

Scope

HDBQ Series SMD Wire Wound Ferrite Chip Inductors

The HDBQ 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



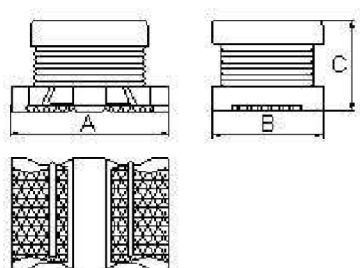
Product Identification

HDBQ 322516 F - 220 M T - LF
① ② ③ ④ ⑤ ⑥ ⑦

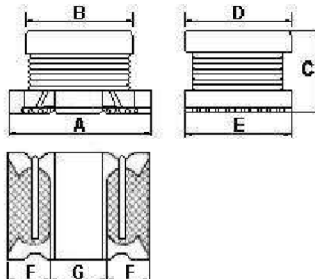
- ① Series name
- ② Product dimensions
- ③ Code word
- ④ Inductance Value: (1R0: 1.0uH 100: 10uH;)
- ⑤ Inductance Tolerance: (K: 10% ; M: 20% ; N: 30%)
- ⑥ Packing (T: Tape & Reel)
- ⑦ Lead free products.

Shape and Dimensions

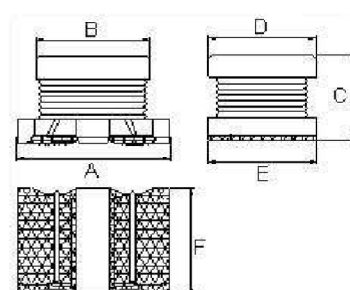
HDBQ322520



HDBQ322516



HDBQ453226

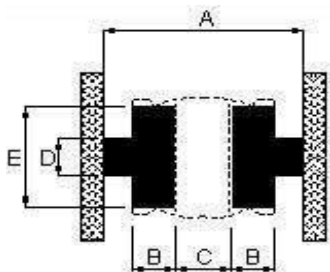


Dimensions in mm

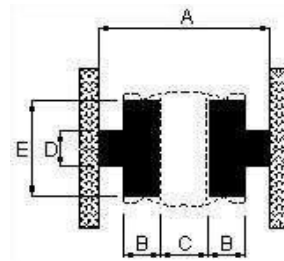
TYPE	A	B	C	D	E	F	G
HDBQ322516	3.2 ± 0.3	2.5 ± 0.2	1.55 ± 0.15	2.5 ± 0.2	2.5 ± 0.2	0.9 ± 0.3	1.3 ± 0.2
HDBQ322520	3.2 ± 0.3	2.5 ± 0.2	2.0 ± 0.2	-	-	-	-
HDBQ453226	4.5 ± 0.3	3.6 ± 0.2	2.6 ± 0.2	3.2 ± 0.2	3.2 ± 0.2	3.2 ± 0.2	-

Recommended Pattern

HDBQ322516



HDBQ322520 /453226



Dimensions in mm

TYPE	A	B	C	D	E
HDBQ322516	5.5	1.0	1.3	1.0	2.0
HDBQ322520	5.5	1.0	1.3	1.0	2.0
HDBQ453226	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)
HDBQ322516FR47	0.47	30	1	100	0.030	3400	2550
HDBQ322516F1R0	1.0	30/20	1	100	0.045	2300	2050
HDBQ322516F1R5	1.5	30	1	70	0.057	1750	1750
HDBQ322516F2R2	2.2	30/20	1	70	0.076	1550	1600
HDBQ322516F3R3	3.3	30/20	1	50	0.120	1250	1200
HDBQ322516F4R7	4.7	30/20	1	40	0.180	1000	1000
HDBQ322516F6R8	6.8	30/20	1	40	0.240	850	850
HDBQ322516F100	10	30/20	1	30	0.380	750	700
HDBQ322516F150	15	30/20	1	25	0.700	550	500
HDBQ322516F 220	22	30/20	1	20	0.810	500	450
HDBQ322516F 330	33	30/20	1	14	1.050	360	320
HDBQ322516F 470	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℃~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

Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	SRF (MHz) Min	RDC (Ω±30%)	Rated current (mA)
HDBQ322516F2R2	2.2	20	1	64	0.097	790
HDBQ322516F3R3	3.3	20	1	50	0.12	710
HDBQ322516F6R8	6.8	20	1	32	0.25	540
HDBQ322516F100	10	20/10	1	26	0.30	350
HDBQ322516F220	22	20/10	1	19	0.71	250
HDBQ322516F101	100	20/10	1	10	3.50	100

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

- Operating temperature range— 25℃ ~ 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)
HDBQ322520FR15	0.15	20	1	400	0.028	1450
HDBQ322520FR27	0.27	20	1	250	0.034	1250
HDBQ322520FR47	0.47	20	1	150	0.042	1100
HDBQ322520F1R0	1.0	20	1	100	0.060	1000
HDBQ322520F1R5	1.5	20	1	85	0.085	900
HDBQ322520F2R2	2.2	20	1	64	0.097	790
HDBQ322520F3R3	3.3	20	1	55	0.13	700
HDBQ322520F4R7	4.7	20/10	1	43	0.15	650
HDBQ322520F6R8	6.8	20	1	30	0.21	600
HDBQ322520F100	10	20/10	1	26	0.44	300

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

Electrical Characteristics

Part Number	Inductance (μ H)	Tolerance ($\pm\%$)	Test Frequency (MHz)	SRF (MHz) Min	RDC ($\Omega \pm 30\%$)	Rated current (mA)
HDBQ322520F R47	0.47	20	1	150	0.042	1100
HDBQ322520F1R0	1.0	20	1	96	0.09	1000
HDBQ322520F2R2	2.2	20	1	64	0.13	600
HDBQ322520F3R3	3.3	20/10	1	60	0.15	600
HDBQ322520F3R9	3.9	20	1	50	0.16	500
HDBQ322520F4R7	4.7	20	1	43	0.20	450
HDBQ322520F6R8	6.8	20	1	30	0.26	400
HDBQ322520F100	10	20/10	1	26	0.44	300
HDBQ322520F150	15	20/10	1	22	0.55	350
HDBQ322520F220	22	20/10	1	19	0.71	250
HDBQ322520F270	27	20/10	1	15	0.90	230
HDBQ322520F330	33	20/10	1	15	1.10	200
HDBQ322520F470	47	20/10	1	15	1.30	170
HDBQ322520F560	56	20/10	1	12	2.30	150
HDBQ322520F101	100	20/10	1	10	3.50	100
HDBQ322520F151	150	20/10/5	1	7	6.00	80
HDBQ322520F221	220	20/10/5	1	6.8	8.40	70
HDBQ322520F271	270	20/10	1	6	10.0	65
HDBQ322520F331	330	20/10/5	1	5.6	10.0	60
HDBQ322520F391	390	20/10	1	5	17.0	60
HDBQ322520F471	470	20/10	0.001	5	19.0	60
HDBQ322520F561	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℃ ~ 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

Electrical Characteristics

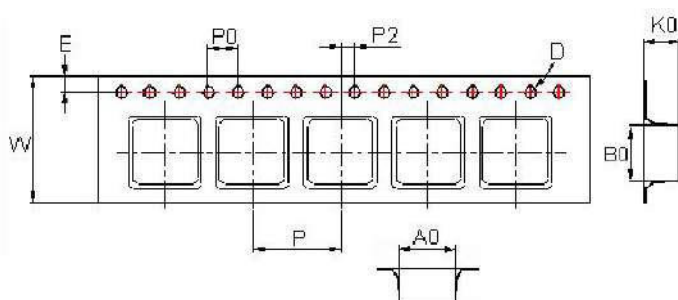
Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	SRF (MHz) Min	RDC (Ω) Max.	Rated current (mA)
HDBQ453226F1R0	1.0	20	1	100	0.08	1080
HDBQ453226F1R5	1.5	20	1	85	0.09	1000
HDBQ453226F1R8	1.8	20	1	65	0.10	900
HDBQ453226F2R2	2.2	20/10	1	60	0.11	900
HDBQ453226F3R3	3.3	20	1	47	0.13	800
HDBQ453226F4R7	4.7	20/10	1	35	0.15	750
HDBQ453226F6R8	6.8	20/10	1	30	0.20	720
HDBQ453226F100	10	20/10/5	1	23	0.24	650
HDBQ453226F150	15	20/10/5	1	20	0.32	570
HDBQ453226F220	22	20/10/5	1	15	0.60	420
HDBQ453226F330	33	20/10/5	1	12	1.0	310
HDBQ453226F470	47	20/10/5	1	10	1.1	280
HDBQ453226F680	68	20/10/5	1	8.4	1.7	220
HDBQ453226F101	100	20/10/5	1	6.8	2.2	190
HDBQ453226F151	150	20/10/5	1	5.5	3.5	130
HDBQ453226F221	220	20/10/5	1	4.5	4.0	110
HDBQ453226F331	330	20/10/5	1	3.6	6.8	100
HDBQ453226F471	470	20/10/5	1	3.0	8.5	90
HDBQ453226F561	560	20/10/5	0.001	2.5	10.4	80
HDBQ453226F681	680	20/10/5	0.001	2.2	14.7	70
HDBQ453226F821	820	20/10/5	0.001	2.0	20.0	60
HDBQ453226F102	1000	20/10/5	0.001	2.0	27.9	50
HDBQ453226F152	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%

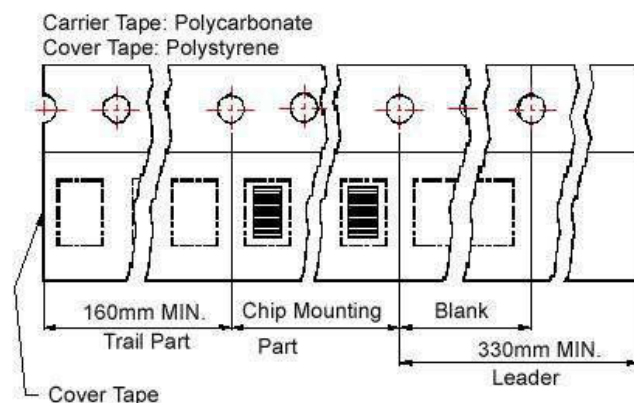
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Packaging Specifica

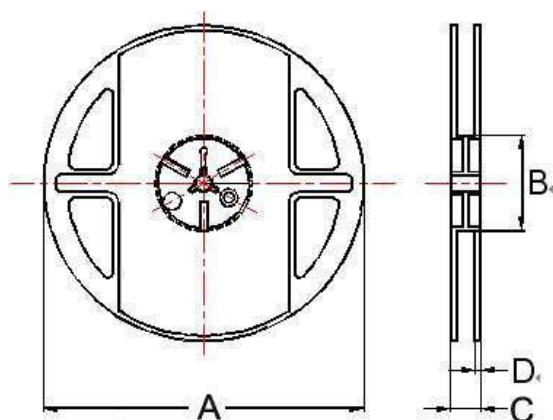
Tape Dimensions



Tape Material



Reel Dimensions



Dimensions in mm

TYPE	Tape Dimensions									Reel Dimensions				Quantity PCS / REEL
	A0	B0	K0	D	E	W	P	P0	P2	A	B	C	D	
HDBQ322516	2.85	3.56	1.80	1.55	1.75	8	4	4	2	178	60	9	1.5	2000
HDBQ322520	2.85	3.60	2.25	1.5	1.75	8	4	4	2	178	60	9	1.5	2000
HDBQ453226	3.60	4.90	3.00	1.5	1.75	12	8	4	2	178	60	13.2	1.5	500