customizations (TCR, inductance, etc.)		Consult factory for options: vishaymilwaukeeeresistor@vishay.com

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: RBSF150015R00JGB1A (RBSF1500-1A 15 5 % 1/2L B)

R	B	S	F	1	5	0	0	1	5	R	0	0	J	G	B	1	A
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE	TERMINAL	PACKAGING CODE	SPECIAL
RBSF1500 (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 %	D = 1/4" lug F = 3/8" lug G = 1/2" lug H = 1/4" single quick-connect	B = bulk	00 = standard 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.