

# 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 $\sqrt{P/R}$                        |

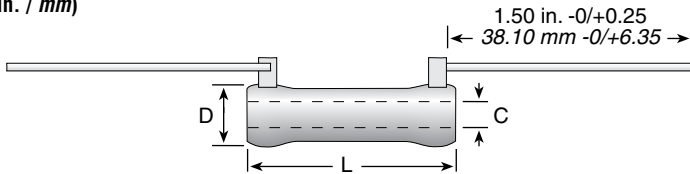
(continued)

# 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

| Wattage     |          |         | Wattage     |          |         | Wattage     |          |         | Wattage     |          |         | Wattage     |          |         |
|-------------|----------|---------|-------------|----------|---------|-------------|----------|---------|-------------|----------|---------|-------------|----------|---------|
| Ohmic value | Part No. | Wattage | Ohmic value | Part No. | Wattage | Ohmic value | Part No. | Wattage | Ohmic value | Part No. | Wattage | Ohmic value | Part No. | Wattage |
|             | Prefix > |         |             | Prefix > |         |             | Prefix > |         |             | Prefix > |         |             | Prefix > |         |
|             | Suffix > |         |             | Suffix > |         |             | Suffix > |         |             | Suffix > |         |             | Suffix > |         |
|             |          | 5.25    |             |          | 5.25    |             |          | 5.25    |             |          | 5.25    |             |          | 5.25    |
|             |          | 8       |             |          | 8       |             |          | 8       |             |          | 8       |             |          | 8       |
|             |          | 12      |             |          | 12      |             |          | 12      |             |          | 12      |             |          | 12      |
|             |          | 20      |             |          | 20      |             |          | 20      |             |          | 20      |             |          | 20      |
| 0.5         | R50E     |         | 20          | 20RE     |         | 270         | 270E     |         | 2,250       | 2K25E    |         | 16,000      | 16KE     |         |
| 1           | 1R0E     |         | 22          | 22RE     |         | 300         | 300E     |         | 2,400       | 2K4E     |         | 17,500      | 17K5E    |         |
| 1.1         | 1R1E     |         | 24          | 24RE     |         | 330         | 330E     |         | 2,500       | 2K5E     |         | 18,000      | 18KE     |         |
| 1.2         | 1R2E     |         | 25          | 25RE     |         | 350         | 350E     |         | 2,700       | 2K7E     |         | 20,000      | 20KE     |         |
| 1.3         | 1R3E     |         | 27          | 27RE     |         | 360         | 360E     |         | 2,750       | 2K75E    |         | 22,500      | 22K5E    |         |
| 1.5         | 1R5E     |         | 30          | 30RE     |         | 390         | 390E     |         | 3,000       | 3K0E     |         | 25,000      | 25KE     |         |
| 1.6         | 1R6E     |         | 33          | 33RE     |         | 400         | 400E     |         | 3,300       | 3K3E     |         | 30,000      | 30KE     |         |
| 1.8         | 1R8E     |         | 35          | 35RE     |         | 430         | 430E     |         | 3,500       | 3K5E     |         | 35,000      | 35KE     |         |
| 2           | 2R0E     |         | 36          | 36RE     |         | 450         | 450E     |         | 3,600       | 3K6E     |         | 40,000      | 40KE     |         |
| 2.2         | 2R2E     |         | 39          | 39RE     |         | 470         | 470E     |         | 3,900       | 3K9E     |         | 45,000      | 45KE     |         |
| 2.4         | 2R4E     |         | 40          | 40RE     |         | 500         | 500E     |         | 4,000       | 4K0E     |         | 50,000      | 50KE     |         |
| 2.7         | 2R7E     |         | 43          | 43RE     |         | 510         | 510E     |         | 4,300       | 4K3E     |         | 55,000      | 55KE     |         |
| 3           | 3R0E     |         | 47          | 47RE     |         | 560         | 560E     |         | 4,500       | 4K5E     |         | 60,000      | 60KE     |         |
| 3.3         | 3R3E     |         | 50          | 50RE     |         | 600         | 600E     |         | 4,700       | 4K7E     |         | 65,000      | 65KE     |         |
| 3.6         | 3R6E     |         | 51          | 51RE     |         | 620         | 620E     |         | 5,000       | 5K0E     |         | 70,000      | 70KE     |         |
| 3.9         | 3R9E     |         | 56          | 56RE     |         | 650         | 650E     |         | 5,100       | 5K1E     |         | 75,000      | 75KE     |         |
| 4           | 4R0E     |         | 62          | 62RE     |         | 680         | 680E     |         | 5,600       | 5K6E     |         | 80,000      | 80KE     |         |
| 4.3         | 4R3E     |         | 68          | 68RE     |         | 700         | 700E     |         | 6,000       | 6K0E     |         | 85,000      | 85KE     |         |
| 4.7         | 4R7E     |         | 75          | 75RE     |         | 750         | 750E     |         | 6,200       | 6K2E     |         | 90,000      | 90KE     |         |
| 5           | 5R0E     |         | 82          | 82RE     |         | 800         | 800E     |         | 6,800       | 6K8E     |         | 95,000      | 95KE     |         |
| 5.1         | 5R1E     |         | 91          | 91RE     |         | 820         | 820E     |         | 7,000       | 7K0E     |         | 100,000     | 100KE    |         |
| 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     |         |             |          |         |

✓ = Standard values; check availability at [www.ohmite.com](http://www.ohmite.com)

These values involve very fine resistance wire and should not be used in critical applications without burn-in and/or thermal cycling:

B5: 6.8K-20KΩ  
 B8: 12.5K-25KΩ  
 B12: 30K-51KΩ  
 B20: 22.5K-100KΩ

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

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