

## Adjustable Ribwound Resistor



### FEATURES

- Resistance wire is spotwelded to the terminal bands and then “locked” onto the core with a vitreous enamel or silicone coating
- Hardware can be supplied mounted, as loose assemblies, or as individual parts. Enclosures can also be produced.
- Available as fixed and adjustable resistors (for fixed Ribwound Resistor see [www.vishay.com/doc?31807](http://www.vishay.com/doc?31807))
- 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<br>W | RESISTANCE RANGE<br>$\Omega$ | TOLERANCE <sup>(4)</sup><br>% |
|----------------------------|---------------------|-------------------|------------------------------|-------------------------------|
| RBEA0090 <sup>(1)</sup>    | 9-64- $\Omega$ RA   | 90                | 0.014 to 25.3                | 10                            |
| RBEA0100 <sup>(1)</sup>    | 12-56- $\Omega$ RA  | 100               | 0.011 to 20.7                | 10                            |
| RBEA0110 <sup>(1)</sup>    | 12-64- $\Omega$ RA  | 110               | 0.014 to 26.8                | 10                            |
| RBEA0120 <sup>(1)</sup>    | 12-72- $\Omega$ RA  | 120               | 0.017 to 32.9                | 10                            |
| RBEA0135 <sup>(1)</sup>    | 12-80- $\Omega$ RA  | 135               | 0.020 to 39                  | 10                            |
| RBEA0150 <sup>(1)</sup>    | 18-64- $\Omega$ RA  | 150               | 0.018 to 39                  | 10                            |
| RBEA0160 <sup>(1)</sup>    | 12-96- $\Omega$ RA  | 160               | 0.027 to 51.3                | 10                            |
| RBEA0175 <sup>(1)</sup>    | 18-72- $\Omega$ RA  | 175               | 0.022 to 48.1                | 10                            |
| RBEA0180 <sup>(1)</sup>    | 12-104- $\Omega$ RA | 180               | 0.030 to 57.4                | 10                            |
| RBEA0220 <sup>(1)</sup>    | 18-96- $\Omega$ RA  | 220               | 0.035 to 75                  | 10                            |
| RBEA0225 <sup>(1)</sup>    | 18-98- $\Omega$ RA  | 225               | 0.036 to 77.2                | 10                            |
| RBEA0240 <sup>(1)</sup>    | 18-104- $\Omega$ RA | 240               | 0.039 to 83.9                | 10                            |
| RBEA0300 <sup>(1)(3)</sup> | 18-136- $\Omega$ RA | 300               | 0.055 to 120                 | 10                            |
| RBEA0375 <sup>(1)</sup>    | 18-168- $\Omega$ RA | 375               | 0.072 to 156                 | 10                            |
| RBEA0400 <sup>(1)</sup>    | 26-136- $\Omega$ RA | 400               | 0.062 to 149                 | 10                            |
| RBEA0420 <sup>(1)</sup>    | 18-188- $\Omega$ RA | 420               | 0.082 to 178                 | 10                            |
| RBEA0500 <sup>(1)(3)</sup> | 26-168- $\Omega$ RA | 500               | 0.083 to 200                 | 10                            |
| RBEA0550 <sup>(1)</sup>    | 26-188- $\Omega$ RA | 550               | 0.097 to 232                 | 10                            |
| RBSA0750 <sup>(2)</sup>    | 40-192- $\Omega$ RA | 750               | 0.130 to 158                 | 10                            |
| RBSA1000 <sup>(2)(3)</sup> | 40-240- $\Omega$ RA | 1000              | 0.176 to 209                 | 10                            |
| RBSA1500 <sup>(2)(3)</sup> | 40-320- $\Omega$ RA | 1500              | 0.248 to 294                 | 10                            |
| RBSA2000 <sup>(2)</sup>    | 52-320- $\Omega$ RA | 2000              | 0.300 to 380                 | 10                            |

#### Notes

- Ratings are based on a temperature rise of 375 °C above an ambient of 40 °C.
- Operating temperature range - 55 °C to 415 °C.
- <sup>(1)</sup> RBEA0090 to RBEA0550 vitreous enamel coating is standard, silicone coating is available.
- <sup>(2)</sup> RBSA0750 to RBSA2000 silicone coating is standard.
- <sup>(3)</sup> Stock wattage, see Ribwound Stock Ribs ([www.vishay.com/doc?31808](http://www.vishay.com/doc?31808))
- <sup>(4)</sup> Closer tolerances available upon request.

**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<br>DISTANCE BETWEEN<br>TERMINAL (REF.) | TERMINAL<br>STYLE |
|--------------|------------------------|---------------------|---------------------|--|-------------------|
|              | B<br>LENGTH            | C<br>OUTER DIAMETER | D<br>INNER DIAMETER |  |                   |
| RBEA0090     | 4 (101.6)              | 0.5625 (14.2875)    | 0.3125 (7.9375)     | 3.50 (88.9)                              | D                 |
| RBEA0100     | 3.5 (88.9)             | 0.75 (19.05)        | 0.5 (12.7)          | 2.63 (66.675)                            | F                 |
| RBEA0110     | 4 (101.6)              | 0.75 (19.05)        | 0.5 (12.7)          | 3.13 (79.375)                            | F                 |
| RBEA0120     | 4.5 (114.3)            | 0.75 (19.05)        | 0.5 (12.7)          | 3.63 (92.075)                            | F                 |
| RBEA0135     | 5 (127)                | 0.75 (19.05)        | 0.5 (12.7)          | 4.13 (104.775)                           | F                 |
| RBEA0150     | 4 (101.6)              | 1.125 (28.575)      | 0.75 (19.05)        | 3.13 (79.375)                            | F                 |
| RBEA0160     | 6 (152.4)              | 0.75 (19.05)        | 0.5 (12.7)          | 5.13 (130.175)                           | F                 |
| RBEA0175     | 4.5 (114.3)            | 1.125 (28.575)      | 0.75 (19.05)        | 3.63 (92.075)                            | F                 |
| RBEA0180     | 6.5 (165.1)            | 0.75 (19.05)        | 0.5 (12.7)          | 5.63 (142.875)                           | F                 |
| RBEA0220     | 6 (152.4)              | 1.125 (28.575)      | 0.75 (19.05)        | 5.13 (130.175)                           | F                 |
| RBEA0225     | 6.125 (155.575)        | 1.125 (28.575)      | 0.75 (19.05)        | 5.25 (133.35)                            | F                 |
| RBEA0240     | 6.5 (165.1)            | 1.125 (28.575)      | 0.75 (19.05)        | 5.63 (142.875)                           | F                 |
| RBEA0300     | 8.5 (215.9)            | 1.125 (28.575)      | 0.75 (19.05)        | 7.63 (193.675)                           | F                 |
| RBEA0375     | 10.5 (266.7)           | 1.125 (28.575)      | 0.75 (19.05)        | 9.63 (244.475)                           | F                 |
| RBEA0400     | 8.5 (215.9)            | 1.625 (41.275)      | 1.125 (28.575)      | 7.63 (193.675)                           | G                 |
| RBEA0420     | 11.75 (298.45)         | 1.125 (28.575)      | 0.75 (19.05)        | 10.88 (276.225)                          | F                 |
| RBEA0500     | 10.5 (266.7)           | 1.625 (41.275)      | 1.125 (28.575)      | 9.00 (228.6)                             | G                 |
| RBEA0550     | 11.75 (298.45)         | 1.625 (41.275)      | 1.125 (28.575)      | 10.25 (260.35)                           | G                 |
| RBSA0750     | 12 (304.8)             | 2.5 (63.5)          | 1.75 (44.45)        | 10.50 (266.7)                            | G                 |
| RBSA1000     | 15 (381)               | 2.5 (63.5)          | 1.75 (44.45)        | 13.50 (342.9)                            | G                 |
| RBSA1500     | 20 (508)               | 2.5 (63.5)          | 1.75 (44.45)        | 18.50 (469.9)                            | G                 |
| RBSA2000     | 20 (508)               | 3.25 (82.55)        | 1.75 (44.45)        | 18.50 (469.9)                            | G                 |

**TERMINAL STYLE** in inches (millimeters)


| DIMENSIONS    | D (1/4" LUG) | F (5/16" LUG)  | G (1/2" LUG)     | H (1/4" SQ)    |
|---------------|--------------|----------------|------------------|----------------|
| 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) |
| Dia. (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) |



| 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: RBEA030020R00JFB00 (RBEA0300 20 5 % 3/8L B)



| MODEL<br>(2 digits) | COATING<br>(1 digit)                     | TYPE<br>(1 digit)     | SIZE<br>(4 digits)                          | VALUE<br>(5 digits)  | TOLERANCE<br>(1 digit)   | TERMINAL<br>(1 digit)   | PACKAGING<br>(1 digit)  | SPECIAL<br>(2 digits)  |
|---------------------|--|-----------------------|---|--|--|---|---|--|
| <b>RB</b>           | <b>E</b> = Enamel<br><b>S</b> = Silicone | <b>A</b> = Adjustable | <b>0300</b> = 300 W<br><b>2000</b> = 2000 W | <b>R</b> = Decimal<br><b>K</b> = Thousand<br><b>R1500</b> = 0.15 Ω<br><b>1K500</b> = 1.5 kΩ<br><br>Check datasheet for available value range | <b>D</b> = ± 0.5 %<br><b>F</b> = ± 1.0 %<br><b>G</b> = ± 2.0 %<br><b>H</b> = ± 3.0 %<br><b>J</b> = ± 5.0 %<br><b>K</b> = ± 10 %<br><b>M</b> = ± 20 % | <b>D</b> = 1/4" lug<br><b>E</b> = 5/16" lug<br><b>F</b> = 3/8" lug<br><b>G</b> = 1/2" lug<br><b>H</b> = 1/4" single quick-connect<br><b>J</b> = 1/4" double quick-connect<br><b>K</b> = 1/4" lug with steel hardware (ES-707F)<br><b>L</b> = 5/16" lug with steel hardware (ES-707F)<br><b>M</b> = 3/8" lug with steel hardware (ES-707F)<br><b>N</b> = 3/8" lug with brass hardware (ES-707b)<br><b>O</b> = 1/2" lug with steel hardware (ES-707F)<br><b>P</b> = 1/2" lug with brass hardware (ES-707b)<br><b>Q</b> = 1/4" lug with steel hardware (ES-708F)<br><b>R</b> = 5/16" lug with steel hardware (ES-708F)<br><b>S</b> = 3/8" lug with steel hardware (ES-708F)<br><b>T</b> = 3/8" lug with brass hardware (ES-708b)<br><b>U</b> = 1/2" lug with steel hardware (ES-708F)<br><b>V</b> = 1/2" lug with brass hardware (ES-708b)<br><b>W</b> = Ferrule | <b>B</b> = Bulk<br><br>See packaging codes for additional options | <b>00</b> = Standard<br><b>01</b> = Standard with customer part no. stamp<br><b>NI</b> = Non-inductive<br><b>CT</b> = Center tap<br><b>SW</b> = Surge winding<br><b>LT</b> = Low temperature coefficient alloy<br><b>EC</b> = End caps<br><b>CP</b> = Push in clips (bulk)<br><b>CA</b> = Push in clips (assembled)<br><b>VT</b> = Vertical mount<br><b>VS</b> = VT with customer part no. stamp<br><b>ES</b> = End slot side slot bracket<br><b>1A</b> = 1 high bracket zinc plated steel<br><b>1S</b> = 1A with customer part no. stamp<br><b>1B</b> = 1 high bracket stainless steel (300 W only)<br><b>1C</b> = Live bracket<br><b>2A</b> = 2 high bracket zinc plated steel<br><b>2B</b> = 2 high bracket stainless steel (300 W only)<br><b>3A</b> = 3 high bracket zinc plated steel<br><b>3B</b> = 3 high bracket stainless steel (300 W only)<br><b>4A</b> = 4 high bracket zinc plated steel<br><b>4B</b> = 4 high bracket stainless steel (300 W only)<br><br><b>Note</b><br>2A, 2B, 3A, 3B, 4A, and 4B assemblies:<br>include identical resistors only wiring to be supplied by customer<br>reference CS series for further customization<br><b>Note</b><br>3A, 3B, 4A, and 4B limitations:<br>brackets fit 40 W to 550 W RB resistors |



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