Wirewound Resistors, Industrial Power, Tubular, Ribwound (RB), Adjustable (RBEA, RBSA)



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

Pb-free

RoHS COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING W	RESISTANCE RANGE Ω	TOLERANCE %	TERMINAL STYLE	
					STANDARD	OPTION
RBEA0090 (1)	9-64-ΩRA	90	0.014 to 25.3	10	D	H
RBEA0100 (1)	12-56-ΩRA	100	0.011 to 20.7	10	F	H
RBEA0110 (1)	12-64-ΩRA	110	0.014 to 26.8	10	F	H
RBEA0120 (1)	12-72-ΩRA	120	0.017 to 32.9	10	F	H
RBEA0135 (1)	12-80-ΩRA	135	0.020 to 39	10	F	H
RBEA0150 (1)	18-64-ΩRA	150	0.018 to 39	10	F	H
RBEA0160 (1)	12-96-ΩRA	160	0.027 to 51.3	10	F	H
RBEA0175 (1)	18-72-ΩRA	175	0.022 to 48.1	10	F	H
RBEA0180 (1)	12-104-ΩRA	180	0.030 to 57.4	10	F	H
RBEA0220 (1)	18-96-ΩRA	220	0.035 to 75	10	F	H
RBEA0225 (1)	18-98-ΩRA	225	0.036 to 77.2	10	F	H
RBEA0240 (1)	18-104-ΩRA	240	0.039 to 83.9	10	F	H
RBEA0300 (1)	18-136-ΩRA	300	0.055 to 120	10	F	H
RBEA0375 (1)	18-168-ΩRA	375	0.072 to 156	10	F	H
RBEA0400 (1)	26-136-ΩRA	400	0.062 to 149	10	G	-
RBEA0420 (1)	18-188-ΩRA	420	0.082 to 178	10	F	H
RBEA0500 (1)	26-168-ΩRA	500	0.083 to 200	10	G	-
RBEA0550 (1)	26-188-ΩRA	550	0.097 to 232	10	G	-
RBSA0750	40-192-ΩRA	750	0.130 to 158	10	G	-
RBSA1000	40-240-ΩRA	1000	0.176 to 209	10	G	-
RBSA1500	40-320-ΩRA	1500	0.248 to 294	10	G	-
RBSA2000	52-320-ΩRA	2000	0.300 to 380	10	G	-

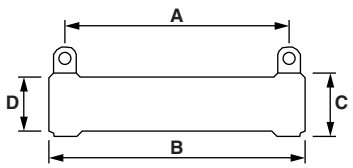
Note

(1) Vitreous enamel coating is standard (RBEA type), silicone coating is optional (RBSA type).

For technical questions, contact: vishaymilwaukeeresistor@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

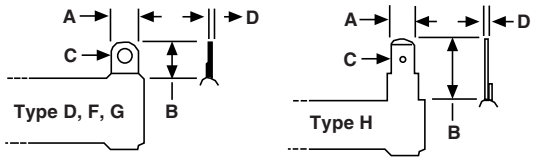
DIMENSIONS in inches (millimeters)



- 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		
RBEA0090	4 (101.6)	0.5625 (14.2875)	0.3125 (7.9375)	3.50 (88.9)	65
RBEA0100	3.5 (88.9)	0.75 (19.05)	0.5 (12.7)	2.63 (66.675)	58
RBEA0110	4 (101.6)	0.75 (19.05)	0.5 (12.7)	3.13 (79.375)	62
RBEA0120	4.5 (114.3)	0.75 (19.05)	0.5 (12.7)	3.63 (92.075)	68
RBEA0135	5 (127)	0.75 (19.05)	0.5 (12.7)	4.13 (104.775)	75
RBEA0150	4 (101.6)	1.125 (28.575)	0.75 (19.05)	3.13 (79.375)	127
RBEA0160	6 (152.4)	0.75 (19.05)	0.5 (12.7)	5.13 (130.175)	95
RBEA0175	4.5 (114.3)	1.125 (28.575)	0.75 (19.05)	3.63 (92.075)	140
RBEA0180	6.5 (165.1)	0.75 (19.05)	0.5 (12.7)	5.63 (142.875)	100
RBEA0220	6 (152.4)	1.125 (28.575)	0.75 (19.05)	5.13 (130.175)	165
RBEA0225	6.125 (155.575)	1.125 (28.575)	0.75 (19.05)	5.25 (133.35)	175
RBEA0240	6.5 (165.1)	1.125 (28.575)	0.75 (19.05)	5.63 (142.875)	200
RBEA0300	8.5 (215.9)	1.125 (28.575)	0.75 (19.05)	7.63 (193.675)	265
RBEA0375	10.5 (266.7)	1.125 (28.575)	0.75 (19.05)	9.63 (244.475)	300
RBEA0400	8.5 (215.9)	1.625 (41.275)	1.125 (28.575)	7.63 (193.675)	410
RBEA0420	11.75 (298.45)	1.125 (28.575)	0.75 (19.05)	10.88 (276.225)	336
RBEA0500	10.5 (266.7)	1.625 (41.275)	1.125 (28.575)	9.00 (228.6)	525
RBEA0550	11.75 (298.45)	1.625 (41.275)	1.125 (28.575)	10.25 (260.35)	535
RBSA0750	12 (304.8)	2.5 (63.5)	1.75 (44.45)	10.50 (266.7)	1200
RBSA1000	15 (381)	2.5 (63.5)	1.75 (44.45)	13.50 (342.9)	1500
RBSA1500	20 (508)	2.5 (63.5)	1.75 (44.45)	18.50 (469.9)	1900
RBSA2000	20 (508)	3.25 (82.55)	1.75 (44.45)	18.50 (469.9)	3900

TERMINAL STYLE in inches (millimeters)



DIMENSIONS	D (1/4" LUG)	F (5/16" 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)

For technical questions, contact: vishaymilwaukeeresistor@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

METRIC OPTIONS AVAILABLE

Metric Hardware on Terminal Lugs

Use terminal designation “1” example: RBEA03001R000K**1**B00

Metric Mounting Hardware

Vertical mount: use special designation “VM” example: RBEA03001R000K1B**VM**

1 high bracket: use special designation “1A” example: RBEA03001R000K1B**1M**

2 high bracket: use special designation “2A” example: RBEA03001R000K1B**2M**

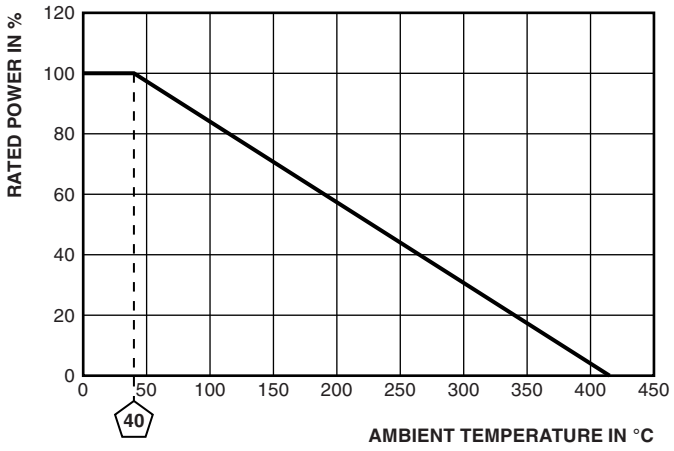
3 high bracket: use special designation “3A” example: RBEA03001R000K1B**3M**

4 high bracket: use special designation “4A” example: RBEA03001R000K1B**4M**

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Power rating	W	90 to 2000
Resistance range	Ω	0.011 to 391
Resistance tolerance	%	10
TCR	ppm/°C	± 400, ± 180, ± 130, ± 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	µH	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

For technical questions, contact: vishaymilwaukeeresistor@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: RBEA030015R00JGB1A (RBSF1500-1A 15 5 % 1/2L B)

R	B	E	A	0	3	0	0	1	5	R	0	0	J	G	B	1	A

GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE	TERMINAL	PACKAGING CODE	SPECIAL
RBEA0300 (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

For technical questions, contact: vishaymilwaukeeresistor@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

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.

© 2022 VISHAY INTERTECHNOLOGY, INC. ALL RIGHTS RESERVED