

# 200 Series

## Brown Devil® Vitreous Enamel Power



Ohmite's Brown Devil® is a small, exceptionally durable power resistor. It features all-welded construction and rugged, flame resistant conformal lead free vitreous enamel coating to ensure successful performance under high temperatures.

The wirewound 200 Series has a hollow-core construction, which accommodates rigid mounting with brackets or thru bolts.

Mounting brackets not included with resistors.

### FEATURES

- Rugged lead free vitreous enamel coating
- All-welded construction.
- Self supporting terminal mounting option.
- Higher power ratings.
- Flame-resistant lead free vitreous enamel coating.
- RoHS compliant product available. Add "E" suffix to part number to specify.

### SERIES SPECIFICATIONS

| Series | Wattage | Ohms     | Lead Gauge | Max. Voltage* |
|--------|---------|----------|------------|---------------|
| B5     | 5.25    | 0.1-20K  | 20         | 187           |
| B8     | 8.0     | 0.03-25K | 18         | 250           |
| B12    | 12.0    | 0.08-51K | 18         | 625           |
| B20    | 20.0    | 0.1-100K | 18         | 750           |

Non-Inductive versions available. Insert "N" before tolerance code.

Example: B5NJ10RE

Also available in low cost Centohm or Silicone coating. Consult Ohmite.

\* Maximum Voltage is based on Ohm's Law  $[V=\sqrt{P \cdot R}]$  as limited by the resistance value of specified product

### CHARACTERISTICS

|                                |   |
|--------------------------------|---|
| <b>Coating</b>                 | lead-free vitreous enamel   |
| <b>Core</b>                    | Ceramic   |
| <b>Terminals</b>               | Tinned axial; RoHS solder composition is 96% Sn, 3.5% Ag, 0.5% Cu |
| <b>Derating</b>                | Linearly from 100% @ +25°C to 0% @ +350°C                         |
| <b>Tolerance</b>               | 1Ω+: ±5%<br>under 1Ω: ±10%  |
| <b>Power rating</b>            | Based on 25°C free air rating                                     |
| <b>Overload</b>                | 10 times rated wattage for 5 seconds                              |
| <b>Temperature coefficient</b> | 5Ω and under: ±400 ppm/°C<br>Above 5Ω: ±260 ppm/°C                |
| <b>Max. amps</b>               | To calculate, use the formula $\sqrt{P/R}$                        |

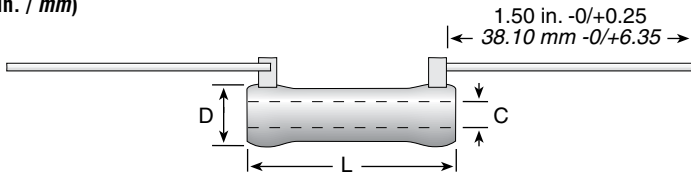
(continued)

# 200 Series

## Brown Devil® Vitreous Enamel Power

### DIMENSIONS

(in. / mm)



| Series | Wattage | L             | D             | C            | Lead Gauge |
|--------|---------|---------------|---------------|--------------|------------|
| B5     | 5.25    | 0.625 / 15.88 | 0.250 / 6.35  | 0.135 / 3.43 | 20         |
| B8     | 8.0     | 1.000 / 25.40 | 0.313 / 7.94  | 0.188 / 4.76 | 18         |
| B12    | 12.0    | 1.750 / 44.45 | 0.313 / 7.94  | 0.188 / 4.76 | 18         |
| B20    | 20.0    | 2.000 / 50.80 | 0.438 / 11.11 | 0.250 / 6.35 | 18         |

### ORDERING INFORMATION

#### Standard Values

| Ohmic value |        | Wattage |   |    |    | Ohmic value |        | Wattage |   |    |    | Ohmic value |        | Wattage |   |    |    | Ohmic value |        | Wattage |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
|-------------|--------|---------|---|----|----|-------------|--------|---------|---|----|----|-------------|--------|---------|---|----|----|-------------|--------|---------|---|----|----|------------------|---|--|---|----|----|----------|--------|------|---|----|----|
| Part No.    | Prefix | 5.25    | 8 | 12 | 20 | Part No.    | Prefix | 5.25    | 8 | 12 | 20 | Part No.    | Prefix | 5.25    | 8 | 12 | 20 | Part No.    | Prefix | 5.25    | 8 | 12 | 20 | Part No.         | Prefix  | 5.25   | 8 | 12 | 20 | Part No. | Prefix | 5.25 | 8 | 12 | 20 |
| 0.5         | R50E   |         |   |    |    | 20          | 20RE   |         |   |    |    | 270         | 270E   |         |   |    |    | 2,250       | 2K25E  |         |   |    |    | 16,000           | 16KE  |  |   |    |    | 17,500   | 17K5E  |      |   |    |    |
| 1           | 1R0E   |         |   |    |    | 22          | 22RE   |         |   |    |    | 300         | 300E   |         |   |    |    | 2,400       | 2K4E   |         |   |    |    | 18,000           | 18KE  |  |   |    |    | 18,000   | 18KE   |      |   |    |    |
| 1.1         | 1R1E   |         |   |    |    | 24          | 24RE   |         |   |    |    | 330         | 330E   |         |   |    |    | 2,500       | 2K5E   |         |   |    |    | 20,000           | 20KE  |  |   |    |    | 20,000   | 20KE   |      |   |    |    |
| 1.2         | 1R2E   |         |   |    |    | 25          | 25RE   |         |   |    |    | 350         | 350E   |         |   |    |    | 2,700       | 2K7E   |         |   |    |    | 22,500           | 22K5E   |  |   |    |    | 22,500   | 22K5E  |      |   |    |    |
| 1.3         | 1R3E   |         |   |    |    | 27          | 27RE   |         |   |    |    | 360         | 360E   |         |   |    |    | 2,750       | 2K75E  |         |   |    |    | 25,000           | 25KE  |  |   |    |    | 30,000   | 30KE   |      |   |    |    |
| 1.5         | 1R5E   |         |   |    |    | 30          | 30RE   |         |   |    |    | 390         | 390E   |         |   |    |    | 3,000       | 3K0E   |         |   |    |    | 35,000           | 35KE  |  |   |    |    | 40,000   | 40KE   |      |   |    |    |
| 1.6         | 1R6E   |         |   |    |    | 33          | 33RE   |         |   |    |    | 400         | 400E   |         |   |    |    | 3,300       | 3K3E   |         |   |    |    | 45,000           | 45KE  |  |   |    |    | 50,000   | 50KE   |      |   |    |    |
| 1.8         | 1R8E   |         |   |    |    | 35          | 35RE   |         |   |    |    | 430         | 430E   |         |   |    |    | 3,500       | 3K5E   |         |   |    |    | 55,000           | 55KE  |  |   |    |    | 60,000   | 60KE   |      |   |    |    |
| 2           | 2R0E   |         |   |    |    | 36          | 36RE   |         |   |    |    | 450         | 450E   |         |   |    |    | 3,600       | 3K6E   |         |   |    |    | 65,000           | 65KE  |  |   |    |    | 70,000   | 70KE   |      |   |    |    |
| 2.2         | 2R2E   |         |   |    |    | 39          | 39RE   |         |   |    |    | 470         | 470E   |         |   |    |    | 3,900       | 3K9E   |         |   |    |    | 75,000           | 75KE  |  |   |    |    | 80,000   | 80KE   |      |   |    |    |
| 2.4         | 2R4E   |         |   |    |    | 40          | 40RE   |         |   |    |    | 500         | 500E   |         |   |    |    | 4,000       | 4K0E   |         |   |    |    | 85,000           | 85KE  |  |   |    |    | 90,000   | 90KE   |      |   |    |    |
| 2.7         | 2R7E   |         |   |    |    | 43          | 43RE   |         |   |    |    | 510         | 510E   |         |   |    |    | 4,300       | 4K3E   |         |   |    |    | 95,000           | 95KE  |  |   |    |    | 100,000  | 100KE  |      |   |    |    |
| 3           | 3R0E   |         |   |    |    | 47          | 47RE   |         |   |    |    | 560         | 560E   |         |   |    |    | 4,500       | 4K5E   |         |   |    |    | ✓                | Standard values; check availability at <a href="http://www.ohmite.com">www.ohmite.com</a> | These values involve very fine resistance wire and should not be used in critical applications without burn-in and/or thermal cycling. |   |    |    |          |        |      |   |    |    |
| 3.3         | 3R3E   |         |   |    |    | 50          | 50RE   |         |   |    |    | 600         | 600E   |         |   |    |    | 4,700       | 4K7E   |         |   |    |    | B5: 6.8K-20KΩ    |   |  |   |    |    |          |        |      |   |    |    |
| 3.6         | 3R6E   |         |   |    |    | 51          | 51RE   |         |   |    |    | 620         | 620E   |         |   |    |    | 5,000       | 5K0E   |         |   |    |    | B8: 12.5K-25KΩ   |   |  |   |    |    |          |        |      |   |    |    |
| 3.9         | 3R9E   |         |   |    |    | 56          | 56RE   |         |   |    |    | 650         | 650E   |         |   |    |    | 5,100       | 5K1E   |         |   |    |    | B12: 30K-51KΩ    |   |  |   |    |    |          |        |      |   |    |    |
| 4           | 4R0E   |         |   |    |    | 62          | 62RE   |         |   |    |    | 680         | 680E   |         |   |    |    | 5,600       | 5K6E   |         |   |    |    | B20: 22.5K-100KΩ |   |  |   |    |    |          |        |      |   |    |    |
| 4.3         | 4R3E   |         |   |    |    | 68          | 68RE   |         |   |    |    | 700         | 700E   |         |   |    |    | 6,000       | 6K0E   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 4.7         | 4R7E   |         |   |    |    | 75          | 75RE   |         |   |    |    | 750         | 750E   |         |   |    |    | 6,200       | 6K2E   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 5           | 5R0E   |         |   |    |    | 82          | 82RE   |         |   |    |    | 800         | 800E   |         |   |    |    | 6,800       | 6K8E   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 5.1         | 5R1E   |         |   |    |    | 91          | 91RE   |         |   |    |    | 820         | 820E   |         |   |    |    | 7,000       | 7K0E   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 5.6         | 5R6E   |         |   |    |    | 100         | 100E   |         |   |    |    | 900         | 900E   |         |   |    |    | 7,500       | 7K5E   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 6.2         | 6R2E   |         |   |    |    | 110         | 110E   |         |   |    |    | 910         | 910E   |         |   |    |    | 8,000       | 8K0E   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 6.8         | 6R8E   |         |   |    |    | 120         | 120E   |         |   |    |    | 1,000       | 1K0E   |         |   |    |    | 8,200       | 8K2E   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 7.5         | 7R5E   |         |   |    |    | 125         | 125E   |         |   |    |    | 1,100       | 1K1E   |         |   |    |    | 8,500       | 8K5E   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 8.2         | 8R2E   |         |   |    |    | 130         | 130E   |         |   |    |    | 1,200       | 1K2E   |         |   |    |    | 9,000       | 9K0E   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 9.1         | 9R1E   |         |   |    |    | 150         | 150E   |         |   |    |    | 1,250       | 1K25E  |         |   |    |    | 9,100       | 9K1E   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 10          | 10RE   |         |   |    |    | 160         | 160E   |         |   |    |    | 1,300       | 1K3E   |         |   |    |    | 10,000      | 10KE   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 11          | 11RE   |         |   |    |    | 180         | 180E   |         |   |    |    | 1,500       | 1K5E   |         |   |    |    | 11,000      | 11KE   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 12          | 12RE   |         |   |    |    | 200         | 200E   |         |   |    |    | 1,600       | 1K6E   |         |   |    |    | 12,000      | 12KE   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 13          | 13RE   |         |   |    |    | 220         | 220E   |         |   |    |    | 1,750       | 1K75E  |         |   |    |    | 12,500      | 12K5E  |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 15          | 15RE   |         |   |    |    | 225         | 225E   |         |   |    |    | 1,800       | 1K8E   |         |   |    |    | 13,000      | 13KE   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 16          | 16RE   |         |   |    |    | 240         | 240E   |         |   |    |    | 2,000       | 2K0E   |         |   |    |    | 13,500      | 13K5E  |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |
| 18          | 18RE   |         |   |    |    | 250         | 250E   |         |   |    |    | 2,200       | 2K2E   |         |   |    |    | 15,000      | 15KE   |         |   |    |    |                  |   |  |   |    |    |          |        |      |   |    |    |

Coating  
Blank = Vitreous  
C = Centohm  
S = Silicone

Non-Inductive Winding  
Optional (blank = std. winding)

RoHS Compliant

**B 8 N J 5 R 0 E**

Series: B, Wattage: 8, Non-Inductive Winding: N, Tolerance: J, Ohms: 5, Coating: R, RoHS: 0, Suffix: E

Tolerance  
F = 1%  
H = 3%  
J = 5%  
K = 10%

Ohms  
1R0 = 1Ω  
250 = 250Ω  
1K0 = 1,000Ω  
25K = 25,000Ω  
25K5 = 25,500Ω

#### Made-to-order Parts

Non-Inductive Winding  
Optional (blank = std. winding)

Core Diameter  
See "Core and Terminal Selection"

RoHS Compliant

**2 0 0 N 8 D 5 R 0 0 0 J E**

Coating  
200 = Vitreous  
400 = Silicone  
Ceramic

Wattage  
3  
5.25  
8  
12  
20

Ohms  
R500 = 0.500Ω  
1R00 = 1Ω  
250R = 250Ω  
1K00 = 1,000Ω  
25K0 = 25,000Ω  
25K5 = 25,500Ω

Tolerance  
F = 1%  
H = 3%  
J = 5%  
K = 10%

See website for custom core info

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