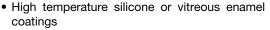


Vishay Milwaukee

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



FEATURES





• Excellent for pulsing applications

RoHS

- 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 <u>www.vishay.com/doc?99912</u>

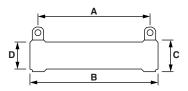
STANDARD ELECTRICAL SPECIFICATIONS							
GLOBAL	HISTORICAL	POWER RATING	RESISTANCE RANGE	TOLERANCE	TERMINA	TERMINAL STYLE	
MODEL	MODEL	W	Ω	%	STANDARD	OPTION	
RBEF0040 (1)	9-32-ΩR	40	0.010 to 10.6	10	D	Н	
RBEF0050 (1)	12-32-ΩR	50	0.020 to 8.2	10	F	Н	
RBEF0075 (1)	12-48-ΩR	75	0.010 to 19.3	10	F	Н	
RBEF0090 (1)	9-64-ΩR	90	0.015 to 28.3	10	D	Н	
RBEF0100 ⁽¹⁾	12-56-ΩR	100	0.012 to 24.5	10	F	Н	
RBEF0110 ⁽¹⁾	12-64-ΩR	110	0.015 to 30.6	10	F	Н	
RBEF0120 ⁽¹⁾	12-72-ΩR	120	0.018 to 36.8	10	F	Н	
RBEF0135 (1)	12-80-ΩR	135	0.021 to 42.9	10	F	Н	
RBEF0150 (1)	18-64-ΩR	150	0.019 to 44.8	10	F	Н	
RBEF0160 ⁽¹⁾	12-96-ΩR	160	0.027 to 55.0	10	F	Н	
RBEF0175 (1)	18-72-ΩR	175	0.023 to 53.7	10	F	Н	
RBEF0180 ⁽¹⁾	12-104-ΩR	180	0.030 to 61.3	10	F	Н	
RBEF0220 (1)	18-96-ΩR	220	0.035 to 80.6	10	F	Н	
RBEF0225 (1)	18-98-ΩR	225	0.036 to 82.8	10	F	Н	
RBEF0240 (1)	18-104-ΩR	240	0.038 to 89.5	10	F	Н	
RBEF0300 (1)	18-136-ΩR	300	0.054 to 125	10	F	Н	
RBEF0375 (1)	18-168-ΩR	375	0.069 to 161	10	F	Н	
RBEF0400 (1)	26-136-ΩR	400	0.061 to 159	10	G	-	
RBEF0420 (1)	18-188-ΩR	420	0.079 to 184	10	F	Н	
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).



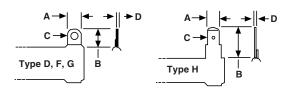
DIMENSIONS in inches (millimeters)



- For Terminal Data and Mounting Hardware, see www.vishay.com/doc?31811
- For Enclosures and Frames, see www.vishay.com/doc?31810

	C	ORE DIMENSIONS (RE	Α	WEIGHT		
GLOBAL MODEL	B LENGTH	C OUTER DIAMETER	D INNER DIAMETER	DISTANCE BETWEEN TERMINAL (REF.)	(TYP.) g	
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)

Vishay Milwaukee

METRIC OPTIONS AVAILABLE

Metric Hardware on Terminal Lugs

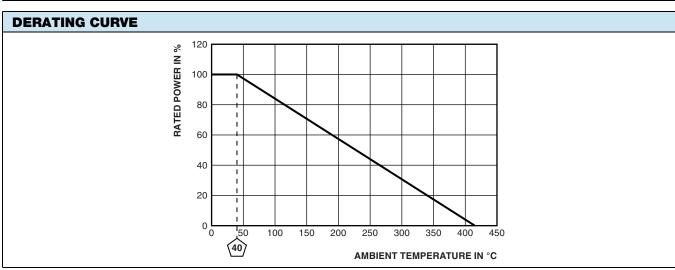
Use terminal designation "1" example: RBEF03001R000K1B00

Metric Mounting Hardware

Vertical mount: use special designation "VM" example: RBEF03001R000K1B $\underline{\text{VM}}$

- 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	± 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				



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				



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Vishay Milwaukee

OPTIONS	EXAMPLE PHOTO	EXAMPLE: 300 W	OPTIONS	EXAMPLE PHOTO	EXAMPLE: 300 W
Standard "00" option		Part number ends with " <u>00</u> " example: RBEF0300xxxxxKGB <u>00</u>	Thru Bolt "VT" option		Part number ends with " VT " example: RBEF0300xxxxxKGB VT
1 High Bracket "1A" option		Part number ends with " <u>1A</u> " example: RBEF0300xxxxxKGB <u>1A</u>	Clips "CP" option		Part number ends with " <u>CP</u> " example: RBEF0300xxxxxKGB <u>CP</u>
2 High Bracket "2A" option		Part number ends with " 2A " example: RBEF0300xxxxxKGB 2A	Adjustable	THE REAL PROPERTY.	Part model starts with " RBEA " example: <u>RBEA</u> 0300xxxxxKFB00
3 High Bracket "3A" option		Part number ends with " <u>3A</u> " example: RBEF0300xxxxxKGB <u>3A</u>	Enclosures		Consult factory for options: vishaymilwaukeeresistor@vishay.com
4 High Bracket "4A" option		Part number ends with " <u>4A</u> " example: RBEF0300xxxxxKGB <u>4A</u>	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						
GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE	TERMINAL	PACKAGING CODE	SPECIAL	
RBSF1500 (see "Standard Electrical Specifications" table above for additional P/N's)	$\mathbf{R} = \mathbf{decimal}$ $\mathbf{K} = \mathbf{thousand}$ $\mathbf{R1500} = 0.15 \Omega$ $\mathbf{1K500} = 1.5 k\Omega$	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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Vishay

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