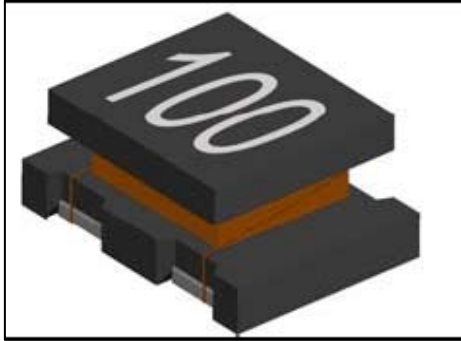


# Product Specification



This product is certified to comply with the RoHS Directive 2002/95/EC.

## LPUD Series Unshielded Power Inductor

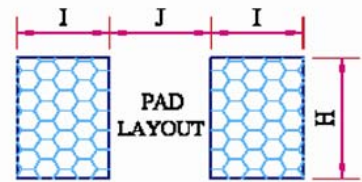
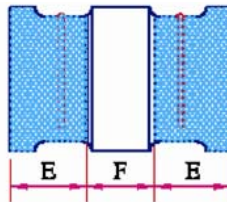
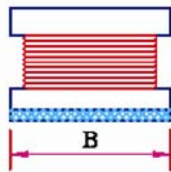
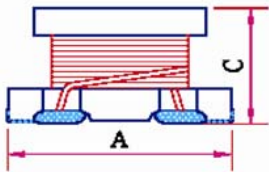


### Applications

- Pagers, cordless phone.
- High frequency communication products.
- Personal computers.
- Disk drives and computer peripherals.
- DC power supply circuits.

### Features

- The LPUD322320/451618 have high Q values at high frequencies and low dc resistance.
- The LPUD321618C/322520C/ 453226C/575047C have low dc resistance, high current capacity, and high impedance characteristics. They are excellent for use as a choke coil in dc power supplies.



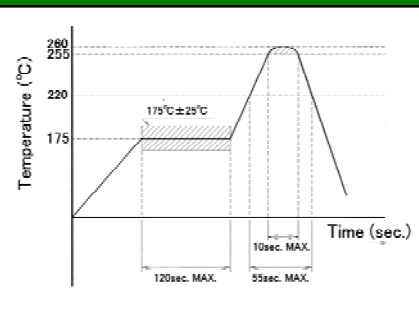
### Dimensions

Codes	A (mm)	B (mm)	C (mm)	E (mm)	F (mm) Min.	H (mm) Ref.	I (mm) Ref.	J (mm) Ref.	Reel Qty
LPUD252010	2.5±0.3	2.0±0.3	1.0max	0.4±0.2	1.0	2.1	0.9	0.8	2000/7" Reel
LPUD252012	2.5±0.3	2.0±0.3	1.2max	0.4±0.2	1.0	2.1	0.9	0.8	2000/7" Reel
LPUD321618C	3.2±0.3	1.6±0.3mm	1.8±0.3	0.7 min.	0.7	1.5	1.5	1.0	2000/7" Reel
LPUD322515(C)	3.2±0.3	2.5±0.3mm	1.55±0.3	0.7 min.	0.7	2.0	1.5	1.0	2000/7" Reel
LPUD322520(C)	3.2±0.3	2.5±0.3mm	2.0±0.3	0.7 min.	0.7	2.0	1.5	1.0	2000/7" Reel
LPUD453226(C)	4.5±0.3	3.2±0.3mm	2.6±0.3	1.0 min.	1.0	3.0	2.0	1.2	500/7" Reel
LPUD575047C	5.7±0.3	5.0±0.3mm	4.7±0.3	1.3 min.	1.7	5.0	2.0	2.0	1000/13" Reel

### Ordering Code Guide:

Series Code	Tolerance	Inductance
LPUD321618C	M: ±20%	R10: 0.1uH
	K±10%	1R0: 1.0uH
	J: ±5%	100: 10.0uH
		101: 100.0uH

### Reflow Profile



Issue No. 2 24/03/11

# Product Specification



This product is certified to comply with the RoHS Directive 2002/95/EC.



## LPUD Series Unshielded Power Inductor

Note 1: Rated current IDC is the smaller of either the current at which the temperature of the coil increases by 20°C (Ta=25°C) or the current at which the inductance falls to 90% of its initial value

Note 2: I rms is the current at which the temperature of the coil increases by 40°C (Ta=25°C)

Note 3: I sat is the current at which the inductance falls to 70% of its initial value

### LPUD252010

Inductance Code	Inductance			DC Resistance (Ω) max	I rms (A) Typical See Note 2	I sat (A) max. See Note 3
	L (uH)	Tolerance	Test Condition			
1R0	0.47	M	1MHz, 0.1V	0.145	1.80	1.64
1R5	1.0	M	1MHz, 0.1V	0.230	1.40	1.60
2R2	1.5	M	1MHz, 0.1V	0.295	1.20	1.10
3R3	2.2	M	1MHz, 0.1V	0.390	1.00	1.02
4R7	3.3	M	1MHz, 0.1V	0.480	0.96	0.88
6R8	4.7	M	1MHz, 0.1V	0.605	0.84	0.82
100	5.6	M	1MHz, 0.1V	0.790	0.70	0.74
220	6.8	M	1MHz, 0.1V	0.790	0.49	0.46

### LPUD252012

Inductance Code	Inductance			DC Resistance (Ω) max	I rms (A) Typical See Note 2	I sat (A) max. See Note 3
	L (uH)	Tolerance	Test Condition			
R47	0.47	M	1MHz, 0.1V	0.056	2.20	3.70
1R0	1.0	M	1MHz, 0.1V	0.088	1.80	2.70
1R5	1.5	M	1MHz, 0.1V	0.126	1.50	2.20
2R2	2.2	M	1MHz, 0.1V	0.155	1.30	2.00
3R3	3.3	M	1MHz, 0.1V	0.272	1.00	1.60
4R7	4.7	M	1MHz, 0.1V	0.406	0.81	1.30
5R6	5.6	M	1MHz, 0.1V	0.450	0.72	1.15
6R8	6.8	M	1MHz, 0.1V	0.612	0.66	1.10
100	10	M	1MHz, 0.1V	0.756	0.59	0.90

### LPUD322512

Inductance Code	Inductance			DC Resistance (Ω) max	IDC max See Note 1	SRF (MHz) min.
	L (uH)	Tolerance	Test Condition			
1R0	1.0	M	1MHz, 0.1V	0.078	1.000	100
1R5	1.5	M	1MHz, 0.1V	0.068	1.200	100
2R2	2.2	M	1MHz, 0.1V	0.126	0.790	64
3R3	3.3	M	1MHz, 0.1V	0.180	0.700	50
4R7	4.7	M	1MHz, 0.1V	0.195	0.650	43
100	10	M	1MHz, 0.1V	0.420	0.450	26
150	15	M	1MHz, 0.1V	0.750	0.300	22
220	22	M	1MHz, 0.1V	1.000	0.250	19
330	33	M	1MHz, 0.1V	1.400	0.200	17
470	47	M	1MHz, 0.1V	2.200	0.170	13
680	68	M	1MHz, 0.1V	3.200	0.130	9
101	100	M	1MHz, 0.1V	4.500	0.100	8

Issue No. 2 24/03/11

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# Product Specification



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## LPUD Series Unshielded Power Inductor

LPUD322520

Inductance Code	Inductance			Quality Factor		DC Resistance ( $\Omega$ ) max	IDC (mA) max. See Note 1	SRF (MHz) min
	L ( $\mu$ H)	Tolerance	Test Condition	Spec. min	Test Condition			
1R0	1.0	M	1MHz, 0.1V	20	1MHz, 0.1V	0.50	445	100
1R2	1.2	M	1MHz, 0.1V	20	1MHz, 0.1V	0.60	425	100
1R5	1.5	K,M	1MHz, 0.1V	20	1MHz, 0.1V	0.60	400	75
1R8	1.8	K,M	1MHz, 0.1V	20	1MHz, 0.1V	0.70	390	60
2R2	2.2	K,M	1MHz, 0.1V	20	1MHz, 0.1V	0.80	370	50
2R7	2.7	K,M	1MHz, 0.1V	20	1MHz, 0.1V	0.90	320	43
3R3	3.3	K,M	1MHz, 0.1V	20	1MHz, 0.1V	1.00	300	38
3R9	3.9	K,M	1MHz, 0.1V	20	1MHz, 0.1V	1.10	290	35
4R7	4.7	K,M	1MHz, 0.1V	20	1MHz, 0.1V	1.20	270	31
5R6	5.6	K,M	1MHz, 0.1V	20	1MHz, 0.1V	1.30	250	28
6R8	6.8	K,M	1MHz, 0.1V	20	1MHz, 0.1V	1.50	240	25
8R2	8.2	K,M	1MHz, 0.1V	20	1MHz, 0.1V	1.60	225	23
100	10.0	J,K	1MHz, 0.1V	35	1MHz, 0.1V	1.80	190	20
120	12.0	J,K	1MHz, 0.1V	35	1MHz, 0.1V	2.00	180	18
150	15.0	J,K	1MHz, 0.1V	35	1MHz, 0.1V	2.20	170	16
180	18.0	J,K	1MHz, 0.1V	35	1MHz, 0.1V	2.50	165	15
220	22.0	J,K	1MHz, 0.1V	35	1MHz, 0.1V	2.80	150	14
270	27.0	J,K	1MHz, 0.1V	35	1MHz, 0.1V	3.10	125	13
330	33.0	J,K	1MHz, 0.1V	40	1MHz, 0.1V	3.50	115	12
390	39.0	J,K	1MHz, 0.1V	40	1MHz, 0.1V	3.90	110	11
470	47.0	J,K	1MHz, 0.1V	40	1MHz, 0.1V	4.30	100	11
560	56.0	J,K	1MHz, 0.1V	40	1MHz, 0.1V	4.90	85	10
680	68.0	J,K	1MHz, 0.1V	40	1MHz, 0.1V	5.50	80	9.0
820	82.0	J,K	1MHz, 0.1V	40	1MHz, 0.1V	6.20	70	8.5
101	100	J,K	1MHz, 0.1V	40	796kHz	7.00	80	8.0
121	120	J,K	1MHz, 0.1V	40	796kHz	8.00	75	7.5
151	150	J,K	1MHz, 0.1V	40	796kHz	9.30	70	7.0
181	180	J,K	1MHz, 0.1V	40	796kHz	10.20	65	6.0
221	220	J,K	1MHz, 0.1V	40	796kHz	11.80	65	5.5
271	270	J,K	1MHz, 0.1V	40	796kHz	12.50	65	5.0
331	330	J,K	1MHz, 0.1V	40	796kHz	13.00	65	5.0
391	390	J,K	1MHz, 0.1V	50	796kHz	22.00	50	5.0
471	470	J,K	1kHz, 0.1V	50	796kHz	25.00	45	5.0
561	560	J,K	1kHz, 0.1V	50	796kHz	28.00	40	5.0

Issue No. 2 24/03/11

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# Product Specification



This product is certified to comply with the RoHS Directive 2002/95/EC.



## LPUD Series Unshielded Power Inductor

LPUD453226

Inductance Code	Inductance			Quality Factor		DC Resistance ( $\Omega$ ) max	IDC (mA) max. See Note 1	SRF (MHz) min
	L (uH)	Tolerance	Test Condition	Spec. min	Test Condition.			
1R0	1.0	M	1MHz, 0.1V	20	1MHz, 0.1V	0.20	500	120
1R2	1.2	M	1MHz, 0.1V	20	1MHz, 0.1V	0.20	500	100
1R5	1.5	M	1MHz, 0.1V	20	1MHz, 0.1V	0.30	500	85
1R8	1.8	M	1MHz, 0.1V	20	1MHz, 0.1V	0.30	500	75
2R2	2.2	M	1MHz, 0.1V	20	1MHz, 0.1V	0.30	500	62
2R7	2.7	M	1MHz, 0.1V	20	1MHz, 0.1V	0.32	500	53
3R3	3.3	M	1MHz, 0.1V	20	1MHz, 0.1V	0.35	500	47
3R9	3.9	M	1MHz, 0.1V	20	1MHz, 0.1V	0.38	500	41
4R7	4.7	K,M	1MHz, 0.1V	30	1MHz, 0.1V	0.40	500	38
5R6	5.6	K,M	1MHz, 0.1V	30	1MHz, 0.1V	0.47	500	33
6R8	6.8	K,M	1MHz, 0.1V	30	1MHz, 0.1V	0.50	450	31
8R2	8.2	K,M	1MHz, 0.1V	30	1MHz, 0.1V	0.56	450	27
100	10.0	K,J	1MHz, 0.1V	35	1MHz, 0.1V	0.56	400	23
120	12.0	K,J	1MHz, 0.1V	35	1MHz, 0.1V	0.62	380	21
150	15.0	K,J	1MHz, 0.1V	35	1MHz, 0.1V	0.73	360	19
180	18.0	K,J	1MHz, 0.1V	35	1MHz, 0.1V	0.82	340	17
220	22.0	K,J	1MHz, 0.1V	35	1MHz, 0.1V	0.94	320	15
270	27.0	K,J	1MHz, 0.1V	35	1MHz, 0.1V	1.10	300	14
330	33.0	K,J	1MHz, 0.1V	35	1MHz, 0.1V	1.20	270	12
390	39.0	K,J	1MHz, 0.1V	35	1MHz, 0.1V	1.40	240	11
470	47.0	K,J	1MHz, 0.1V	35	1MHz, 0.1V	1.50	220	10
560	56.0	K,J	1MHz, 0.1V	35	1MHz, 0.1V	1.70	200	9.3
680	68.0	K,J	1MHz, 0.1V	35	1MHz, 0.1V	1.90	180	8.4
820	82.0	K,J	1MHz, 0.1V	35	1MHz, 0.1V	2.20	170	7.5
101	100	K,J	1MHz, 0.1V	35	796kHz, 0.1V	2.50	160	6.8
121	120	K,J	1MHz, 0.1V	40	796kHz, 0.1V	3.00	150	6.2
151	150	K,J	1MHz, 0.1V	40	796kHz, 0.1V	3.70	130	5.5
181	180	K,J	1MHz, 0.1V	40	796kHz, 0.1V	4.50	120	5.0
221	220	K,J	1MHz, 0.1V	40	796kHz, 0.1V	5.40	110	4.5
271	270	K,J	1MHz, 0.1V	40	796kHz, 0.1V	6.80	100	4.0
331	330	K,J	1MHz, 0.1V	40	796kHz, 0.1V	8.20	95	3.6
391	390	K,J	1MHz, 0.1V	40	796kHz, 0.1V	9.70	90	3.3
471	470	K,J	1kHz, 0.1V	40	796kHz, 0.1V	11.80	80	3.0
561	560	K,J	1kHz, 0.1V	40	796kHz, 0.1V	14.50	70	2.7
681	680	K,J	1kHz, 0.1V	40	796kHz, 0.1V	17.00	65	2.5
821	820	K,J	1kHz, 0.1V	40	796kHz, 0.1V	20.50	60	2.2
102	1000	K,J	1kHz, 0.1V	40	796kHz, 0.1V	25.00	50	2.0
122	1200	K,J	1kHz, 0.1V	40	796kHz, 0.1V	30.00	45	1.8
152	1500	K,J	1kHz, 0.1V	40	796kHz, 0.1V	37.00	40	1.6
182	1800	K,J	1kHz, 0.1V	40	796kHz, 0.1V	45.00	35	1.5
222	2200	K,J	1kHz, 0.1V	40	796kHz, 0.1V	50.00	30	1.3

Issue No. 2 24/03/11

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# Product Specification



This product is certified to comply with the RoHS Directive 2002/95/EC.



## LPUD Series Unshielded Power Inductor

LPUD321618C

Inductance Code	Inductance			DC Resistance ( $\Omega$ ) max	SRF (MHz) min	IDC (mA) max. See Note 1	SRF (MHz) min
	L ( $\mu$ H)	Tolerance	Test Condition				
R12	0.12	M	1MHz, 0.1V	0.112	250	970	250
R22	0.22	M	1MHz, 0.1V	0.140	250	850	250
R47	0.47	M	1MHz, 0.1V	0.210	180	700	180
R68	0.68	M	1MHz, 0.1V	0.250	150	600	150
1R0	1.0	M	1MHz, 0.1V	0.364	100	510	100
2R2	2.2	M	1MHz, 0.1V	0.533	50	430	50
3R3	3.3	M	1MHz, 0.1V	0.700	40	600	40
4R7	4.7	K,M	1MHz, 0.1V	0.845	31	340	31
6R8	6.8	K,M	1MHz, 0.1V	1.350	28	500	28
100	10	K,J	1MHz, 0.1V	1.690	20	230	20
220	22	K,J	1MHz, 0.1V	3.900	14	160	14
330	33	K,J	1MHz, 0.1V	4.700	12	130	12
470	47	K,J	1MHz, 0.1V	10.40	10	100	10
101	100	K,J	1MHz, 0.1V	15.60	7	80	7

LPUD322515C

Inductance Code	Inductance			DC Resistance ( $\Omega$ ) max	I rms (A) min. See Note 2	Isat (A) max. See Note 3	SRF (MHz) min.
	L ( $\mu$ H)	Tolerance	Test Condition				
R47	0.47	N	1MHz, 0.1V	0.030	2.55	3.40	100
1R0	1.0	N	1MHz, 0.1V	0.045	2.05	2.30	100
1R5	1.5	N	1MHz, 0.1V	0.057	1.75	1.75	70
2R2	2.2	N	1MHz, 0.1V	0.076	1.60	1.55	70
3R3	3.3	N	1MHz, 0.1V	0.120	1.20	1.25	50
4R7	4.7	N	1MHz, 0.1V	0.180	1.00	1.00	40
6R8	6.8	N	1MHz, 0.1V	0.240	0.85	0.85	40
100	10	M	1MHz, 0.1V	0.380	0.70	0.75	30
150	15	M	1MHz, 0.1V	0.570	0.52	0.60	20
220	22	M	1MHz, 0.1V	0.810	0.45	0.50	20
330	33	M	1MHz, 0.1V	1.150	0.39	0.38	13
470	47	M	1MHz, 0.1V	1.780	0.31	0.33	11
680	68	M	1MHz, 0.1V	2.280	0.275	0.28	11
101	100	M	1MHz, 0.1V	2.700	0.250	0.18	8
121	120	M	1MHz, 0.1V	4.380	0.200	0.17	8

LPUD322520C

Inductance Code	Inductance			DC Resistance ( $\Omega$ ) max	IDC (mA) max. See Note 1	SRF (MHz) min
	L ( $\mu$ H)	Tolerance	Test Condition			
1R0	1.0	M	1MHz, 0.1V	0.078	1000	100
2R2	2.2	M	1MHz, 0.1V	0.126	790	64
3R3	3.3	M	1MHz, 0.1V	0.165	500	50
4R7	4.7	M	1MHz, 0.1V	0.195	450	43
6R8	6.8	M	1MHz, 0.1V	0.330	450	38
100	10.0	M	1MHz, 0.1V	0.572	300	26
220	22.0	K,M	1MHz, 0.1V	0.923	250	19
470	47.0	K,M	1MHz, 0.1V	1.69	170	12
101	100	K,J	1MHz, 0.1V	4.55	100	8.0
151	150	K,J	1MHz, 0.1V	9.10	80	7.0
221	220	K,J	1MHz, 0.1V	10.92	70	5.5
331	330	K,J	1MHz, 0.1V	13.00	60	4.5
391	390	K,J	1MHz, 0.1V	22.10	60	4.0
471	470	K,J	1MHz, 0.1V	24.70	60	3.7
561	560	K,J	1MHz, 0.1V	28.60	60	3.4

# Product Specification



This product is certified to comply with the RoHS Directive 2002/95/EC.



## LPUD Series Unshielded Power Inductor

LPUD453226C

Inductance Code	Inductance			DC Resistance ( $\Omega$ ) max	SRF (MHz) min	IDC (mA) max. See Note 1	SRF (MHz) min
	L ( $\mu$ H)	Tolerance	Test Condition				
1R0	1.0	M	1MHz, 0.1V	0.08	100	1080	100
1R5	1.5	M	1MHz, 0.1V	0.09	85	1000	85
2R2	2.2	M	1MHz, 0.1V	0.11	60	900	60
3R3	3.3	M	1MHz, 0.1V	0.13	47	800	47
4R7	4.7	K,M	1MHz, 0.1V	0.15	35	750	35
6R8	6.8	K,M	1MHz, 0.1V	0.20	30	720	30
100	10.0	K,J	1MHz, 0.1V	0.24	23	650	23
150	15.0	K,J	1MHz, 0.1V	0.32	20	570	20
220	22.0	K,J	1MHz, 0.1V	0.60	15	420	15
330	33.0	K,J	1MHz, 0.1V	1.00	12	310	12
470	47.0	K,J	1MHz, 0.1V	1.10	10	280	10
680	68.0	K,J	1MHz, 0.1V	1.7	8.4	220	8.4
101	100	K,J	1MHz, 0.1V	2.2	6.8	190	6.8
151	150	K,J	1MHz, 0.1V	3.5	5.5	130	5.5
221	220	K,J	1MHz, 0.1V	4.0	4.5	110	4.5
331	330	K,J	1MHz, 0.1V	6.8	3.6	100	3.6
471	470	K,J	1MHz, 0.1V	8.5	3.0	90	3.0

LPUD575047C

Inductance Code	Inductance			DC Resistance ( $\Omega$ ) max	SRF (MHz) min	IDC (mA) max. See Note 1
	L ( $\mu$ H)	Tolerance	Test Freq.			
R12	0.12	M	1MHz	0.0098	450	6000
R27	0.27	M	1MHz	0.0140	300	5300
R47	0.47	M	1MHz	0.0182	200	4800
1R0	1.0	M	1MHz	0.0272	150	4000
1R5	1.5	M	1MHz	0.0310	110	3700
2R2	2.2	M	1MHz	0.0410	80	3200
3R3	3.3	M	1MHz	0.0500	40	2900
4R7	4.7	K,M	1MHz	0.0574	30	2700
6R8	6.8	K,M	1MHz	0.104	25	2000
100	10.0	K,M	1MHz	0.130	20	1700
150	15.0	K,M	1MHz	0.210	17	1400
220	22.0	K,M	1MHz	0.266	15	1200
330	33.0	K,M	1MHz	0.448	12	900
470	47.0	K,M	1MHz	0.560	10	800
680	68.0	K,M	1MHz	0.938	7.6	640
101	100	K,M	100kHz	1.204	6.5	560
151	150	K,M	100kHz	2.660	5.0	420
221	220	K,M	100kHz	3.360	4.0	320
331	330	K,M	100kHz	6.160	3.1	270
471	470	K,M	100kHz	7.560	2.4	240
681	680	K,M	100kHz	11.34	1.9	190
102	1000	K,M	10kHz	14.42	1.7	150
222	2200	K,M	10kHz	30.10	1.2	100
472	4700	K,M	10kHz	61.04	0.8	70
103	10000	K,M	10kHz	140.0	0.5	50

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