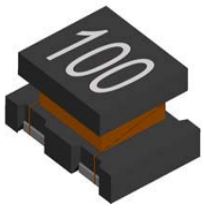
SMD Power Inductor－VLH



Applications

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

Inductance and rated current ranges

VLH322520	0.10～560 μH	0.70～0.04A
VLH453226	1.00～2200 μH	0.50～0.03A
VLH321618C	0.12～100 μH	0.97～0.08A
VLH322520C	1.00～560 μH	1.00～0.06A
VLH453226C	1.00～470 μH	1.08～0.09A
VLH575047C	0.12～10000 μH	6.00～0.05A

- Test equipments:

  L&Q:HP4285A Precision LCR meter.

  SRF:HP4291B RF Impedance Analyzer

  DCR: Milli-ohm meter

  Electrical Specification at 25℃

Features

- These miniature chip inductors are wound on a special ferrite core.
- VLH322520/453226 are high Q value at high frequencies and low DC resistance.
- VLH321618C/322520C/453226C/565047C are low DC resistance, high current capacity, and high impedance characteristics. They are excellent for using as a choke coil in DC power supply circuits.

Product Identification

VLH 453226 C - 101 K

(1) (2) (3) (4) (5) (6)

(1)Type: Miniature SMD Chip Choke Coils

(2)Type core: L=4.5mm W=3.2mm H=2.6mm

(3)C: for choke use ; No C: for general use.

(4)"-": standard; S : shielded

Offer shielded product by customer's requirement.

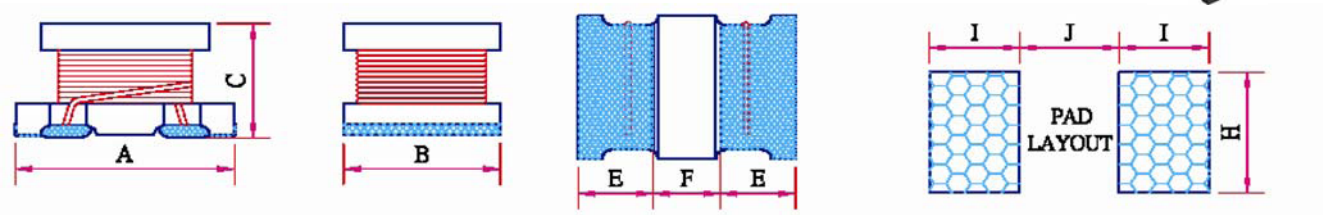
(5)Inductance: 101 for 100μH

(6)Inductance tolerance=±5% K= ±10% M=±20%

Characteristics:

- Rated DC Current: The current when the inductance decreases to 90% of its initial value or the current when the temperature of coil increases △20℃. The smaller one is defined as Rated DC Current. (Ta=25℃)
- Operating temperature range :-20℃～80℃

Dimension



Unit: mm

Codes	A	B	C	E	F	H	I	J
321618C	3.2±0.3	1.6±0.2	1.8±0.3	0.7min	0.7min	1.5	1.5	1.0
322520(C)	3.2±0.3	2.5±0.2	2.0±0.3	0.7min	0.7min	2.0	1.5	1.0
453226(C)	4.5±0.3	3.2±0.2	2.6±0.3	1.0min	1.0min	3.0	2.0	1.2
575047C	5.7±0.3	5.0±0.3	4.7±0.3	1.3min	1.7min	5.0	2.0	2.0

Electrical Charactristics

VLH 322520 TYPE

Part No.	Inductance			Quality Factor		DC Resistance (Ω) max	SRF (MHz) min	Rated DC Current (mA)max
	L(μH)	Tol.	Test Freq.	Spec. min	Test Freq.			
VLH322520-R10	0.10	M	1MHz	20	25.2MHZ	0.25	200	700
VLH322520-R18	0.18	M	1MHz	20	25.2MHZ	0.25	200	650
VLH322520-R27	0.27	M	1MHz	25	25.2MHZ	0.25	200	600
VLH322520-R39	0.39	M	1MHz	25	25.2MHZ	0.25	200	530
VLH322520-R56	0.56	M	1MHz	30	25.2MHZ	0.25	160	530
VLH322520-R68	0.68	M	1MHz	30	25.2MHZ	0.25	160	470
VLH322520-R82	0.82	M	1MHz	30	25.2MHZ	0.25	120	450
VLH322520-1R0	1.0	M	1MHz	20	1MHz	0.50	100	445
VLH322520-1R2	1.2	M	1MHz	20	1MHz	0.60	100	425
VLH322520-1R5	1.5	M,K	1MHz	20	1MHz	0.60	75	400
VLH322520-1R8	1.8	M,K	1MHz	20	1MHz	0.70	60	390
VLH322520-2R2	2.2	M,K	1MHz	20	1MHz	0.80	50	370
VLH322520-2R7	2.7	M,K	1MHz	20	1MHz	0.90	43	320
VLH322520-3R3	3.3	M,K	1MHz	20	1MHz	1.00	38	300
VLH322520-3R9	3.9	M,K	1MHz	20	1MHz	1.10	35	290
VLH322520-4R7	4.7	M,K	1MHz	20	1MHz	1.20	31	270
VLH322520-5R6	5.6	M,K	1MHz	20	1MHz	1.30	28	250
VLH322520-6R8	6.8	M,K	1MHz	20	1MHz	1.50	25	240
VLH322520-8R2	8.2	M,K	1MHz	20	1MHz	1.60	23	225
VLH322520-100	10	K,J	1MHz	35	1MHz	1.80	20	190
VLH322520-120	12	K,J	1MHz	35	1MHz	2.00	18	180
VLH322520-150	15	K,J	1MHz	35	1MHz	2.20	16	170
VLH322520-180	18	K,J	1MHz	35	1MHz	2.50	15	165
VLH322520-220	22	K,J	1MHz	35	1MHz	2.80	14	150
VLH322520-270	27	K,J	1MHz	35	1MHz	3.10	13	125
VLH322520-330	33	K,J	1MHz	40	1MHz	3.50	12	115
VLH322520-390	39	K,J	1MHz	40	1MHz	3.90	11	110
VLH322520-470	47	K,J	1MHz	40	1MHz	4.30	11	100
VLH322520-560	56	K,J	1MHz	40	1MHz	4.90	10	85
VLH322520-680	68	K,J	1MHz	40	1MHz	5.50	9.0	80
VLH322520-820	82	K,J	1MHz	40	1MHz	6.20	8.5	70
VLH322520-101	100	K,J	1MHz	40	796kHz	7.00	8.0	80
VLH322520-121	120	K,J	1MHz	40	796kHz	8.00	7.5	75
VLH322520-151	150	K,J	1MHz	40	796kHz	9.30	7.0	70
VLH322520-181	180	K,J	1MHz	40	796kHz	10.20	6.0	65
VLH322520-221	220	K,J	1MHz	40	796kHz	11.80	5.5	65
VLH322520-271	270	K,J	1MHz	40	796kHz	12.50	5.0	65
VLH322520-331	330	K,J	1MHz	40	796kHz	13.00	5.0	65
VLH322520-391	390	K,J	1MHz	50	796kHz	22.00	5.0	50
VLH322520-471	470	K,J	1kHz	50	796kHz	25.00	5.0	45
VLH322520-561	560	K,J	1kHz	50	796kHz	28.00	5.0	40

Electrical Characteristics

VLH 453226 TYPE

Part No.	Inductance			Quality Factor		DC Resistance (Ω) max	SRF (MHz) min	Rated DC Current (mA)max
	L(μH)	Tol.	Test Freq.	Spec. min	Test Freq.			
VLH453226-1R0	1.0	M	1MHz	20	1MHz	0.20	120	500
VLH453226-1R2	1.2	M	1MHz	20	1MHz	0.20	100	500
VLH453226-1R5	1.5	M	1MHz	20	1MHz	0.30	85	500
VLH453226-1R8	1.8	M	1MHz	20	1MHz	0.30	75	500
VLH453226-2R2	2.2	M	1MHz	20	1MHz	030	62	500
VLH453226-2R7	2.7	M	1MHz	20	1MHz	0.32	53	500
VLH453226-3R3	3.3	M	1MHz	20	1MHz	0.35	47	500
VLH453226-3R9	3.9	M	1MHz	20	1MHz	0.38	41	500
VLH453226-4R7	4.7	M,K	1MHz	30	1MHz	0.40	38	500
VLH453226-5R6	5.6	M,K	1MHz	30	1MHz	0.47	33	500
VLH453226-6R8	6.8	M,K	1MHz	30	1MHz	0.50	31	450
VLH453226-8R2	8.2	M,K	1MHz	30	1MHz	0.56	27	450
VLH453226-100	10	K,J	1MHz	35	1MHz	0.56	23	400
VLH453226-120	12	K,J	1MHz	35	1MHz	0.62	21	380
VLH453226-150	15	K,J	1MHz	35	1MHz	0.73	19	360
VLH453226-180	18	K,J	1MHz	35	1MHz	0.82	17	340
VLH453226-220	22	K,J	1MHz	35	1MHz	0.94	15	320
VLH453226-270	27	K,J	1MHz	35	1MHz	1.10	14	300
VLH453226-330	33	K,J	1MHz	35	1MHz	1.20	12	270
VLH453226-390	39	K,J	1MHz	35	1MHz	1.40	11	240
VLH453226-470	47	K,J	1MHz	35	1MHz	1.50	10	220
VLH453226-560	56	K,J	1MHz	35	1MHz	1.70	9.3	200
VLH453226-680	68	K,J	1MHz	35	1MHz	1.90	8.4	180
VLH453226-820	82	K,J	1MHz	35	1MHz	2.20	7.5	170
VLH453226-101	100	K,J	1MHz	40	796kHz	2.50	6.8	160
VLH453226-121	120	K,J	1MHz	40	796kHz	3.00	6.2	150
VLH453226-151	150	K,J	1MHz	40	796kHz	3.70	5.5	130
VLH453226-181	180	K,J	1MHz	40	796kHz	4.50	5.0	120
VLH453226-221	220	K,J	1MHz	40	796kHz	5.40	4.5	110
VLH453226-271	270	K,J	1MHz	40	796kHz	6.80	4.0	100
VLH453226-331	330	K,J	1MHz	40	796kHz	8.20	3.6	95
VLH453226-391	390	K,J	1MHz	40	796kHz	9.70	3.3	90
VLH453226-471	470	K,J	1kHz	40	796kHz	11.80	3.0	80
VLH453226-561	560	K,J	1kHz	40	796kHz	14.50	2.7	70
VLH453226-681	680	K,J	1kHz	40	796kHz	17.00	2.5	65
VLH453226-821	820	K,J	1kHz	40	796kHz	20.50	2.2	60
VLH453226-102	1000	K,J	1kHz	40	252KHz	25.00	2.0	50
VLH453226-122	1200	K,J	1kHz	40	252KHz	30.00	1.8	45
VLH453226-152	1500	K,J	1kHz	40	252KHz	37.00	1.6	40
VLH453226-182	1800	K,J	1kHz	40	252KHz	45.00	1.5	35
VLH453226-222	2200	K,J	1kHz	40	252KHz	50.00	1.3	30

Electrical Characteristics

VLH 321618C TYPE

Part No.	Inductance			DC Resistance (Ω) max	SRF (MHz) min	Rated DC Current (mA)max
	L(μH)	Tol.	Test Freq.			
VLH321618C-R12	0.12	M	1MHz	0.112	250	970
VLH321618C-R22	0.22	M	1MHz	0.140	250	850
VLH321618C-R47	0.47	M	1MHz	0.210	180	700
VLH321618C-1R0	1.0	M	1MHz	0.364	100	510
VLH321618C-2R2	2.2	M	1MHz	0.533	50	430
VLH321618C-4R7	4.7	M,K	1MHz	0.845	31	340
VLH321618C-100	10	K,J	1MHz	1.690	20	230
VLH321618C-220	22	K,J	1MHz	3.900	14	160
VLH321618C-470	47	K,J	1MHz	10.40	10	100
VLH321618C-101	100	K,J	1MHz	15.60	7	80

VLH 322520C TYPE

Part No.	Inductance			DC Resistance (Ω) max	SRF (MHz) min	Rated DC Current (Ma)max
	L(μH)	Tol.	Test Freq			
VLH322520C-1R0	1.0	M	1MHz	0.078	100	1000
VLH322520C-2R2	2.2	M	1MHz	0.126	64	790
VLH322520C-4R7	4.7	M,K	1MHz	0.195	43	450
VLH322520C-100	10	M,K	1MHz	0.572	26	300
VLH322520C-220	22	M,K	1MHz	0.923	19	250
VLH322520C-470	47	M,K	1MHz	1.69	15	170
VLH322520C-101	100	K,J	1MHz	4.55	10	100
VLH322520C-151	150	K,J	1MHz	9.10	7.0	80
VLH322520C-221	220	K,J	1MHz	10.92	6.8	70
VLH322520C-331	330	K,J	1MHz	13.00	5.6	60
VLH322520C-391	390	K,J	1MHz	22.10	5.0	60
VLH322520C-471	470	K,J	1MHz	24.70	5.0	60
VLH322520C-561	560	K,J	1MHz	28.60	5.0	60

VLH 453226C TYPE

Part No.	Inductance			DC Resistance (Ω) max	SRF (MHz) min	Rated DC Current (mA)max
	L(μH)	Tol.	Test Freq.			
VLH453226C-1R0	1.0	M	1MHz	0.08	100	1080
VLH453226C-1R5	1.5	M	1MHz	0.09	85	1000
VLH453226C-2R2	2.2	M	1MHz	0.11	60	900
VLH453226C-3R3	3.3	M	1MHz	0.13	47	800
VLH453226C-4R7	4.7	M,K	1MHz	0.15	35	750
VLH453226C-6R8	6.8	M,K	1MHz	0.20	30	720
VLH453226C-100	10	K,J	1MHz	0.24	23	650
VLH453226C-150	15	K,J	1MHz	0.32	20	570
VLH453226C-220	22	K,J	1MHz	0.60	15	420
VLH453226C-330	33	K,J	1MHz	1.00	12	310
VLH453226C-470	47	K,J	1MHz	1.10	10	280
VLH453226C-680	68	K,J	1MHz	1.7	8.4	220
VLH453226C-101	100	K,J	1MHz	2.2	6.8	190
VLH453226C-151	150	K,J	1MHz	3.5	5.5	130
VLH453226C-221	220	K,J	1MHz	4.0	4.5	110
VLH453226C-331	330	K,J	1MHz	6.8	3.6	100
VLH453226C-471	470	K,J	1kHz	8.5	3.0	90

Electrical Characteristics

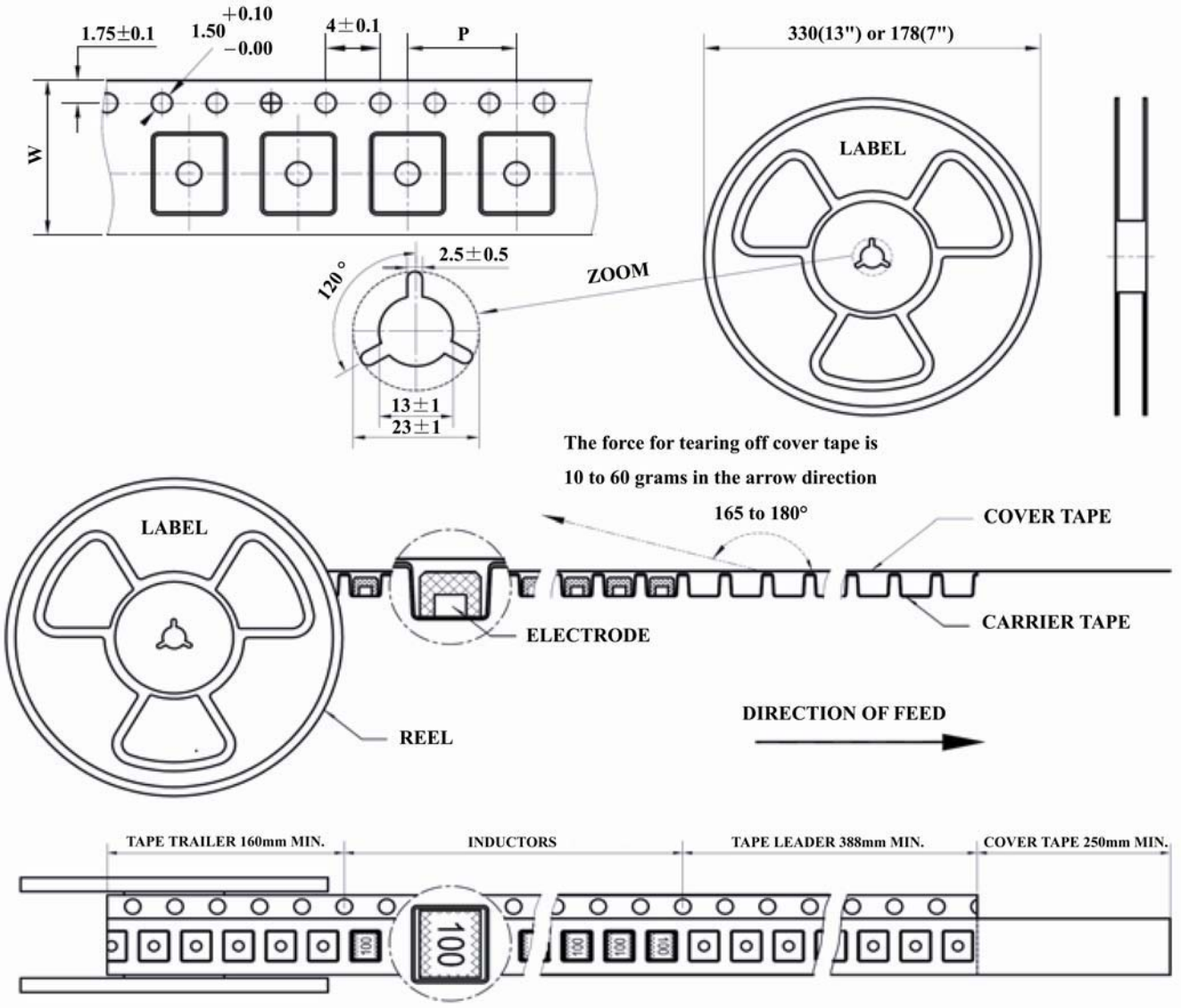
VLH 575047C TYPE

Part No.	Inductance			DC Resistance (Ω) max	SRF (MHz) min	Rated DC Current (mA)max
	(μH)	Tol.	Test Freq.			
VLH575047C-R12	0.12	M	1MHz	0.0098	450	6000
VLH575047C-R27	0.27	M	1MHz	0.0140	300	5300
VLH575047C-R47	0.47	M	1MHz	0.0182	200	4800
VLH575047C-1R0	1.0	M	1MHz	0.0272	150	4000
VLH575047C-1R5	1.5	M	1MHz	0.0310	110	3700
VLH575047C-2R2	2.2	M	1MHz	0.0410	80	3200
VLH575047C-3R3	3.3	M	1MHz	0.0500	40	2900
VLH575047C-4R7	4.7	M	1MHz	0.0574	30	2700
VLH575047C-6R8	6.8	M	1MHz	0.1040	25	2000
VLH575047C-100	10	M,K	1MHz	0.1300	20	1700
VLH575047C-150	15	M,K	1MHz	0.210	17	1400
VLH575047C-220	22	M,K	1MHz	0.266	15	1200
VLH575047C-330	33	M,K	1MHz	0.448	12	900
VLH575047C-470	47	M,K	1MHz	0.560	10	800
VLH575047C-680	68	M,K	1MHz	0.938	7.6	640
VLH575047C-101	100	M,K	100kHz	1.204	6.5	560
VLH575047C-151	150	M,K	100kHz	2.660	5.0	420
VLH575047C-221	220	M,K	100kHz	3.360	4.0	320
VLH575047C-331	330	M,K	100kHz	6.160	3.1	270
VLH575047C-471	470	M,K	100kHz	7.560	2.4	240
VLH575047C-681	680	M,K	100kHz	11.34	1.9	190
VLH575047C-102	1000	M,K	10kHz	14.42	1.7	150
VLH575047C-222	2200	M,K	10kHz	30.10	1.2	100
VLH575047C-472	4700	M,K	10kHz	61.04	0.8	70
VLH575047C-103	10000	M,K	10kHz	140.0	0.5	50

Packaging Info

Tape and Reel specifications

Dimensions are in mm



Tape and Reel specifications

Series(Maximum L×W×H mm)	Tape size		Parts Per Reel			Per Caron	
	W	P	7″	13″	G.W.	Q'ty	G.W.
VLH321618C(3.5×1.8×2.1)	8	4	2000		130g	120k	12kg
VLH322520(C)(3.5×2.7×2.3)	8	4	2000		180g	120k	15kg
VLH453226(C) (4.8×3.4×2.9)	12	8	500		140g	24k	11kg
VLH575047C(6.0×5.3×5.0)	16	12	-	1000	780g	16k	16kg

SMT Power Inductor Environmental Specifications

General

Items		Specifications
1.	Shelf Storage conditions	Temperature range: 25±3℃; Humidity: <80% relative humidity. Recommended product should be used within six months from the time of delivery.
2.	Storage temperature range	Temperature range: -40℃ to +85℃.
3.	Operating temperature range	Temperature range: -20℃ to +80℃.

Environmental test

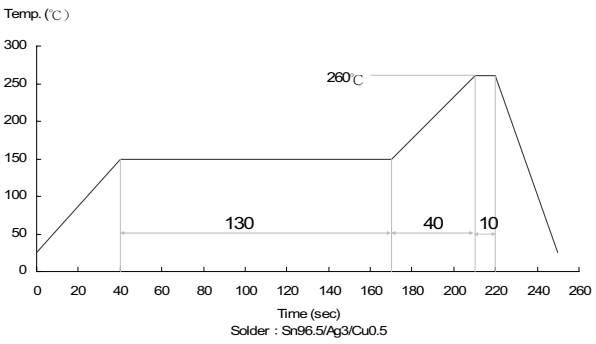
Test Items		Specifications	Test Conditions / Test Methods
1.	High temperature Storage test	No case deformation or change in appearance. △L/L≦10% △L/L≦30% (PS1608)	Temperature 85±2℃, Time: 48±2 hours, Tested after 1hour at room temperature.
2.	Low temperature Storage test		Temperature -25±2℃, Time: 48±2 hours, Tested after 1hour at room temperature.
3.	Humidity test		Temperature 40±2℃, 90~95% relative humidity Time: 96±2 hours, apply rated current, Tested after 1hour at room temperature.
4.	Thermal shock test		First -25℃ 30minutes then 25℃ 10 minutes last 85℃ 30 minutes, as 1 cycle. Go through 5 cycles. Tested after 1 hour at room temperature.

Mechanical test

Test Items		Specifications	Test Conditions / Test Methods
1.	Solder ability test	Terminal area must have 90% minimum solder coverage.	Product with Lead plating: Dip pads in flux then dip in solder pot (63Sn/37Pb solder) at 230±5℃ for 5 seconds. Product with Lead-free terminal: Dip pads in flux then dip in solder pot (100Sn solder) at 260±5℃ for 5 seconds.
2.	Heat endurance of Reflow soldering	No case deformation or change in appearance. △L/L≦10% △L/L≦30% (PS1608)	Refer to the reflow soldering condition. Go through 3 times.
3.	Vibration test		Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours.
4.	Shock resistance		Drop down with 981m/s^2(100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations.

The codition of reflow (recommendation):

Lead-free



Lead