

## Cautions and Warnings

Please be noted that this spec is only for reference if you have projects designed with the product number listed in. If you are looking for new project design-in, please find BWVC Series specification/datasheet on Chilisin website. Or you may find our sales contact for more information on old part number at your convenience. Appreciated your attention and understanding.

**Note:** Please be sure to request approval specifications that provide further details of the products. Kindly note that the content of these specifications are subject to change or may be discontinued without prior notice. This product may not be designed/used in medical or high risk applications without Chilisin approval. Please contact our sales department before ordering.

## LVC Series



LVC series, an automatic assembly constructed power inductor, is shielded with magnetic resin and suitable for portable DC-DC converter application.

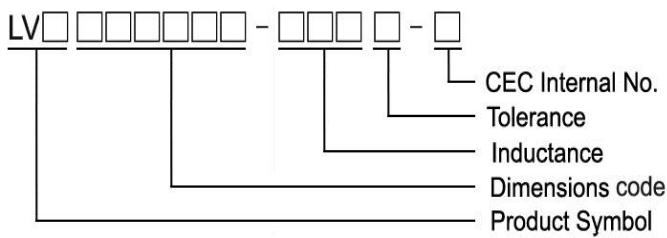
### Features

- RoHS, Halogen Free and REACH Compliance
- Shielded with magnetic resin
- Various package size and wide inductance range
- Optimize electrical characteristics by using different ferrite core figures

### Applications

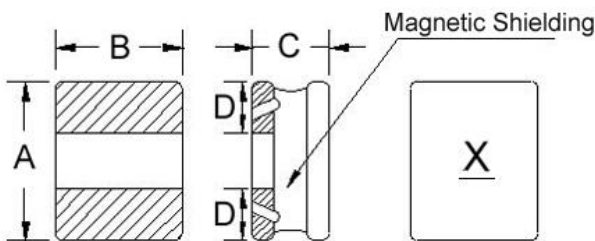
- Smartphones, tablets and wearable devices
- DSC, camcorders
- AP Routers
- STBs
- LCD TVs, monitors and panels
- Game consoles
- DC/DC converters

### Product Identification

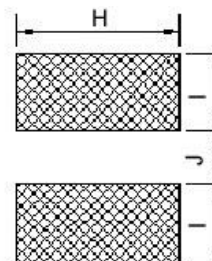


### Shape and Dimensions

Figure 1



### Recommended Pattern



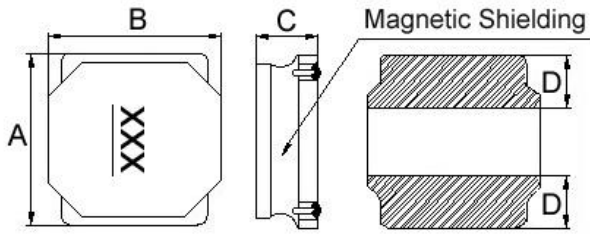
Dimensions in mm

TYPE	FIG	A	B	C	D	H	I	J
LVC201B10	1	2.0±0.25	1.6±0.25	1.00 Max	0.6	1.8	0.80	0.8
LVC201B12	1	2.0±0.25	1.6±0.25	1.2±0.05	0.6	1.8	0.80	0.8
LVC252A12	1	2.5±0.25	2.0±0.25	1.2±0.05	0.8	2.2	0.85	0.8

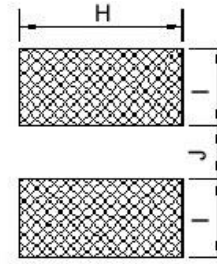
# Sealed Power Inductors – LVC Series

## Shape and Dimensions

Figure 2



## Recommended Pattern

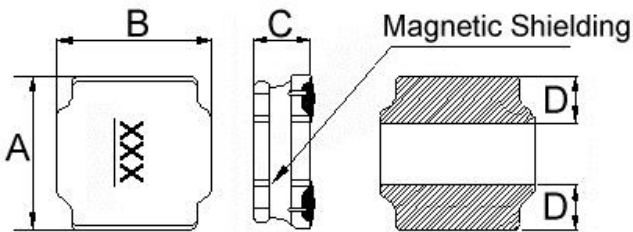


Dimensions in mm

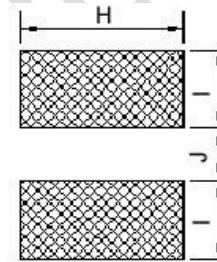
TYPE	FIG	A	B	C	D	H	I	J
LVC404018	2	4.0±0.20	4.0±0.20	1.9 Max	1.3	3.7	1.5	1.2

## Shape and Dimensions

Figure 3



## Recommended Pattern



Dimensions in mm

TYPE	FIG	A	B	C	D	H	I	J
LVC505040	3	5.0±0.20	5.0±0.20	4.0±0.2	1.5	4.2	1.6	2.0
LVC606028	3	6.0±0.20	6.0±0.20	2.8±0.2	1.9±0.3	5.7	1.8	2.6
LVC606045	3	6.0±0.20	6.0±0.20	4.5 <sup>+0.2</sup> <sub>-0.30</sub>	1.8±0.3	5.7	2.0	2.4

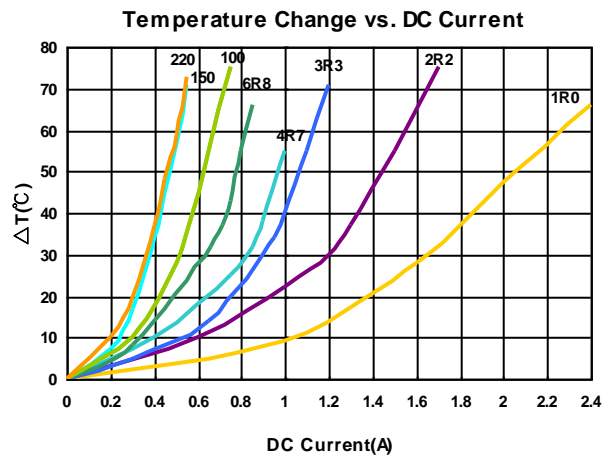
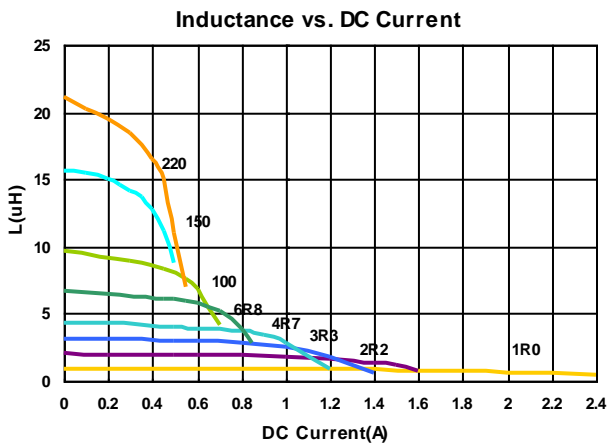
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
LVC201B10-R24□-N	0.24	20, 30	1	0.026	3.20(2.80)	3.00(2.70)	M
LVC201B10-1R0□-N	1.0	20, 30	1	0.095	1.86(1.67)	1.86(1.67)	B
LVC201B10-1R5□-N	1.5	20, 30	1	0.140	1.64(1.47)	1.65(1.48)	C
LVC201B10-2R2□-N	2.2	20, 30	1	0.190	1.30(1.17)	1.30(1.17)	D
LVC201B10-3R3□-N	3.3	20, 30	1	0.295	0.96(0.86)	0.98(0.88)	E
LVC201B10-4R7□-N	4.7	20, 30	1	0.360	0.84(0.75)	0.90(0.81)	F
LVC201B10-6R8□-N	6.8	20, 30	1	0.640	0.66(0.59)	0.70(0.63)	G
LVC201B10-100□-N	10	20, 30	1	1.000	0.54(0.48)	0.56(0.50)	H
LVC201B10-150□-N	15	20, 30	1	1.500	0.39(0.35)	0.42(0.37)	K
LVC201B10-180□-N	18	20, 30	1	1.600	0.39(0.35)	0.41(0.36)	J
LVC201B10-220□-N	22	20, 30	1	1.700	0.38(0.34)	0.40(0.36)	I

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

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- I rms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
- L : Agilent HP4287A+Agilent HP16197A, 1MHz 200mV
- RDC : DIGITAL MILLINHM METER CHROMA 16502, or equivalent
- Isat & I rms : Agilent HP4284A

**Test Instruments :** HP4284A Material/Impedance Analyzer



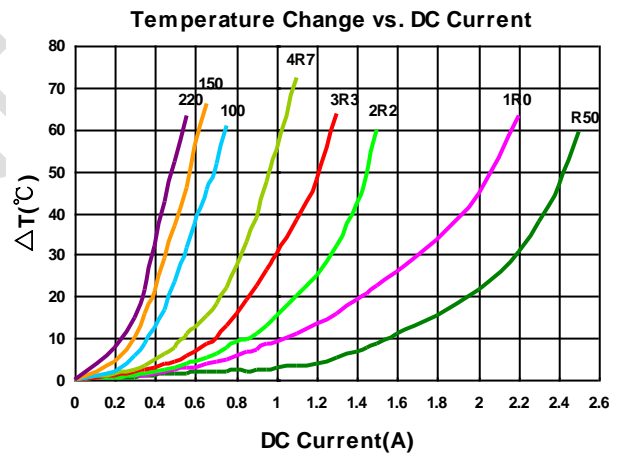
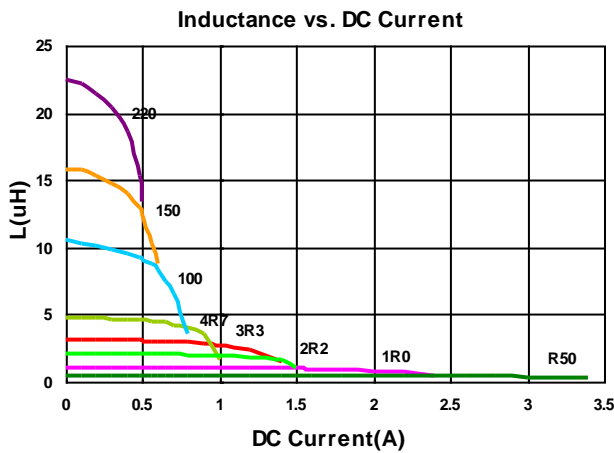
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
LVC201B12-R50□-N	0.5	20, 30	1	0.051	2.60(2.34)	2.30(2.07)	B
LVC201B12-1R0□-N	1.0	20, 30	1	0.083	1.90(1.71)	1.80(1.62)	C
LVC201B12-2R2□-N	2.2	20, 30	1	0.159	1.36(1.22)	1.34(1.20)	E
LVC201B12-3R3□-N	3.3	20, 30	1	0.220	1.10(0.99)	1.06(0.95)	F
LVC201B12-4R7□-N	4.7	20, 30	1	0.330	0.92(0.82)	0.90(0.81)	G
LVC201B12-100□-N	10	20, 30	1	0.580	0.62(0.55)	0.58(0.52)	I
LVC201B12-150□-N	15	20, 30	1	0.900	0.48(0.43)	0.45(0.40)	J
LVC201B12-220□-N	22	20, 30	1	1.400	0.40(0.36)	0.40(0.36)	K

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

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## Test Instruments : HP4284A Material/Impedance Analyzer



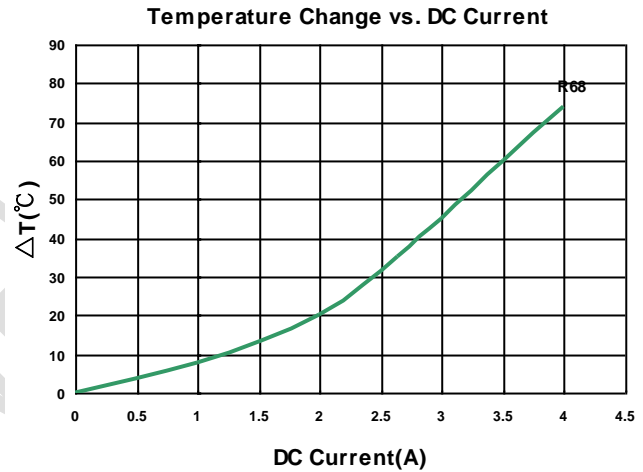
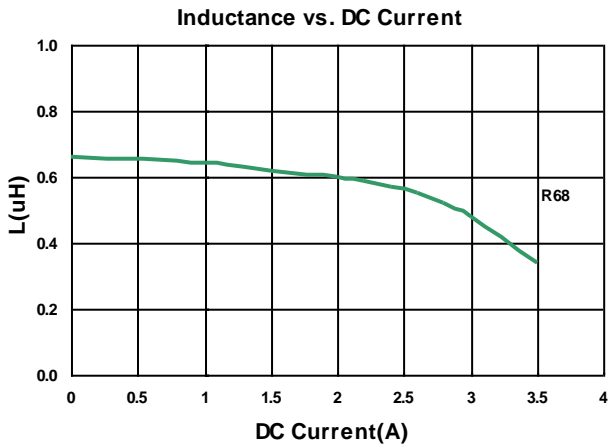
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
LVC252A12-R68□-N	0.68	20, 30	1	0.035	2.80(2.52)	2.60(2.34)	N

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

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- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
- L : Agilent HP4287A+Agilent HP16197A, 1MHz 200mV
- RDC : DIGITAL MILLINHM METER CHROMA 16502, or equivalent
- Isat & Irms : Agilent HP4284A

**Test Instruments :** HP4284A Material/Impedance Analyzer



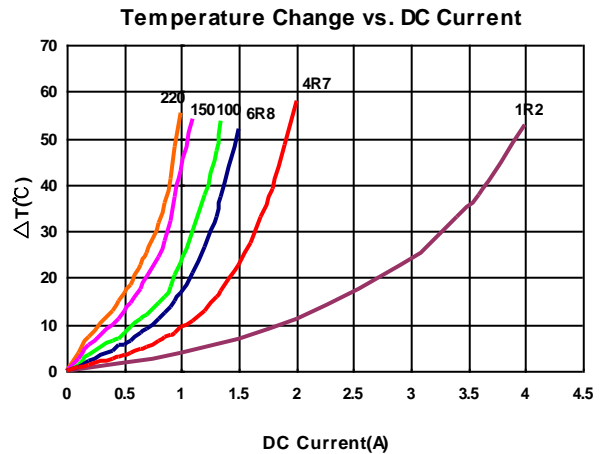
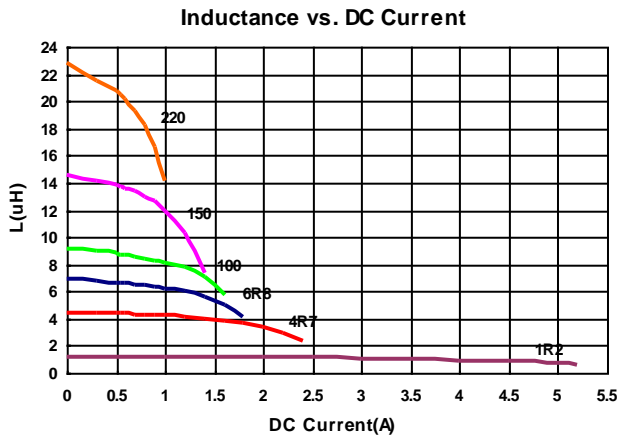
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (kHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
LVC404018-1R2□-N	1.2	20, 30	100	0.027	3.70(3.30)	3.60(3.20)	1R2
LVC404018-4R7□-N	4.7	20, 30	100	0.077	2.00(1.80)	1.80(1.62)	4R7
LVC404018-6R8□-N	6.8	20, 30	100	0.105	1.50(1.35)	1.35(1.21)	6R8
LVC404018-100□-N	10	20, 30	100	0.160	1.40(1.26)	1.20(1.08)	100
LVC404018-150□-N	15	20, 30	100	0.245	1.05(0.94)	0.95(0.85)	150
LVC404018-220□-N	22	20, 30	100	0.335	0.90(0.81)	0.88(0.79)	220

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

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- Isat & I rms : Agilent HP4284A

## Test Instruments : HP4284A Material/Impedance Analyzer



## Electrical Characteristics

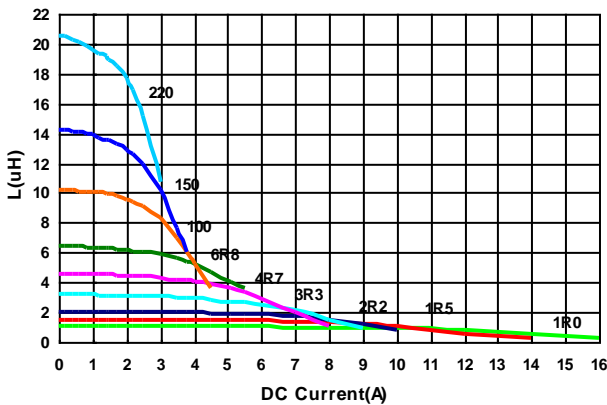
Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (kHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
LVC505040-1R0□-N	1.0	20, 30	100	0.012	8.8(7.92)	5.9(5.31)	1R0
LVC505040-1R5□-N	1.5	20,30	100	0.014	7.9(7.11)	5.4(4.86)	1R5
LVC505040-2R2□-N	2.2	20, 30	100	0.020	6.8(6.12)	4.5(4.05)	2R2
LVC505040-2R7□-N	2.7	20, 30	100	0.026	6.0(5.40)	4.2(3.70)	2R7
LVC505040-3R3□-N	3.3	20, 30	100	0.026	5.3(4.77)	4.2(3.78)	3R3
LVC505040-4R7□-N	4.7	20, 30	100	0.032	4.4(3.96)	3.2(2.88)	4R7
LVC505040-6R8□-N	6.8	20, 30	100	0.050	3.8(3.42)	3.0(2.70)	6R8
LVC505040-100□-N	10	20, 30	100	0.070	3.0(2.70)	2.3(2.07)	100
LVC505040-150□-N	15	20, 30	100	0.115	2.4(2.16)	1.8(1.62)	150
LVC505040-220□-N	22	20, 30	100	0.160	2.0(1.80)	1.6(1.44)	220
LVC505040-151□-N	150	20, 30	100	1.180	0.74(0.66)	0.58(0.52)	151
LVC505040-181□-N	180	20, 30	100	1.250	0.67(0.60)	0.54(0.48)	181
LVC505040-221□-N	220	20, 30	100	1.450	0.65(0.58)	0.50(0.45)	221

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

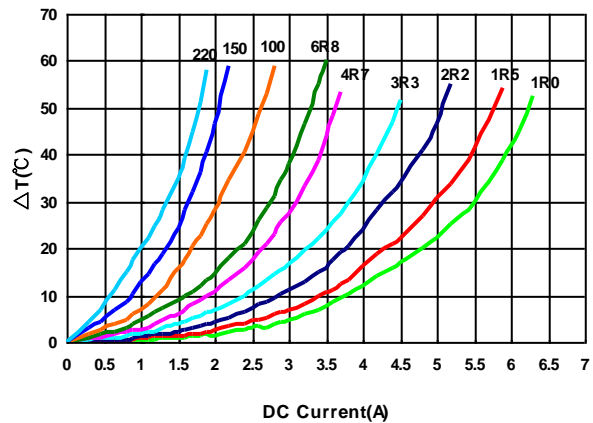
- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
- L : Agilent HP 4284A+Agilent HP 42841A, 100kHz 1V
- RDC : DIGITAL MILLINHM METER CHROMA 16502, or equivalent
- Isat & Irms : Agilent HP4284A

## Test Instruments : HP4284A Material/Impedance Analyzer

**Inductance vs. DC Current**



**Temperature Change vs. DC Current**





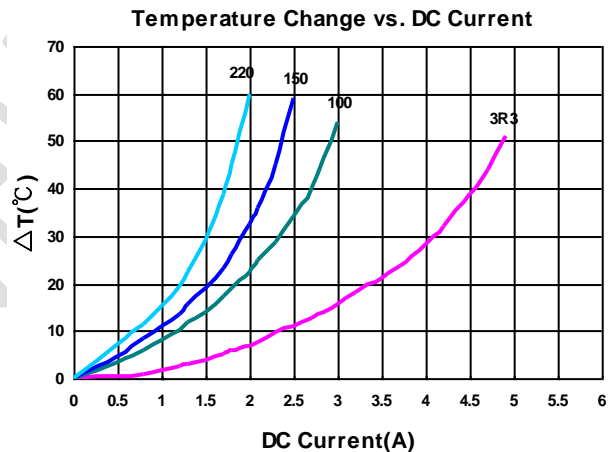
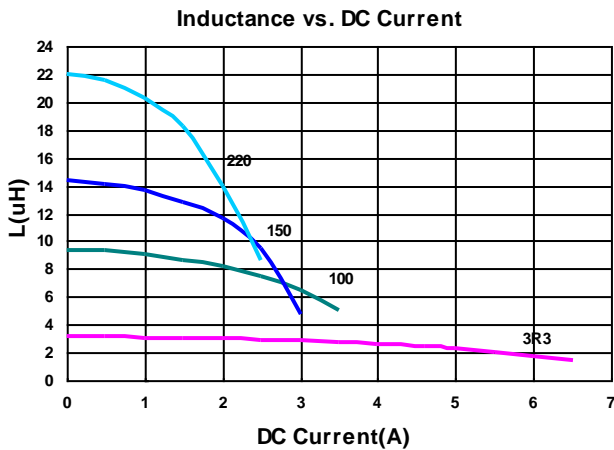
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (kHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
LVC606028-3R3□-N	3.3	20, 30	100	0.027	4.5(4.05)	4.0(3.60)	3R3
LVC606028-100□-N	10	20, 30	100	0.065	2.6(2.34)	2.5(2.25)	100
LVC606028-150□-N	15	20, 30	100	0.093	2.1(1.89)	2.0(1.80)	150
LVC606028-220□-N	22	20, 30	100	0.135	1.7(1.53)	1.65(1.48)	220

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

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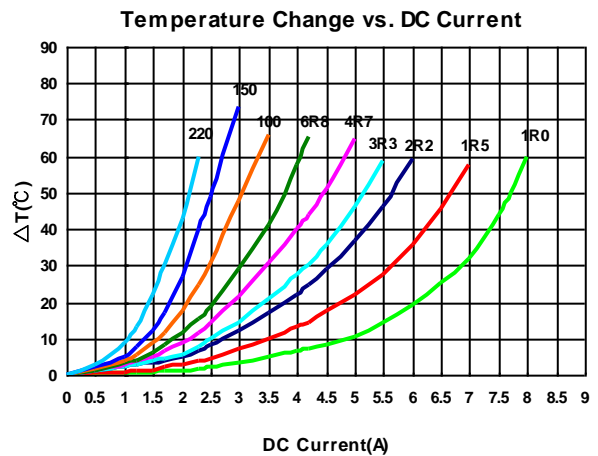
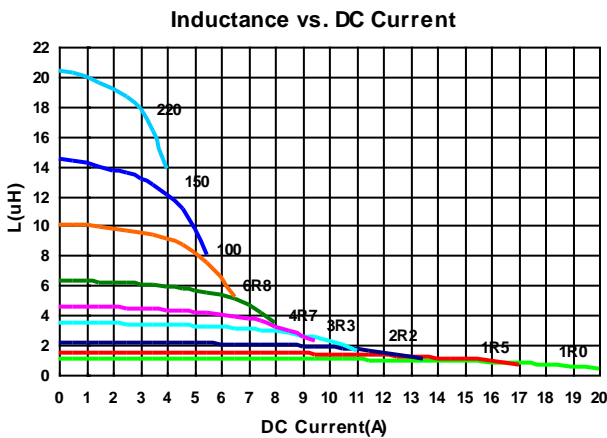
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (kHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
LVC606045-1R0□-N	1.0	20,30	100	0.010	13(11.7)	7.3(6.57)	1R0
LVC606045-1R5□-N	1.5	20,30	100	0.012	12(10.8)	6.6(5.94)	1R5
LVC606045-2R2□-N	2.2	20, 30	100	0.018	9.5(8.55)	5.2(4.68)	2R2
LVC606045-3R3□-N	3.3	20, 30	100	0.022	7.8(7.02)	4.4(3.96)	3R3
LVC606045-4R7□-N	4.7	20, 30	100	0.030	6.8(6.12)	4.0(3.60)	4R7
LVC606045-6R8□-N	6.8	20, 30	100	0.042	5.7(5.13)	3.3(2.97)	6R8
LVC606045-100□-N	10	20, 30	100	0.060	4.6(4.14)	2.6(2.34)	100
LVC606045-150□-N	15	20, 30	100	0.090	3.8(3.42)	2.2(1.98)	150
LVC606045-220□-N	22	20, 30	100	0.130	3.3(2.97)	1.9(1.71)	220

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

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Isat & Irms : Agilent HP4284A

## Test Instruments : HP4284A Material/Impedance Analyzer



## Packaging Specifications

### Tape Dimensions

Figure 1

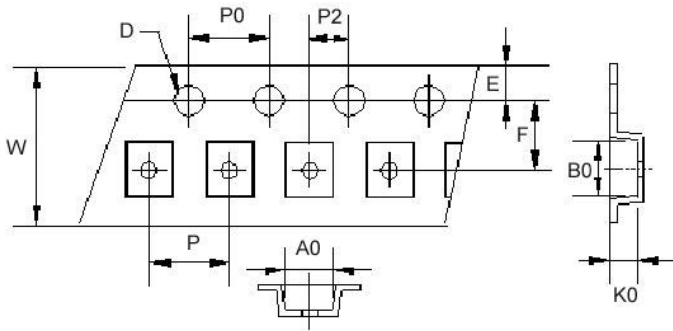
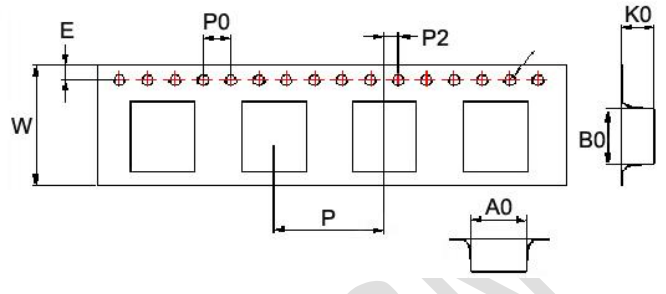


Figure 2



### Reel Dimensions

Figure 1

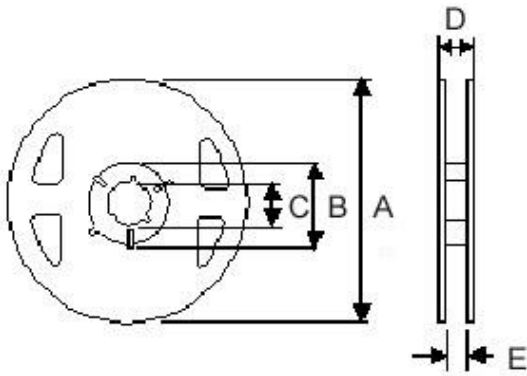
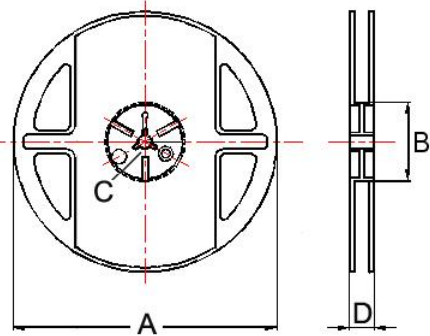


Figure 2



### Dimensions in mm

TYPE	Fig	Tape Dimensions										Reel Dimensions					Quantity PCS / Reel
		A0	B0	K0	D	E	F	W	P	P0	P2	A	B	C	D	E	
LVC201B10	1	1.90	2.20	1.15	1.55	1.75	3.5	8.1	4	4	2	180	60	13	14.4	8.4	2000
LVC201B12	1	1.90	2.20	1.30	1.55	1.75	3.5	8.1	4	4	2	180	60	13	14.4	8.4	2000
LVC252A12	1	2.40	2.70	1.35	1.55	1.75	3.5	8.1	4	4	2	180	60	13	14.4	8.4	2000
LVC404018	2	4.25	4.25	2.10	1.55	1.75	5.5	12	8	4	2	178	60	13	13.2	-	800
LVC505040	2	5.20	5.20	4.20	1.55	1.75	5.5	12	8	4	2	330	100	13	13.4	-	1500
LVC606028	2	6.25	6.25	3.00	1.55	1.75	7.5	16	12	4	2	330	100	13	16.0	-	1500
LVC606045	2	6.25	6.25	4.65	1.55	1.75	7.5	16	12	4	2	330	100	13	16.0	-	1000