

# 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 $\sqrt{P/R}$                        |

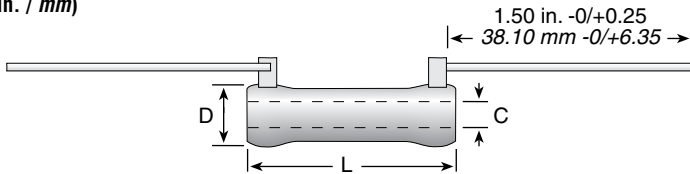
(continued)

# 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   |
| Suffix      |        | B5J     | B8J | B12J | B20J | Suffix      |        | B5J     | B8J | B12J | B20J | Suffix      |        | B5J     | B8J | B12J | B20J | Suffix      |        | B5J     | B8J | B12J | B20J | Suffix   |        | B5J  | B8J | B12J | B20J | Suffix   |        | B5J  | B8J | B12J | B20J |
| 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: B 8 N J 5 R 0 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

**200 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