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

Pb-free

RoHS COMPLIANT

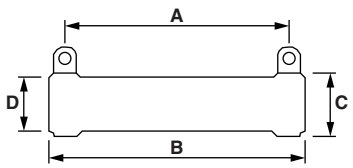
STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING W	RESISTANCE RANGE Ω	TOLERANCE %	TERMINAL STYLE	
					STANDARD	OPTION
RBEF0040 (1)	9-32-ΩR	40	0.010 to 10.6	10	D	H
RBEF0050 (1)	12-32-ΩR	50	0.020 to 8.2	10	F	H
RBEF0075 (1)	12-48-ΩR	75	0.010 to 19.3	10	F	H
RBEF0090 (1)	9-64-ΩR	90	0.015 to 28.3	10	D	H
RBEF0100 (1)	12-56-ΩR	100	0.012 to 24.5	10	F	H
RBEF0110 (1)	12-64-ΩR	110	0.015 to 30.6	10	F	H
RBEF0120 (1)	12-72-ΩR	120	0.018 to 36.8	10	F	H
RBEF0135 (1)	12-80-ΩR	135	0.021 to 42.9	10	F	H
RBEF0150 (1)	18-64-ΩR	150	0.019 to 44.8	10	F	H
RBEF0160 (1)	12-96-ΩR	160	0.027 to 55.0	10	F	H
RBEF0175 (1)	18-72-ΩR	175	0.023 to 53.7	10	F	H
RBEF0180 (1)	12-104-ΩR	180	0.030 to 61.3	10	F	H
RBEF0220 (1)	18-96-ΩR	220	0.035 to 80.6	10	F	H
RBEF0225 (1)	18-98-ΩR	225	0.036 to 82.8	10	F	H
RBEF0240 (1)	18-104-ΩR	240	0.038 to 89.5	10	F	H
RBEF0300 (1)	18-136-ΩR	300	0.054 to 125	10	F	H
RBEF0375 (1)	18-168-ΩR	375	0.069 to 161	10	F	H
RBEF0400 (1)	26-136-ΩR	400	0.061 to 159	10	G	-
RBEF0420 (1)	18-188-ΩR	420	0.079 to 184	10	F	H
RBEF0500 (1)	26-168-ΩR	500	0.081 to 210	10	G	-
RBEF0550 (1)	26-188-ΩR	550	0.093 to 242	10	G	-
RBSF0750	40-192-ΩR	750	0.128 to 166	10	G	-
RBSF0850	-	850	0.160 to 400	10	F	G, H
RBSF1000	40-240-ΩR	1000	0.168 to 217	10	G	-
RBSF1100	-	1100	0.180 to 525	10	G	-
RBSF1500	40-320-ΩR	1500	0.234 to 303	10	G	-
RBSF1700	-	1700	0.270 to 350	10	G	-
RBSF2000	52-320-ΩR	2000	0.281 to 391	10	G	-

Note

(1) Vitreous enamel coating is standard (RBEF type), silicone coating is optional (RBSF type).

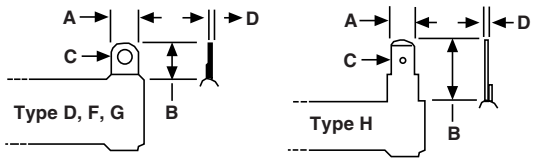
DIMENSIONS in inches (millimeters)



- 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: RBEF03001R000K**1**B00

Metric Mounting Hardware

Vertical mount: use special designation “VM” example: RBEF03001R000K1B**VM**

1 high bracket: use special designation “1A” example: RBEF03001R000K1B**1M**

2 high bracket: use special designation “2A” example: RBEF03001R000K1B**2M**

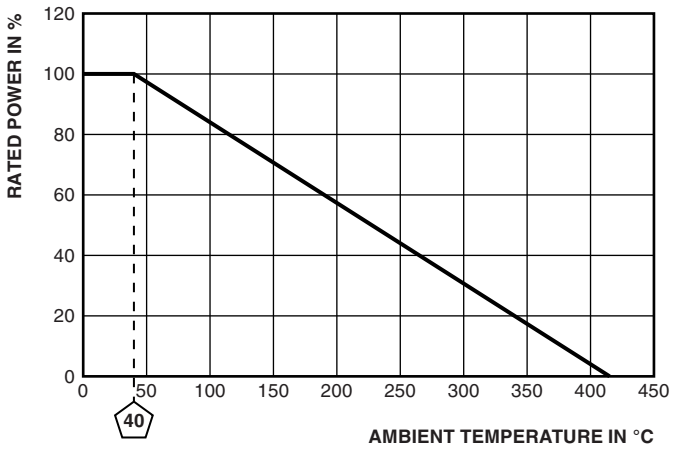
3 high bracket: use special designation “3A” example: RBEF03001R000K1B**3M**

4 high bracket: use special designation “4A” example: RBEF03001R000K1B**4M**

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	± 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

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: vishaymilwaukeeresistor@vishay.com
4 High Bracket "4A" option		Part number ends with "**4A**" example: RBEF0300xxxxxKGB**4A**	Electrical customizations (TCR, inductance, etc.)		Consult factory for options: vishaymilwaukeeresistor@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

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