

# SMD Wire Wound Ferrite Chip Inductors

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.

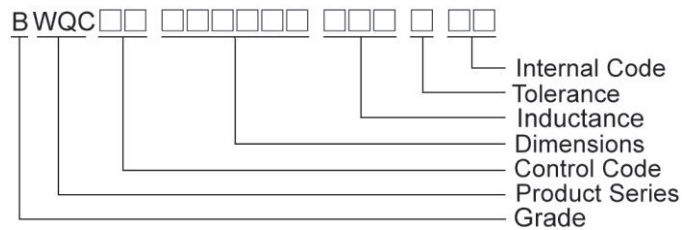
## Features

- 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

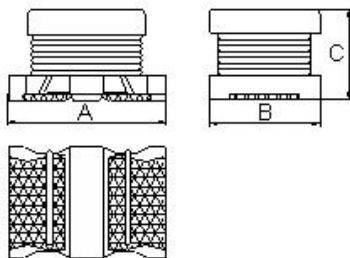
- Personal computers
- Disk drives and computer peripherals
- Pagers, cordless phone
- DC power supply circuit

## Product Identification

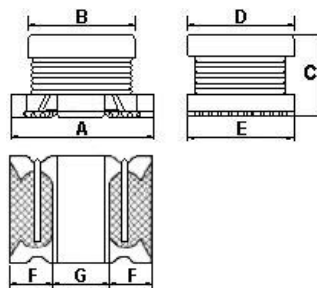


## Shape and Dimensions

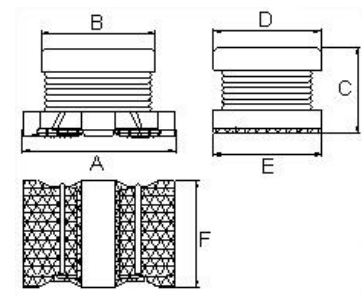
**BWQC00322520/322520\_L1**



**BWQC00322516/322516\_H1**



**BWQC00453226**

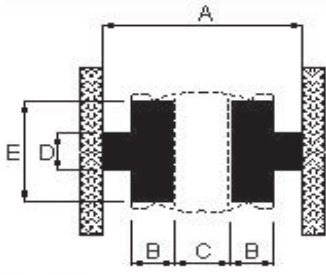


Dimensions in mm

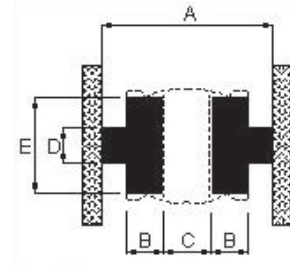
TYPE	A	B	C	D	E	F	G
BWQC00322516	3.2 ± 0.3	2.5 ± 0.2	1.55 ± 0.15	2.5 ± 0.2	2.5 ± 0.2	0.9 ± 0.3	1.3 ± 0.2
BWQC00322516_H1	3.2 ± 0.3	2.5 ± 0.2	1.55 ± 0.15	2.5 ± 0.2	2.5 ± 0.2	0.95 ± 0.3	1.2 ± 0.2
BWQC00322520	3.2 ± 0.3	2.5 ± 0.2	2.0 ± 0.2	-	-	-	-
BWQC00322520_L1	3.2 ± 0.3	2.5 ± 0.2	2.0 ± 0.2	-	-	-	-
BWQC00453226	4.5 ± 0.3	3.6 ± 0.2	2.6 ± 0.2	3.2 ± 0.2	3.2 ± 0.2	3.2 ± 0.2	-

## 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

## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	SRF (MHz) Min	RDC (Ω±20%)	Rated current (mA)	Irms (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 - 25°C ~ 125°C(Including self - temperature rise)
- Rated Current : Self temperature rise shall be limited to 35°C Max Inductance drop 10% typ.
- Measure Equipment :
  - L : Agilent HP4192A
  - SRF : Agilent HP4291A
  - RDC : Chroma 16502
  - Rate Current : HP4284A+HP42841A

## 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
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 - 25°C ~ 125°C(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°C ~ 125°C(Including self - temperature rise)
- Rated Current : Self temperature rise shall be limited to 35°C Max Inductance drop 10% typ.
- Measure Equipment :  
L : Agilent HP4192A  
SRF : Agilent HP4291A  
RDC : Chroma 16502  
Rate Current : HP4284A+HP42841A

## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	SRF (MHz) Min	RDC (Ω±30%)	Rated current (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
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 - 25°C ~ 125°C(Including self - temperature rise)
- Rated Current : Self temperature rise shall be limited to 35°C Max Inductance drop 10% typ.
- Measure Equipment :  
L : Agilent HP4192A  
SRF : Agilent HP4291A  
RDC : Chroma 16502  
Rate Current : HP4284A+HP42841A

## Electrical Characteristics

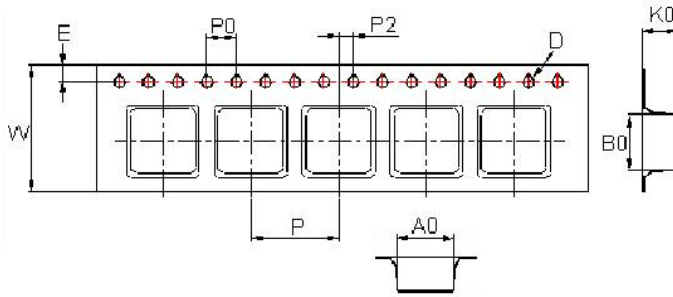
Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	SRF (MHz) Min	RDC (Ω) Max.	Rated current (mA)
BWQC004532261R0□00	1.0	20	1	100	0.08	1080
BWQC004532261R5□00	1.5	20	1	85	0.09	1000
BWQC004532261R8□00	1.8	20	1	65	0.10	900
BWQC004532262R2□00	2.2	20 / 10	1	60	0.11	900
BWQC004532263R3□00	3.3	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

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

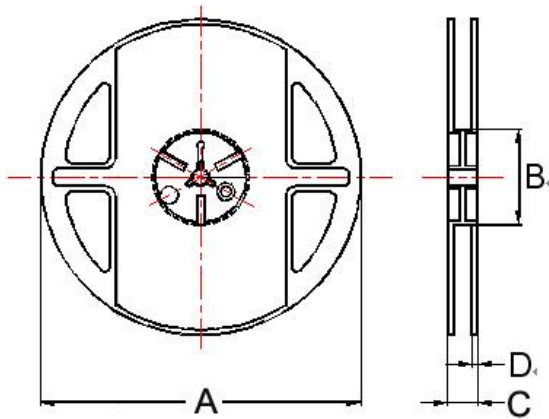
- Operating temperature range - 40°C ~ 125°C(Including self - temperature rise)
- Rated Current : Self temperature rise shall be limited to 35°C Max Inductance drop 10% typ.
- Measure Equipment :
  - L : Agilent HP4192A
  - SRF : Agilent HP4291A
  - RDC : Chroma 16502
  - Rate Current : HP4284A+HP42841A

## Packaging Specifications

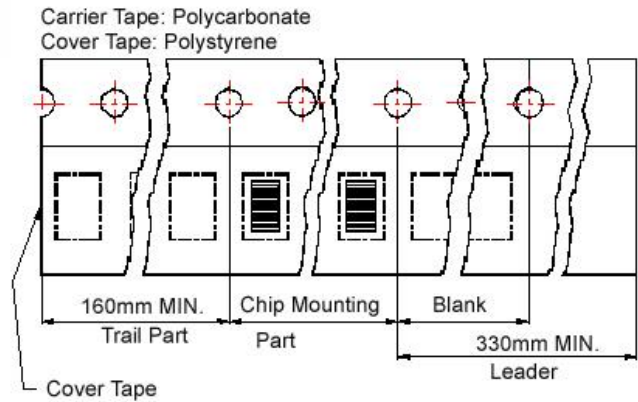
Tape Dimensions



Reel Dimensions



Tape Material



### Dimensions in mm

TYPE	Tape Dimensions									Reel Dimensions				Quantity
	A0	B0	K0	D	E	W	P	P0	P2	A	B	C	D	PCS / REEL
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

### For More Information:

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