

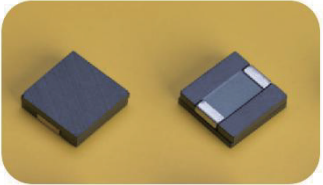
REACH & RoHS  
COMPLIANT

1 Features

- ☆ High saturation characteristic core for large saturation current and low loss
- ☆ High precision DCR
- ☆ Closed magnetic circuit design reduces leakage flux
- ☆ Halogen free, RoHS compliant

Application

- ☆ Data center, Server, desktop computer, notebook
- ☆ Graphics, memory
- ☆ Industrial equipment, telecom base station

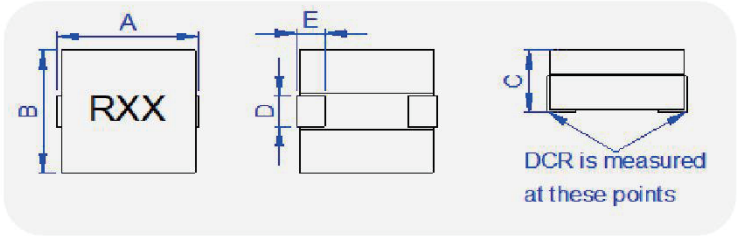


| Part number         | Initial Inductance (nH) | Tolerance (±%) | DCR (mΩ)    | 1-Saturation Current@ 25°C (Amps)(typ) | 2-Saturation Current@ 100°C (Amps)(typ) | Heating Current (Amps)(typ) |
|---------------------|-------------------------|----------------|-------------|--|---|-----------------------------|
| WHPBU-131308N-R11K0 | 110                     | 10             | 0.32 ± 9.4% | 120                                    | 105                                     | 45                          |
| WHPBU-131308N-R21L0 | 210                     | 15             | 0.32 ± 9.4% | 70                                     | 55                                      | 45                          |
| WHPBU-131308N-R26L0 | 260                     | 15             | 0.32 ± 9.4% | 60                                     | 45                                      | 45                          |
| WHPBU-131308N-R32L0 | 320                     | 15             | 0.32 ± 9.4% | 50                                     | 35                                      | 45                          |
| WHPBU-131308N-R44L0 | 440                     | 15             | 0.32 ± 9.4% | 35                                     | 25                                      | 45                          |
| WHPBU-131308N-R50L0 | 500                     | 15             | 0.32 ± 9.4% | 28                                     | 23                                      | 45                          |

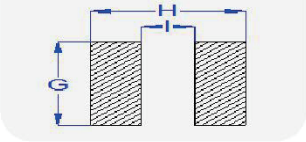
Notes:

Initial Inductance : Testing at 100KHz/1.0V  
Saturation Current : DC current that will cause initial Inductance to drop approximately 20%.  
Heating Current : DC current that will cause an approximate ΔT of 40 °C.  
Note : All test data is referenced to 25 °C ambient.

2 Dimensions (mm)& recommend layout



Recommended Pad Layout



| P/N                 | A         | B         | C      | D         | E          | G    | I    | H     |
|---------------------|-----------|-----------|--------|-----------|------------|------|------|-------|
| WHPBU-131308 Series | 13.46 Max | 12.95 Max | 8.5Max | 5.0 ± 0.3 | 2.54 ± 0.3 | 7.62 | 7.11 | 13.47 |

**VOOHU** 苏州沃虎电子科技有限公司  
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TITLE:  
Power Bead Inductor

PART NO.:  
WHPBU-131308N Series

REMARK: Surface Mount Package  
Normal Applications

SIZE  
A4

SACLE  
1:1

SHEET  
1/4

UNITS  
MM[INCH]

REV  
A0



GENERAL TOLERANCES  
UNLESS SPECIFIED

x±0.35  
.x±0.30

.xx±0.25  
.xxx±0.10

x°±3.0°  
.x°±2.0°

.xx°±1.5°  
.xxx°±1.0°

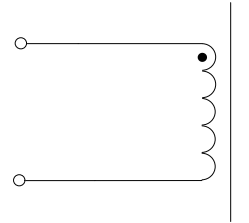
APPROVED BY:  
Geoffrey.Song

CHECKED BY:  
Elvis.Song

DESIGND BY:  
Sunny.Xu

REACH & RoHS  
COMPLIANT

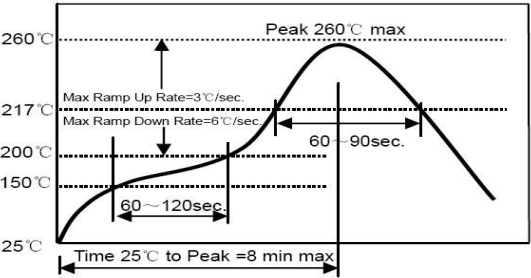
3 Schematics



● — START POINT

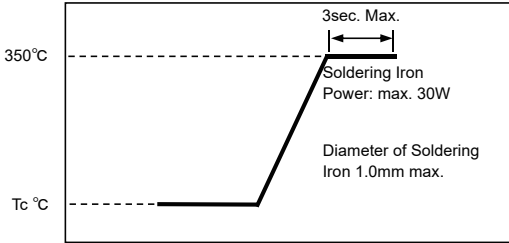
4 Recommended Solder Profile

a. Reflow Profile



Preheat condition: 150 ~200°C/60~120sec.  
Allowed time above 217°C: 60~90sec.  
Max temp: 260°C  
Max time at max temp: 10 sec.  
Solder paste: Sn/3.0Ag/0.5Cu  
Allowed Reflow time: 2x max

b. Iron Soldering Profile



Iron soldering power: Max. 30W  
Pre-heating: 150°C/60sec.  
Soldering Tip temperature: 350°C Max.  
Soldering time: 3sec. Max.  
Solder paste: Sn/3.0Ag/0.5Cu  
Max.1 times for iron soldering

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PART NO.:  
WHPBU-131308N Series

REMARK: Surface Mount Package  
Normal Applications

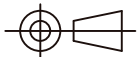
SIZE  
A4

SACLE  
1:1

SHEET  
2/4

UNITS  
MM[INCH]

REV  
A0



GENERAL TOLERANCES  
UNLESS SPECIFIED



x±0.35  
.x±0.30

.xx±0.25  
.xxx±0.10

APPROVED BY:  
Geoffrey.Song

CHECKED BY:  
Elvis.Song

DESIGND BY:  
Sunny.Xu

|     |  |  |  |   |  |                   |   |                       |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
|-----|--|--|--|---|--|-------------------|---|-----------------------|-------------------------------|-------------------------|-------------------------------|----------------|---|---------------|--|--|---|------------------|---|--|---|----------------------|---|--|---|---------------|--|--|---|-----------------|--|--|---|-------------------------|--|---|---|--------------------------|--|--|
|     | 1  | 2  | 3  | 4 | 5  | 6                 | 7   | 8                     |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
| H   | REACH & RoHS COMPLIANT   |  |  |   |  |                   |   |                       |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
|     | 5 Reliability test   |  |  |   |  |                   |   |                       |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
|     | <table><tr><td>NO.</td><td>Test Item</td><td>Specification and Requirement</td><td>Test Condition</td></tr><tr><td>1</td><td>Solderability</td><td>1. No case deformation or change in visual<br/>2. New solder coverage More than 95%</td><td>1.Preheat: 155℃±5℃ , 60S±2S<br/>2.Tin: lead-free.<br/>3.Temperature:240℃±5℃ , flux<br/>3.0S±0.5S.</td></tr><tr><td>2</td><td>Mechanical shock</td><td>1. No case deformation or change in visual<br/>2. ΔL/Lo ≤ ±10%</td><td>1. Acceleration: 100G<br/>2. Pulse time: 6ms<br/>3. 3 times in each positive and negative direction of 3 mutual perpendicular directions</td></tr><tr><td>3</td><td>Mechanical vibration</td><td>1. No case deformation or change in visual<br/>2. ΔL/Lo ≤ ±10%</td><td>1. Reflow: 2times<br/>2. Frequency: 10HZ~55HZ~10HZ, 20 Min/Cycles<br/>3. Amplitude: 1.52 mm±10%<br/>4. Directions: X,Y,Z<br/>5. Time: 12 cycle / direction</td></tr><tr><td>4</td><td>Thermal Shock</td><td>Inductance change:<br/>Within ± 10% Without distinct damage in visual</td><td>1. First -55℃ for 30 minutes, last 125℃ for 30 minutes as 1 cycle. Go through 1000 cycles.<br/>2. Max transfer time is 3 minutes.<br/>3. Measured at room temperature after placing for 24±2 hours</td></tr><tr><td>5</td><td>Biased Humidity</td><td>Inductance change:<br/>Within ± 10% Without distinct damage in visual</td><td>1.Reflow 2 times,<br/>2.85℃±3℃,85%±3%RH,1000 hours<br/>3.Measured at room temperature after placing for 24±2 hours</td></tr><tr><td>6</td><td>Low temperature storage</td><td>Inductance change:<br/>Within ± 10% Without distinct damage in visual</td><td>1. Temperature: -55 ± 2℃<br/>2. Time: 1000 hours<br/>3. Measured at room temperature after placing for 24±2 hours</td></tr><tr><td>7</td><td>High temperature storage</td><td>Inductance change:<br/>Within ± 10% Without distinct damage in visual</td><td>1. Temperature: +125 ± 2℃<br/>2. Time: 1000 hours<br/>3. Measured at room temperature after placing for 24±2 hours</td></tr></table> |  |  |   |  |                   |   |                       | NO.                           | Test Item               | Specification and Requirement | Test Condition | 1 | Solderability | 1. No case deformation or change in visual<br>2. New solder coverage More than 95% | 1.Preheat: 155℃±5℃ , 60S±2S<br>2.Tin: lead-free.<br>3.Temperature:240℃±5℃ , flux<br>3.0S±0.5S. | 2 | Mechanical shock | 1. No case deformation or change in visual<br>2. ΔL/Lo ≤ ±10% | 1. Acceleration: 100G<br>2. Pulse time: 6ms<br>3. 3 times in each positive and negative direction of 3 mutual perpendicular directions | 3 | Mechanical vibration | 1. No case deformation or change in visual<br>2. ΔL/Lo ≤ ±10% | 1. Reflow: 2times<br>2. Frequency: 10HZ~55HZ~10HZ, 20 Min/Cycles<br>3. Amplitude: 1.52 mm±10%<br>4. Directions: X,Y,Z<br>5. Time: 12 cycle / direction | 4 | Thermal Shock | Inductance change:<br>Within ± 10% Without distinct damage in visual | 1. First -55℃ for 30 minutes, last 125℃ for 30 minutes as 1 cycle. Go through 1000 cycles.<br>2. Max transfer time is 3 minutes.<br>3. Measured at room temperature after placing for 24±2 hours | 5 | Biased Humidity | Inductance change:<br>Within ± 10% Without distinct damage in visual | 1.Reflow 2 times,<br>2.85℃±3℃,85%±3%RH,1000 hours<br>3.Measured at room temperature after placing for 24±2 hours | 6 | Low temperature storage | Inductance change:<br>Within ± 10% Without distinct damage in visual | 1. Temperature: -55 ± 2℃<br>2. Time: 1000 hours<br>3. Measured at room temperature after placing for 24±2 hours | 7 | High temperature storage | Inductance change:<br>Within ± 10% Without distinct damage in visual | 1. Temperature: +125 ± 2℃<br>2. Time: 1000 hours<br>3. Measured at room temperature after placing for 24±2 hours |
| NO. | Test Item  | Specification and Requirement  | Test Condition   |   |  |                   |   |                       |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
| 1   | Solderability  | 1. No case deformation or change in visual<br>2. New solder coverage More than 95% | 1.Preheat: 155℃±5℃ , 60S±2S<br>2.Tin: lead-free.<br>3.Temperature:240℃±5℃ , flux<br>3.0S±0.5S.   |   |  |                   |   |                       |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
| 2   | Mechanical shock   | 1. No case deformation or change in visual<br>2. ΔL/Lo ≤ ±10%                      | 1. Acceleration: 100G<br>2. Pulse time: 6ms<br>3. 3 times in each positive and negative direction of 3 mutual perpendicular directions   |   |  |                   |   |                       |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
| 3   | Mechanical vibration   | 1. No case deformation or change in visual<br>2. ΔL/Lo ≤ ±10%                      | 1. Reflow: 2times<br>2. Frequency: 10HZ~55HZ~10HZ, 20 Min/Cycles<br>3. Amplitude: 1.52 mm±10%<br>4. Directions: X,Y,Z<br>5. Time: 12 cycle / direction   |   |  |                   |   |                       |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
| 4   | Thermal Shock  | Inductance change:<br>Within ± 10% Without distinct damage in visual               | 1. First -55℃ for 30 minutes, last 125℃ for 30 minutes as 1 cycle. Go through 1000 cycles.<br>2. Max transfer time is 3 minutes.<br>3. Measured at room temperature after placing for 24±2 hours |   |  |                   |   |                       |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
| 5   | Biased Humidity  | Inductance change:<br>Within ± 10% Without distinct damage in visual               | 1.Reflow 2 times,<br>2.85℃±3℃,85%±3%RH,1000 hours<br>3.Measured at room temperature after placing for 24±2 hours   |   |  |                   |   |                       |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
| 6   | Low temperature storage  | Inductance change:<br>Within ± 10% Without distinct damage in visual               | 1. Temperature: -55 ± 2℃<br>2. Time: 1000 hours<br>3. Measured at room temperature after placing for 24±2 hours  |   |  |                   |   |                       |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
| 7   | High temperature storage   | Inductance change:<br>Within ± 10% Without distinct damage in visual               | 1. Temperature: +125 ± 2℃<br>2. Time: 1000 hours<br>3. Measured at room temperature after placing for 24±2 hours   |   |  |                   |   |                       |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
|     |  苏州沃虎电子科技有限公司<br>Su Zhou Voohu Electronic Tech.Co.Ltd  |  | TITLE:<br>Power Bead Inductor  |   | SIZE<br>A4   | UNITS<br>MM[INCH] | GENERAL TOLERANCES<br>UNLESS SPECIFIED  |                       | APPROVED BY:<br>Geoffrey.Song |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
|     |  |  | PART NO.:<br>WHPBU-131308N Series  |   | SACLE<br>1:1   | REV<br>A0         | x±0.35<br>.x±0.30   | x°±3.0°<br>.x°±2.0°   | CHECKED BY:<br>Elvis.Song     |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
|     | TEL: +86 400 1048 018  |  | WEB: WWW.WOHU-TEK.COM  |   | REMARK: Surface Mount Package<br>Normal Applications | SHEET<br>3/4      |  | .xx±0.25<br>.xxx±0.10 | .xx°±1.5°<br>.xxx°±1.0°       | DESIGND BY:<br>Sunny.Xu |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |
|     | 1  | 2  | 3  | 4 | 5  | 6                 | 7   | 8                     |                               |                         |                               |                |   |               |  |  |   |                  |   |  |   |                      |   |  |   |               |  |  |   |                 |  |  |   |                         |  |   |   |                          |  |  |

|   |  |   |   |   |   |   |   |   |  |              |                   |  |  |                               |
|---|--|---|---|---|---|---|---|---|--|--------------|-------------------|--|--|-------------------------------|
|   | 1  | 2 | 3   | 4 | 5 | 6 | 7 | 8 |  |              |                   |  |  |                               |
| H | REACH & RoHS<br>COMPLIANT  |   | <div><div></div><div>REMINDERS</div></div> <div><div>☆ The best assembly quality guarantee period of product: 12 months (From shipment date)<br/>Storage condition : seal in packaging, (temperature: 5 to 40°C, humidity: 10 to 75% RH or less).</div><div>☆ If taking out for use, the remaining products should be sealed in plastic bags and preserved in accordance with the above conditions, to avoid oxidation of electrodes and affect soldering status.</div><div>☆ Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).</div><div>☆ Before soldering, be sure to preheat components.<br/>The preheating temperature should be set so that the temperature difference between the solder temperature and chip temperature does not exceed 150°C.</div><div>☆ Always handle products with care to avoid damage.</div><div>☆ Do not touch electrodes with bare hands directly, as oil secretions may inhibit soldering.<br/>Always ensure optimum conditions for soldering.</div><div>☆ Soldering corrections after mounting should be within the range of the conditions determined in the specifications.If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.</div><div>☆ Use a wrist band to discharge static electricity in your body through the grounding wire.</div><div>☆ Do not expose the products to magnets or magnetic fields.</div><div>☆ Do not use for a purpose outside of the contents regulated in the delivery specifications.</div></div> |   |   |   |   |   | H  |              |                   |  |  |                               |
| G |  |   |   |   |   |   |   |   |  |              |                   |  |  | G                             |
| F |  |   |   |   |   |   |   |   |  |              |                   |  |  | F                             |
| E |  |   |   |   |   |   |   |   |  |              |                   |  |  | E                             |
| D |  |   |   |   |   |   |   |   |  |              |                   |  |  | D                             |
| C |  |   |   |   |   |   |   |   |  |              |                   |  |  | C                             |
| B |  |   |   |   |   |   |   |   |  |              |                   |  |  | B                             |
| A | <div><div></div><div>苏州沃虎电子科技有限公司<br/>Su Zhou Voohu Electronic Tech.Co.Ltd</div></div> <div>TEL: +86 400 1048 018</div> <div>WEB: <a href="http://WWW.WOHU-TEK.COM">WWW.WOHU-TEK.COM</a></div> |   |   |   |   |   |   |   | TITLE:<br>Power Bead Inductor                        | SIZE<br>A4   | UNITS<br>MM[INCH] | GENERAL TOLERANCES<br>UNLESS SPECIFIED             |  | APPROVED BY:<br>Geoffrey.Song |
|   |  |   |   |   |   |   |   |   | PART NO.:<br>WHPBU-131308N Series                    | SACLE<br>1:1 | REV<br>A0         | <div><div>.xx±0.35</div><div>.x±0.30</div></div>   | <div><div>x°±3.0°</div><div>.x°±2.0°</div></div>     | CHECKED BY:<br>Elvis.Song     |
|   |  |   |   |   |   |   |   |   | REMARK: Surface Mount Package<br>Normal Applications | SHEET<br>4/4 |                   | <div><div>.xx±0.25</div><div>.xxx±0.10</div></div> | <div><div>.xx°±1.5°</div><div>.xxx°±1.0°</div></div> | DESIGND BY:<br>Sunny.Xu       |
|   | 1  | 2 | 3   | 4 | 5 | 6 | 7 | 8 |  |              |                   |  |  |                               |