

## BWQC Series



The BWQC Series is a type of miniature wire-wound chip inductor designed on a special ferrite core. They are excellent for use in DC power supply circuits.

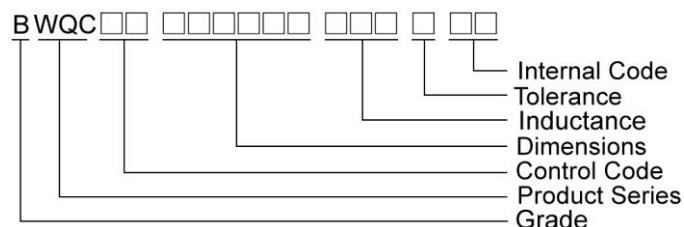
### Features

- RoHS compliant
- Low DC resistance, high current capacity, and high impedance characteristics
- Excellent solder heat resistance
- Both flow and reflow soldering methods can be employed
- Available in 4 sizes

### Applications

- Personal computers
- Disk drives and computer peripherals
- Pagers, cordless phone
- DC power supply circuit

### Product Identification

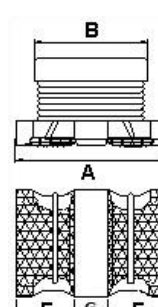
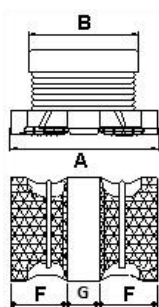
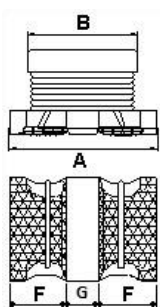


### Shape and Dimensions

BWQC00322520/322520 L1

BWQC00322516/322516 H1

BWQC00453226



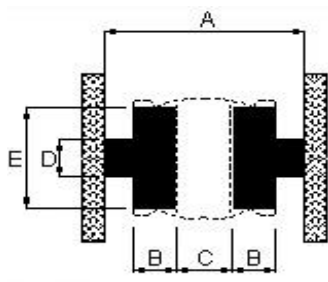
Dimensions in mm

| TYPE            | A         | B         | C           | D         | E         | F          | G         |
|-----------------|-----------|-----------|-------------|-----------|-----------|------------|-----------|
| BWQC00322516    | 3.2 ± 0.3 | 2.5 ± 0.2 | 1.55 ± 0.15 | 2.5 ± 0.2 | 2.5 ± 0.2 | 1.05 ± 0.3 | 1.1 ± 0.2 |
| BWQC00322516_H1 | 3.2 ± 0.3 | 2.5 ± 0.2 | 1.55 ± 0.15 | 2.5 ± 0.2 | 2.5 ± 0.2 | 1.05 ± 0.3 | 1.1 ± 0.2 |
| BWQC00322520    | 3.2 ± 0.3 | 2.5 ± 0.2 | 2.0 ± 0.2   | 2.5 ± 0.2 | 2.5 ± 0.2 | 1.05 ± 0.3 | 1.1 ± 0.2 |
| BWQC00322520_L1 | 3.2 ± 0.3 | 2.5 ± 0.2 | 2.0 ± 0.2   | 2.5 ± 0.2 | 2.5 ± 0.2 | 1.05 ± 0.3 | 1.1 ± 0.2 |
| BWQC00453226    | 4.5 ± 0.3 | 3.6 ± 0.2 | 2.6 ± 0.2   | 3.2 ± 0.2 | 3.2 ± 0.2 | 1.45 ± 0.3 | 1.6 ± 0.2 |

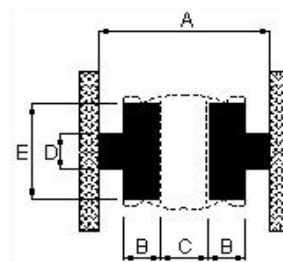
## SMD Wire Wound Ferrite Chip Inductors - BWQC Series

### Recommended Pattern

BWQC00322516/322516\_H1



BWQC00322520/322520\_L1/453226



Dimensions in mm

| TYPE            | A   | B   | C   | D   | E   |
|-----------------|-----|-----|-----|-----|-----|
| BWQC00322516    | 5.5 | 1.0 | 1.3 | 1.0 | 2.0 |
| BWQC00322516_H1 | 5.5 | 1.0 | 1.3 | 1.0 | 2.0 |
| BWQC00322520    | 5.5 | 1.0 | 1.3 | 1.0 | 2.0 |
| BWQC00322520_L1 | 5.5 | 1.0 | 1.3 | 1.0 | 2.0 |
| BWQC00453226    | 7.5 | 1.5 | 1.5 | 1.5 | 3.0 |

## SMD Wire Wound Ferrite Chip Inductors - BWQC Series

### Electrical Characteristics

| Part Number        | Inductance<br>(uH) | Tolerance<br>(±%) | Test<br>Frequency<br>(MHz) | SRF<br>(MHz) Min | RDC<br>(Ω±20%) | Rated current<br>(mA) | Irms<br>(mA) |
|--------------------|--------------------|-------------------|----------------------------|------------------|----------------|-----------------------|--------------|
| BWQC00322516R47□H1 | 0.47               | 30                | 1                          | 100              | 0.030          | 3400                  | 2550         |
| BWQC003225161R0□H1 | 1.0                | 30 / 20           | 1                          | 100              | 0.045          | 2300                  | 2050         |
| BWQC003225161R5□H1 | 1.5                | 30                | 1                          | 70               | 0.057          | 1750                  | 1750         |
| BWQC003225162R2□H1 | 2.2                | 30 / 20           | 1                          | 70               | 0.076          | 1550                  | 1600         |
| BWQC003225163R3□H1 | 3.3                | 30 / 20           | 1                          | 50               | 0.120          | 1250                  | 1200         |
| BWQC003225164R7□H1 | 4.7                | 30 / 20           | 1                          | 40               | 0.180          | 1000                  | 1000         |
| BWQC003225166R8□H1 | 6.8                | 30 / 20           | 1                          | 40               | 0.240          | 850                   | 850          |
| BWQC00322516100□H1 | 10                 | 30 / 20           | 1                          | 30               | 0.380          | 750                   | 700          |
| BWQC00322516150□H1 | 15                 | 30 / 20           | 1                          | 25               | 0.700          | 550                   | 500          |
| BWQC00322516220□H1 | 22                 | 30 / 20           | 1                          | 20               | 0.810          | 500                   | 450          |
| BWQC00322516330□H1 | 33                 | 30 / 20           | 1                          | 14               | 1.050          | 360                   | 320          |
| BWQC00322516470□H1 | 47                 | 30 / 20           | 1                          | 11               | 1.480          | 280                   | 240          |

**Note: When ordering, please specify tolerance code. Tolerance : M=±20% ,T=±30%**

- Operating temperature range— 40℃ ~ 125℃ (Including self - temperature rise)
- Rated Current : Self temperature rise shall be limited to 35℃ Max Inductance drop 10% typ.
- Measure Equipment :  
L : Agilent HP4192A  
SRF : Agilent HP4291A  
RDC : Chroma 16502  
Rate Current : HP4284A+HP42841A

## SMD Wire Wound Ferrite Chip Inductors - BWQC Series

### Electrical Characteristics

| Part Number        | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | SRF (MHz) Min | RDC (Ω±30%) | Rated current (mA) |
|--------------------|-----------------|----------------|----------------------|---------------|-------------|--------------------|
| BWQC003225162R2□00 | 2.2             | 20             | 1                    | 64            | 0.097       | 790                |
| BWQC003225163R3□00 | 3.3             | 20             | 1                    | 50            | 0.12        | 710                |
| BWQC003225164R7□00 | 4.7             | 20             | 1                    | 43            | 0.15        | 0.65               |
| BWQC003225166R8□00 | 6.8             | 20             | 1                    | 32            | 0.25        | 540                |
| BWQC00322516100□00 | 10              | 20 / 10        | 1                    | 26            | 0.30        | 350                |
| BWQC00322516220□00 | 22              | 20 / 10        | 1                    | 19            | 0.71        | 250                |
| BWQC00322516101□00 | 100             | 20 / 10        | 1                    | 10            | 3.50        | 100                |

**Note: When ordering, please specify tolerance code. Tolerance : K=±10% , M=±20%**

- Operating temperature range—40℃～125℃ (Including self - temperature rise)
- Rated Current for Inductance drop 10% from its value with current
- Measure Equipment :  
L : Agilent HP4192A  
SRF : Agilent HP4287A  
RDC : Chroma 16502

### Electrical Characteristics (LOW DCR Type)

| Part Number        | Inductance (uH) | Tolerance (±%) | Test Frequency (MHz) | SRF (MHz) Min | RDC (Ω±30%) | Rated current (mA) |
|--------------------|-----------------|----------------|----------------------|---------------|-------------|--------------------|
| BWQC00322520R15□L1 | 0.15            | 20             | 1                    | 400           | 0.028       | 1450               |
| BWQC00322520R27□L1 | 0.27            | 20             | 1                    | 250           | 0.034       | 1250               |
| BWQC00322520R47□L1 | 0.47            | 20             | 1                    | 150           | 0.042       | 1100               |
| BWQC003225201R0□L1 | 1.0             | 20             | 1                    | 100           | 0.060       | 1000               |
| BWQC003225201R5□L1 | 1.5             | 20             | 1                    | 85            | 0.085       | 900                |
| BWQC003225202R2□L1 | 2.2             | 20             | 1                    | 64            | 0.097       | 790                |
| BWQC003225203R3□L1 | 3.3             | 20             | 1                    | 55            | 0.13        | 700                |
| BWQC003225204R7□L1 | 4.7             | 20 / 10        | 1                    | 43            | 0.15        | 650                |
| BWQC003225206R8□L1 | 6.8             | 20             | 1                    | 30            | 0.21        | 600                |
| BWQC00322520100□L1 | 10              | 20 / 10        | 1                    | 26            | 0.30        | 450                |

**Note: When ordering, please specify tolerance code. Tolerance : K=±10% , M=±20%**

- Operating temperature range—40℃～125℃ (Including self - temperature rise)
- Rated Current : Self temperature rise shall be limited to 35℃ Max Inductance drop 10% typ.
- Measure Equipment :  
L : Agilent HP4192A  
SRF : Agilent HP4291A  
RDC : Chroma 16502  
Rate Current : HP4284A+HP42841A

## SMD Wire Wound Ferrite Chip Inductors - BWQC Series

### Electrical Characteristics

| Part Number        | Inductance<br>(uH) | Tolerance<br>(±%) | Test<br>Frequency<br>(MHz) | SRF<br>(MHz) Min | RDC<br>(Ω±30%) | Rated current<br>(mA) |
|--------------------|--------------------|-------------------|----------------------------|------------------|----------------|-----------------------|
| BWQC00322520R47□00 | 0.47               | 20                | 1                          | 150              | 0.042          | 1100                  |
| BWQC003225201R0□00 | 1.0                | 20                | 1                          | 96               | 0.09           | 1000                  |
| BWQC003225202R2□00 | 2.2                | 20                | 1                          | 64               | 0.13           | 600                   |
| BWQC003225202R7□00 | 2.7                | 20 / 10 / 5       | 1                          | 60               | 0.15           | 600                   |
| BWQC003225203R3□00 | 3.3                | 20 / 10           | 1                          | 60               | 0.15           | 600                   |
| BWQC003225203R9□00 | 3.9                | 20                | 1                          | 50               | 0.16           | 500                   |
| BWQC003225204R7□00 | 4.7                | 20                | 1                          | 43               | 0.20           | 450                   |
| BWQC003225206R8□00 | 6.8                | 20                | 1                          | 30               | 0.26           | 400                   |
| BWQC00322520100□00 | 10                 | 20 / 10           | 1                          | 26               | 0.44           | 300                   |
| BWQC00322520150□00 | 15                 | 20 / 10           | 1                          | 22               | 0.55           | 350                   |
| BWQC00322520220□00 | 22                 | 20 / 10           | 1                          | 19               | 0.71           | 250                   |
| BWQC00322520270□00 | 27                 | 20 / 10           | 1                          | 15               | 0.90           | 230                   |
| BWQC00322520330□00 | 33                 | 20 / 10           | 1                          | 15               | 1.10           | 200                   |
| BWQC00322520470□00 | 47                 | 20 / 10           | 1                          | 15               | 1.30           | 170                   |
| BWQC00322520560□00 | 56                 | 20 / 10           | 1                          | 12               | 2.30           | 150                   |
| BWQC00322520101□00 | 100                | 20 / 10           | 1                          | 10               | 3.50           | 100                   |
| BWQC00322520151□00 | 150                | 20 / 10 / 5       | 1                          | 7                | 6.00           | 80                    |
| BWQC00322520221□00 | 220                | 20 / 10 / 5       | 1                          | 6.8              | 8.40           | 70                    |
| BWQC00322520271□00 | 270                | 20 / 10           | 1                          | 6                | 10.0           | 65                    |
| BWQC00322520331□00 | 330                | 20 / 10 / 5       | 1                          | 5.6              | 10.0           | 60                    |
| BWQC00322520391□00 | 390                | 20 / 10           | 1                          | 5                | 17.0           | 60                    |
| BWQC00322520471□00 | 470                | 20 / 10           | 0.001                      | 5                | 19.0           | 60                    |
| BWQC00322520561□00 | 560                | 20 / 10           | 0.001                      | 5                | 22.0           | 60                    |

**Note:** When ordering, please specify tolerance code. Tolerance : J=±5% , K=±10% , M=±20%

- Operating temperature range—40℃～125℃ (Including self - temperature rise)
- Rated Current : Self temperature rise shall be limited to 35℃ Max Inductance drop 10% typ.
- Measure Equipment :  
 L : Agilent HP4192A  
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 RDC : Chroma 16502  
 Rate Current : HP4284A+HP42841A

## SMD Wire Wound Ferrite Chip Inductors - BWQC Series

### Electrical Characteristics

| Part Number        | Inductance<br>(uH) | Tolerance<br>(±%) | Test<br>Frequency<br>(MHz) | SRF<br>(MHz) Min | RDC<br>(Ω) Max. | Rated current<br>(mA) |
|--------------------|--------------------|-------------------|----------------------------|------------------|-----------------|-----------------------|
| BWQC004532261R0□00 | 1.0                | 20                | 1                          | 100              | 0.08            | 1080                  |
| BWQC004532261R5□00 | 1.5                | 20                | 1                          | 85               | 0.09            | 1000                  |
| BWQC004532261R8□00 | 1.8                | 20                | 1                          | 65               | 0.10            | 900                   |
| BWQC004532262R2□00 | 2.2                | 20 / 10           | 1                          | 60               | 0.11            | 900                   |
| BWQC004532263R3□00 | 3.3                | 20                | 1                          | 47               | 0.13            | 800                   |
| BWQC004532264R7□00 | 4.7                | 20 / 10           | 1                          | 35               | 0.15            | 750                   |
| BWQC004532266R8□00 | 6.8                | 20 / 10           | 1                          | 30               | 0.20            | 720                   |
| BWQC00453226100□00 | 10                 | 20 / 10 / 5       | 1                          | 23               | 0.24            | 650                   |
| BWQC00453226150□00 | 15                 | 20 / 10 / 5       | 1                          | 20               | 0.32            | 570                   |
| BWQC00453226220□00 | 22                 | 20 / 10 / 5       | 1                          | 15               | 0.60            | 420                   |
| BWQC00453226330□00 | 33                 | 20 / 10 / 5       | 1                          | 12               | 1.0             | 310                   |
| BWQC00453226470□00 | 47                 | 20 / 10 / 5       | 1                          | 10               | 1.1             | 280                   |
| BWQC00453226680□00 | 68                 | 20 / 10 / 5       | 1                          | 8.4              | 1.7             | 220                   |
| BWQC00453226101□00 | 100                | 20 / 10 / 5       | 1                          | 6.8              | 2.2             | 190                   |
| BWQC00453226151□00 | 150                | 20 / 10 / 5       | 1                          | 5.5              | 3.5             | 130                   |
| BWQC00453226221□00 | 220                | 20 / 10 / 5       | 1                          | 4.5              | 4.0             | 110                   |
| BWQC00453226331□00 | 330                | 20 / 10 / 5       | 1                          | 3.6              | 6.8             | 100                   |
| BWQC00453226471□00 | 470                | 20 / 10 / 5       | 1                          | 3.0              | 8.5             | 90                    |
| BWQC00453226561□00 | 560                | 20 / 10 / 5       | 0.001                      | 2.5              | 10.4            | 80                    |
| BWQC00453226681□00 | 680                | 20 / 10 / 5       | 0.001                      | 2.2              | 14.7            | 70                    |
| BWQC00453226821□00 | 820                | 20 / 10 / 5       | 0.001                      | 2.0              | 20.0            | 60                    |
| BWQC00453226102□00 | 1000               | 20 / 10 / 5       | 0.001                      | 2.0              | 27.9            | 50                    |
| BWQC00453226152□00 | 1500               | 20 / 10 / 5       | 0.001                      | 1.8              | 35.0            | 40                    |

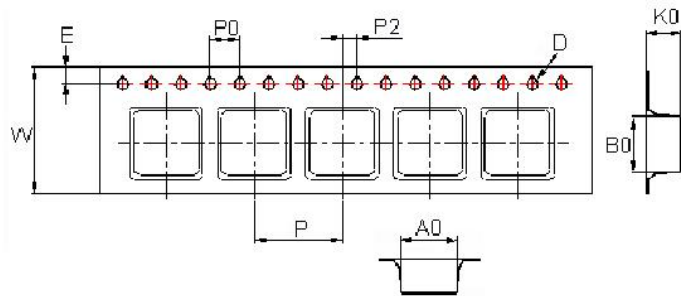
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- Operating temperature range—40℃~125℃ (Including self - temperature rise)
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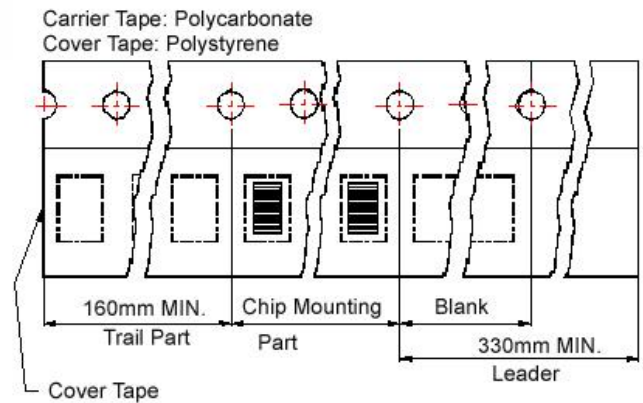
## SMD Wire Wound Ferrite Chip Inductors - BWQC Series

### Packaging Specifications

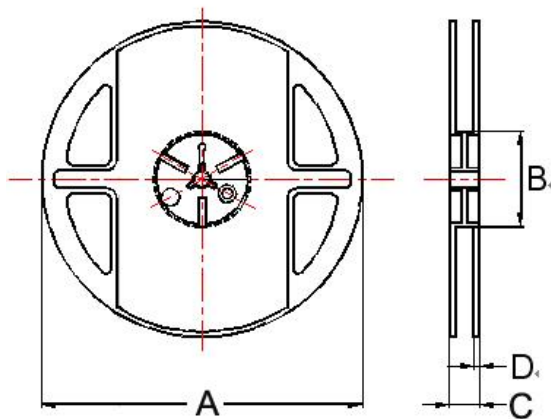
Tape Dimensions



Tape Material



Reel Dimensions



Dimensions in mm

| TYPE            | Tape Dimensions |      |      |      |      |    |   |    |    | Reel Dimensions |    |      |     | Quantity<br>PCS / REEL |
|-----------------|-----------------|------|------|------|------|----|---|----|----|-----------------|----|------|-----|------------------------|
|                 | A0              | B0   | K0   | D    | E    | W  | P | P0 | P2 | A               | B  | C    | D   |                        |
| BWQC00322516    | 2.85            | 3.56 | 1.80 | 1.55 | 1.75 | 8  | 4 | 4  | 2  | 178             | 60 | 9    | 1.5 | 2000                   |
| BWQC00322516_H1 | 2.85            | 3.56 | 1.80 | 1.55 | 1.75 | 8  | 4 | 4  | 2  | 178             | 60 | 9    | 1.5 | 2000                   |
| BWQC00322520    | 2.85            | 3.60 | 2.25 | 1.5  | 1.75 | 8  | 4 | 4  | 2  | 178             | 60 | 9    | 1.5 | 2000                   |
| BWQC00322520_L1 | 2.85            | 3.60 | 2.25 | 1.5  | 1.75 | 8  | 4 | 4  | 2  | 178             | 60 | 9    | 1.5 | 2000                   |
| BWQC00453226    | 3.60            | 4.90 | 3.00 | 1.5  | 1.75 | 12 | 8 | 4  | 2  | 178             | 60 | 13.2 | 1.5 | 500                    |