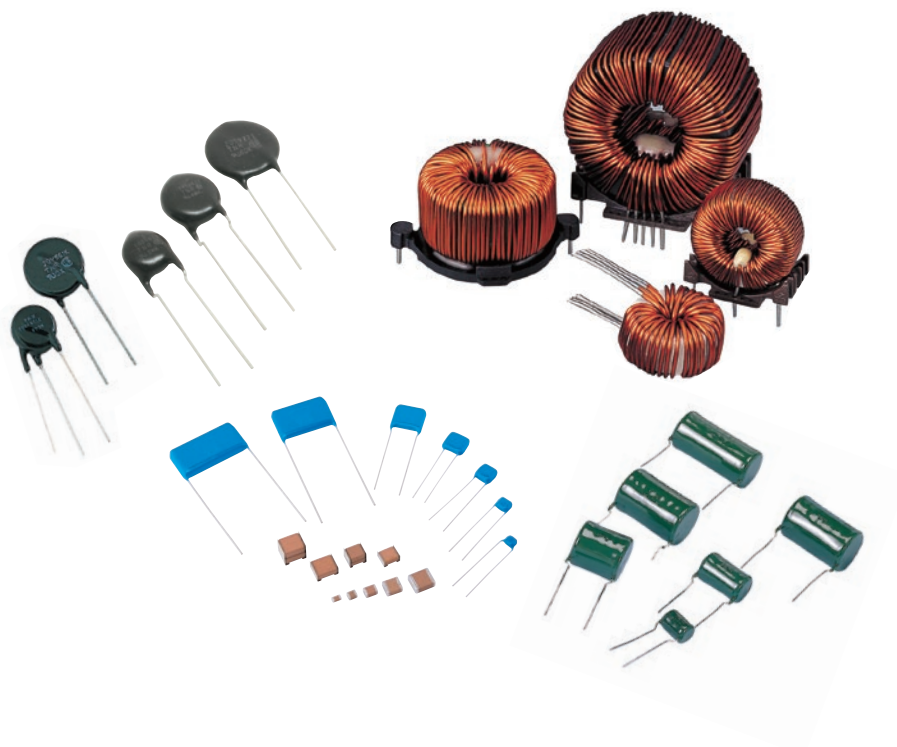


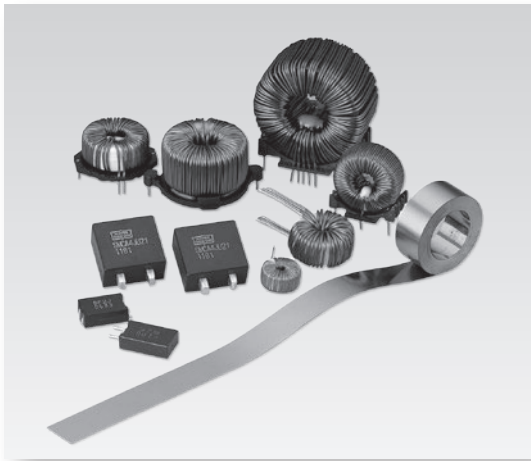


2020

CERAMIC CAPACITORS VARISTORS FILM CAPACITORS CHOKE COILS

CAT.NO.E1002Z / E1006C / E1003W / E1008U





NANOCRYSTALLINE / AMORPHOUS / DUST CHOKE COILS

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Series	Major uses	Miniaturization	Thin type	Low loss	Low cost	Large capacity	Classification	Page
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	Accessories							131
	Choke Coil Characteristics							133
FL (Upgrade!)	Line filter for inverter or large power supply	⊙		○		⊙	Common mode	134
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TM	Switching mode power supplies DC-DC converter Normal mode line filter	○	○	○	○			166
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DM	DC-DC converter Switching mode power supplies Harmonic counter-measure active filter	○	⊙	○	⊙	⊙		177
	Coil Design Request							183

GLOBAL CODE SYSTEM

The current parts numbering system is changed to new system for global coding.

Your cooperation will be very much appreciated.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

L

B

T

M

0

1

0

3

0

0

N

6

-

V

0

E

①Rated Current code

②Rated Inductance code

③Core Abbreviation code

④Mounting Direction code

Code

Rated Current

0R5

0.5A

001

1A

010

10A

100

100A

Code

Rated Inductance

0R5

0.5μH

010

1μH

100

10μH

101

100μH

102

1000μH

Code

Core Abbreviation

N6-

N6

JRH

JRH

Code

Mounting Direction

V

Vertical

H

Horizontal

D

Vertical pedestal

B

Horizontal pedestal

Y

Vertical pedestal with pins

W

Horizontal pedestal with pins

⑤Specifications control code

⑥Solder control code

Code

Specifications

0

Standard

1

Custom

Code

Specifications

0

Not Pb free

E

Pb free

Solder control code⑥

Specifications control code⑤

Mounting Direction④

Core Abbreviation③

Rated Inductance②

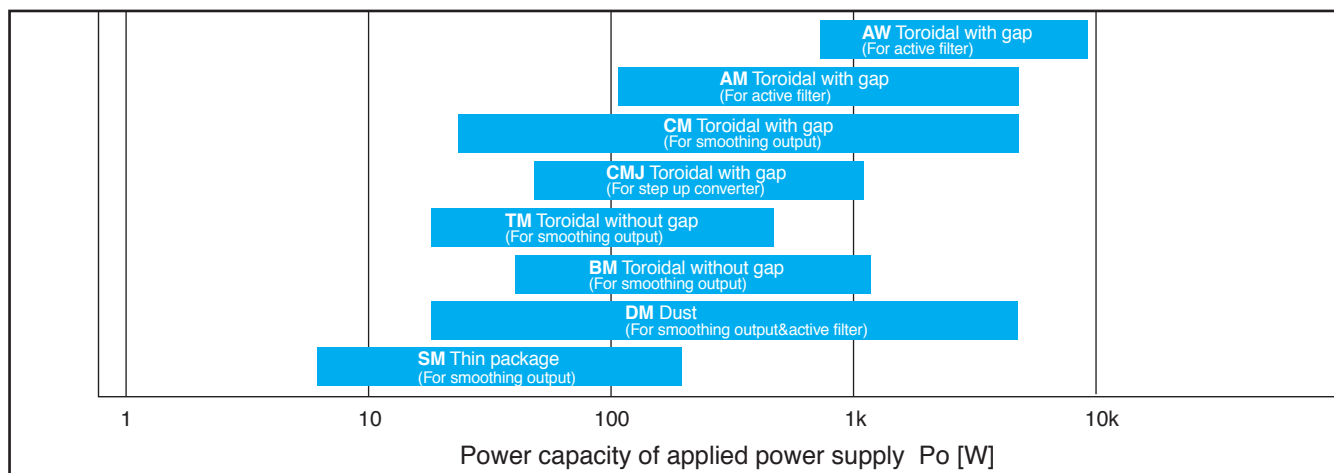
Rated Current①

Series

Section code

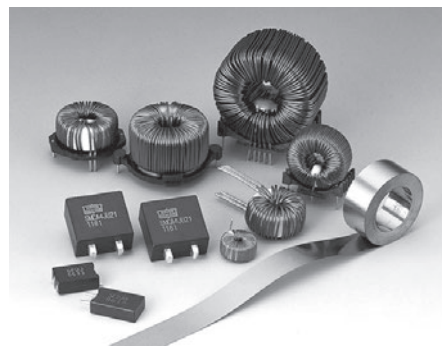
Class code

COIL SERIES GUIDE



Amorphous metal and NIPPON CHEMI-CON Amorphous Choke Coil

The amorphous metal has non crystalline structure generated by cooling molten metal rapidly. Due to the amorphous structure, the amorphous metal has excellent magnetic, mechanical, and chemical features in comparison with conventional metallic substances. NIPPON CHEMI-CON started developing amorphous components for electronic and electric equipment by making full use of the material and process technologies at its early stages and has continued the synthetic research and development to optimally match the amorphous choke coils with the material features and their applications through a variety of characteristics. NIPPON CHEMI-CON will help the customers design smaller and higher performance products by supplying excellent amorphous choke coils through the sophisticated production technology and manufacturing know-how.



STANDARD SPECIFICATIONS

◆General Specification of Toroidal Coil

Items	Amorphous coils Rated value	Dust coils Rated value
Operating temperature range *1	-40 to 130°C	-40 to 120°C (Coating type) -40 to 130°C (Case type)
Storage temperature range	-40 to 130°C	-40 to 120°C (Coating type) -40 to 130°C (Case type)
Operating humidity range *1	20 to 95%RH	
Storage humidity range	20 to 80%RH	
Operating frequency range *2	20kHz to 500kHz	
Temperature rise *3	40K or less	
Insulation type	Type B (130°C)	Type A(105°C) Coating type Type B(130°C) Case type
Incombustibility	UL 94 V-0	

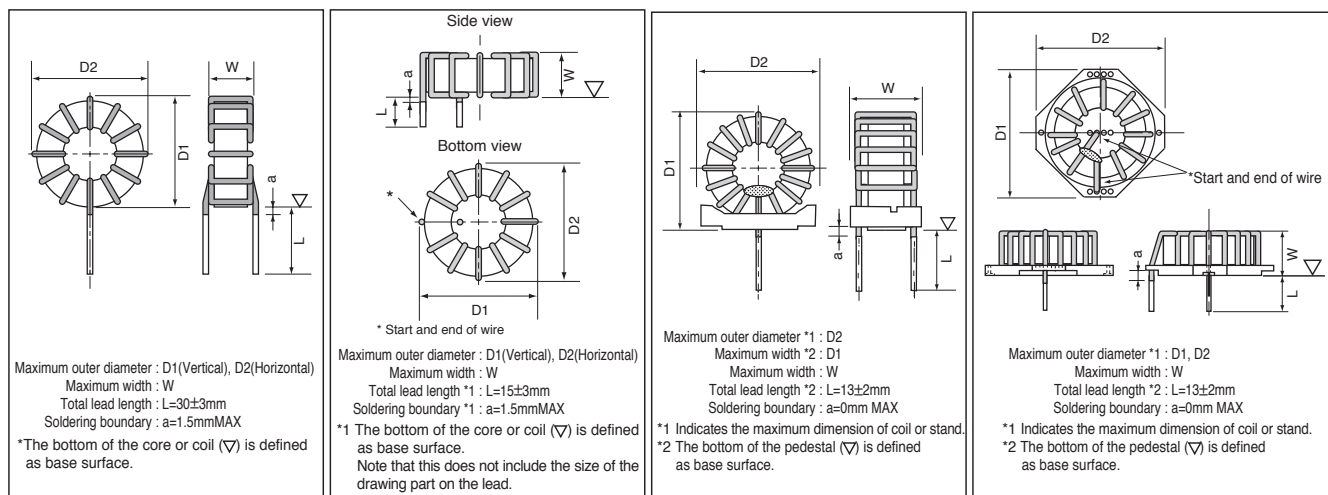
*1 Temperature on the coil surface including the temperature rise in installation. Never use the coil at a temperature exceeding the rated temperature range.

*2 Recommended range. When infra-acoustic frequency component is impressed, a beat sound sometimes occurs.

*3 The temperature rise on the coil surface at the rated d.c. current.

Note carefully that the temperature of the core may exceed the operating temperature range depending on the circumference condition even if the coil is used in the specification ranges described above.

◆DIMENSIONS



◆Notes on use

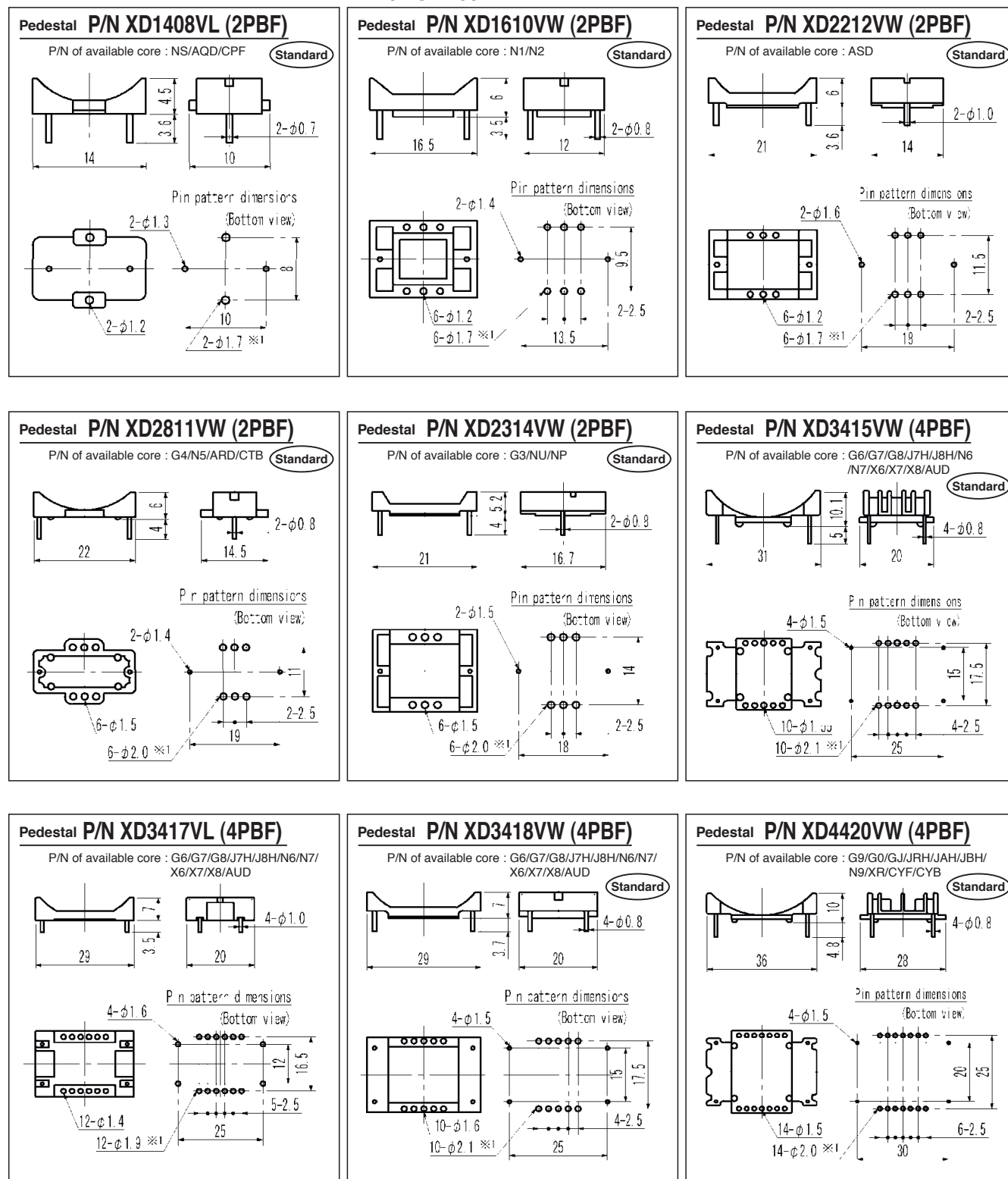
- Note that the lead wire may not be subject to excess force and also may not be bent repeatedly because the wire is made of copper.
- Never make the coil hit on a hard and/or sharp substance. If so, the coating of the coils may be damaged to ruin the performance of the coil.
- Contact NIPPON CHEMI-CON for how to clean the substrate on which the coil is mounted.
- When infra-acoustic frequency component is impressed, a beat sound sometimes occurs.
- Response to the Substances of Concern
 - (1) Nippon Chemi-Con aims for developing products that meet laws and regulations concerning substances of concern. (Some products may contain regulated substances for exempted application.) Please contact us for more information about law-compliance status.
 - (2) According to the content of REACH handbook (Guidance on requirements for substances in articles which is published on May 2008), our electronic components are "articles without any intended release". Therefore they are not applicable for "Registration" for EU REACH Regulation Article 7 (1).
Reference: Electrolytic Capacitor Investigation Society
"Study of REACH Regulation in EU about Electrolytic Capacitor" (publicized on 13 March 2008)

ACCESSORIES

NIPPON CHEMI-CON would like to serve the customers with smaller and higher qualified products.
Please name your best suited attaching parts in installation.

◆Accessories used for choke coils of upright type

Unit : [mm]

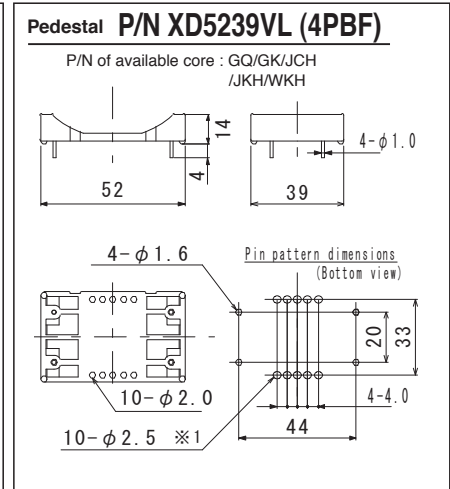
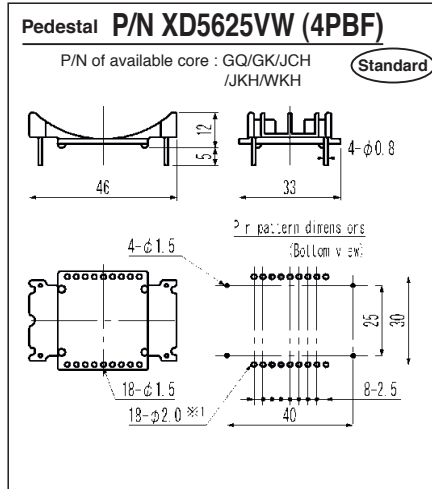
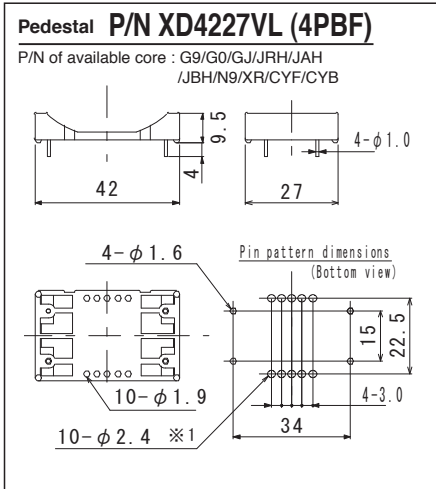


*1 In the case of a lead wire with greatest dimensions.

*2 The Specification with auxiliary pins is marked by ().

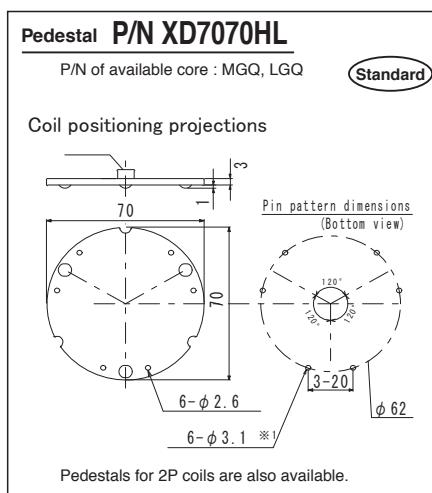
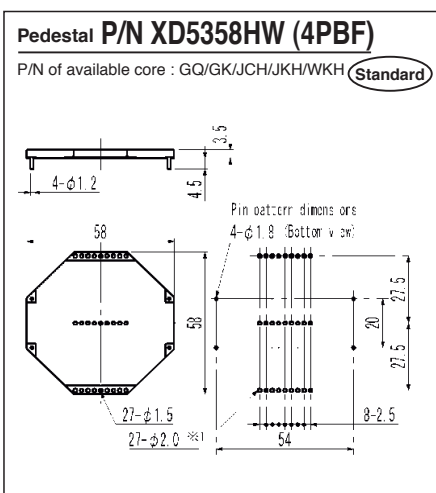
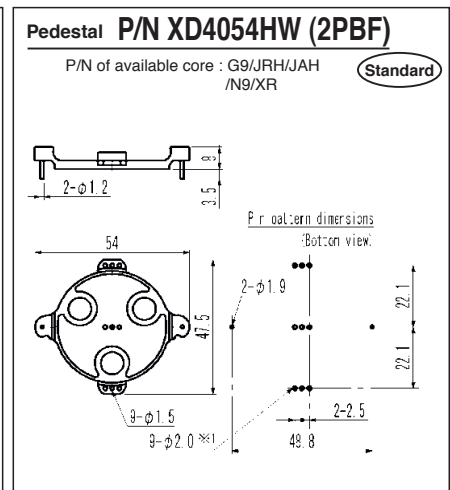
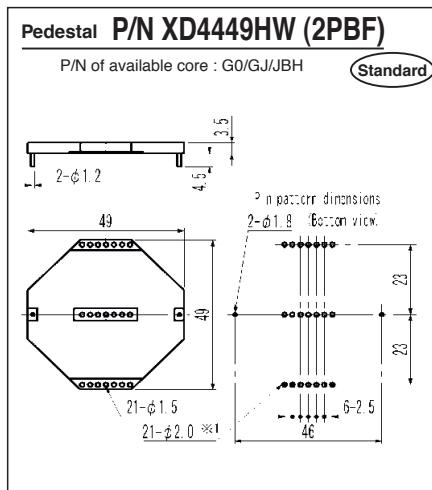
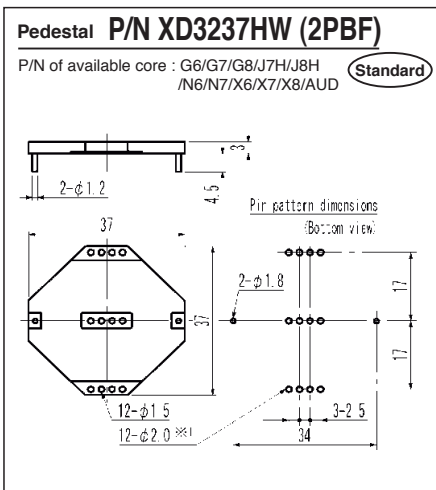
◆Accessories used for choke coils of upright type

Unit : [mm]



◆Accessories used for choke coils of lying type

Unit : [mm]



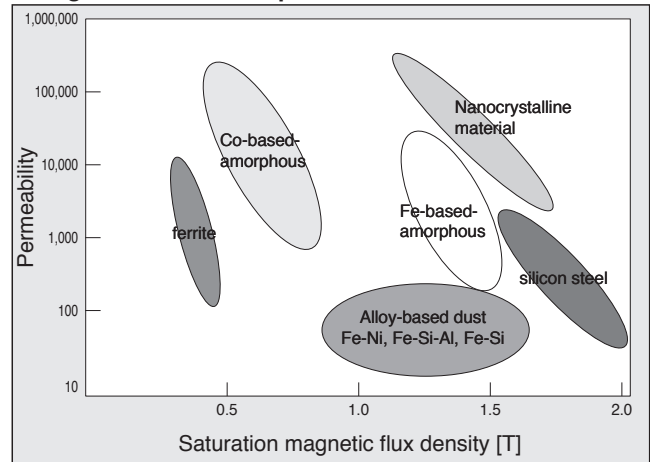
- The specification described in this manual is defined on the basis of the documentation, information, and data obtained when the document is written. However, the actual performance of each product may vary depending on the configuration of the circuit including the product. Therefore, confirm the performance and stability of the product in the circuit which you design.
- In general, electronic components may generate heat depending on their operating conditions. Accordingly, never use the products near some flammable substances. In addition, never use the products if any specification exceeds the rated value. This may cause human injury and/or device failure.
- Handle the coils carefully so that rear short circuits may not occur.
- The product specification may be subject to change without notice for improvement.

CHOKE COIL CHARACTERISTICS

◆ Characteristics comparison of magnetic materials

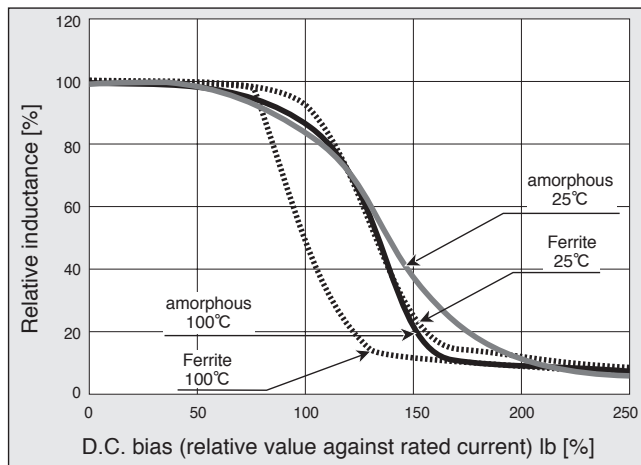
Application	Material shape	Product name	Composition	Saturation magnetic flux density Bs [mT]	Magnetic permeability $\mu(100\text{kHz})$	Curie point Tc [°C]	Frequency Characteristics (Reference) [kHz]
Power system	Foil strip	Amorphous	Fe-Si-B	1.56	- 5,000	415	- 150
			Co-Fe-Ni-Si-B	0.6	- 18,000	180	-
		Silicon steel plate	Fe-Si	1.3	- 800	700	- 20
	Powder	Alloy dust	Fe-Ni (High Flux)	1.5	26 to 200	420	- 300
			Fe-Si-Al (Sendust)	1.1	26 to 200	570	- 150
			Fe-Si (Mega flux)	1.6	26 to 200	500	- 50
			Fe-Si-B (Amorphous dust)	1.56	60 to 200	415	- 300
			Mn-Zn	0.4	- 2,400	250	- 500
		ferrite	Ni-Zn	0.3	10 to 500	350	- 1,000
			Fe	1.0	75	770	- 20
Normal	Powder	Fe dust	Fe	1.0	75	770	- 20
Common	Foil strip	Nanocrystalline	Fe-Si-Br-Nb-Cu	1.23	15,000 to 31,000	570	- 1,000
	Powder	ferrite	Mn-Zn	0.5	5,000 to 16,000	130	- 1,000

◆ Magnetic material map

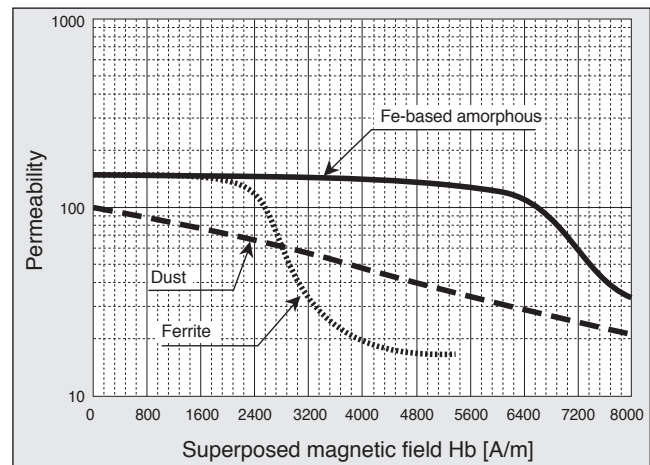


◆ D.C. bias of amorphous choke coil

● Temperature dependence : Core temperature 25, 100°C



◆ D.C. bias of normal mode choke coil

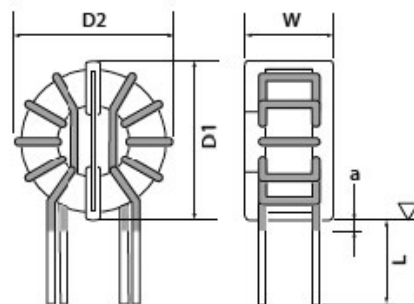


◆ MAJOR USES

- AC/DC Common mode filter

◆ FEATURES

- Compared to conventional coils, the inductance level (100kHz) has been significantly improved.
- Compared to conventional coils, a higher impedance level has been realized within wide ranges of frequencies.
- Conforming to insulating type B and incombustibility UL94V-0



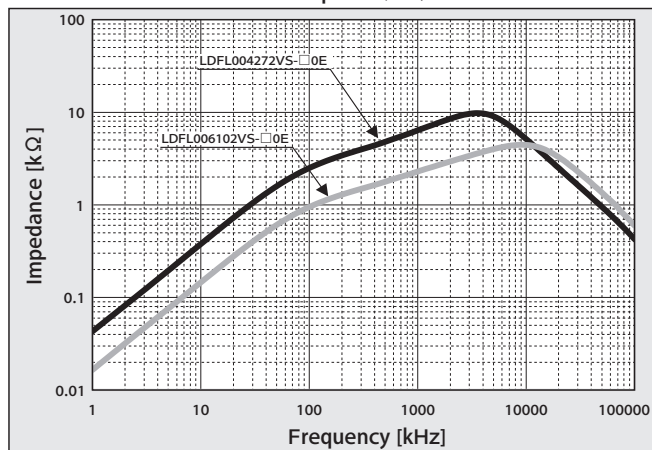
◆ CORE STANDARD SPECIFICATIONS

Coil Part No. *1	Core Part No.	Rated voltage [V]	Rated Current [A]	Inductance		D.C.R. mΩ (max)	Winding mm φ × lines	Outside Dimensions			Frequency Characteristics Graph	Temperature rise Graph
				10kHz [mH]	100kHz [mH]			D1 [mm]	D2 [mm]	W [mm]		
LDFL004272VS-□0E	F110705	250	3.5	6.0	2.7	38	0.55×1P	15.0	16.0	12.0	1,2	A
LDFL006102VS-□0E			5.5	2.3	1.0	16	0.7×1P					
LDFL006832VD-□0E	F221407	250	5.5	18.3	8.3	26	0.9×1P	27.0	31.0	17.5	3,4	B
LDFL009412VD-□0E			9	9.1	4.1	16	1.1×1P					
LDFL012282VD-□0E			12	6.2	2.8	9.5	1.3×1P					
LDFL014172VD-□0E			14	3.8	1.7	7	1.4×1P					
LDFL007652V6-□0E	F221310	250	7	16.3	6.5	22	1.0×1P	29.0	31.0	21.0	5,6	C
LDFL010302V6-□0E			10	6.7	3.0	11	1.2×1P					
LDFL012202V6-□0E			12	4.5	2.0	7.5	1.3×1P					
LDFL008123VV-□0E	F251513	250	8	25.3	11.5	26	1.1×1P	30.5	34.0	23.5	7,8	D
LDFL011742VV-□0E			11	16.2	7.4	15	1.3×1P					
LDFL013412VV-□0E			13	9.1	4.1	12	1.4×1P					
LDFL015372VBU□0E	F281815	700	15	8.1	3.7	6.7	1.7×1P	36.0	40.0	29.5	9,10	E
LDFL021252VBU□0E			21	5.4	2.5	4.5	1.9×1P					
LDFL026152VBU□0E			26	3.3	1.5	2.9	1.5×2P					
LDFL020592VJU□0E	F372315	700	20	12.9	5.9	5.7	1.5×2P	48.0	50.0	32.5	11,12	F
LDFL027282VJU□0E			27	6.2	2.8	3.1	1.7×2P					
LDFL039172VJU□0E			39	3.7	1.7	1.5	2.0×2P					

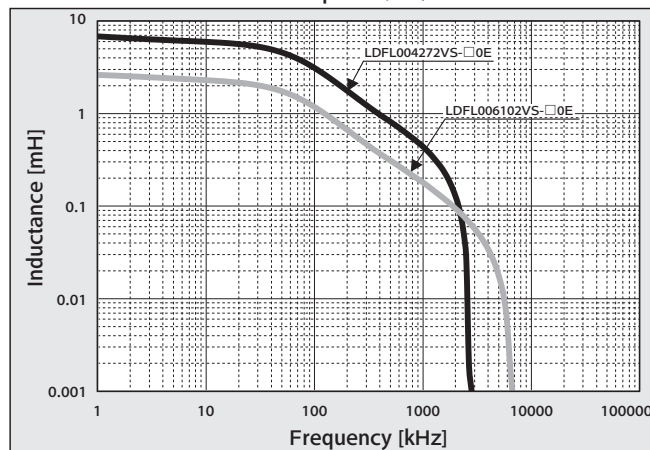
*1 For Coil Part No., vertical type=V, horizontal type=H are used

Frequency Characteristics Ambient temperature : 25°C

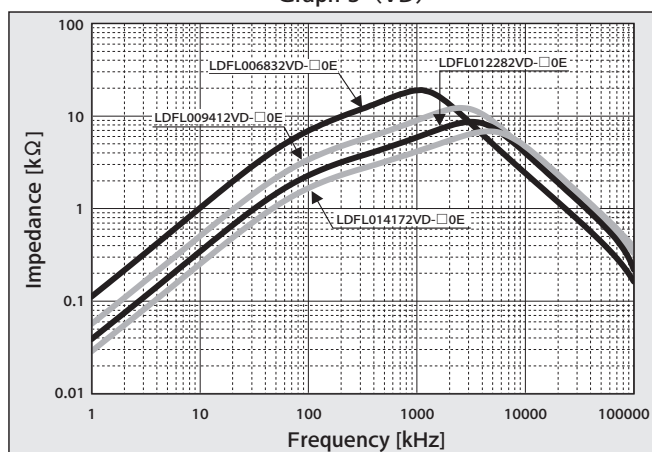
Graph-1 (VS)



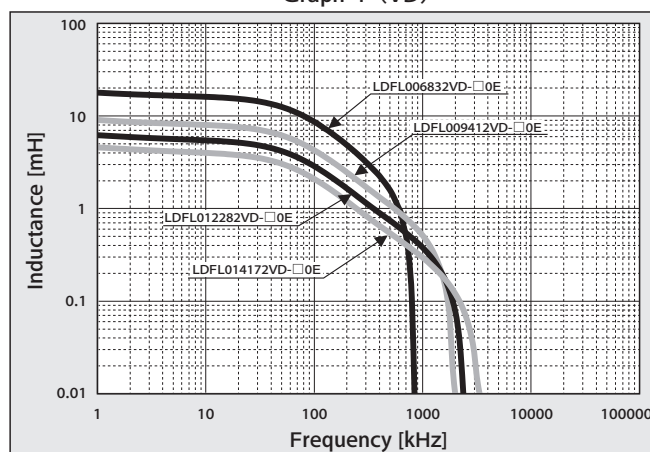
Graph-2 (VS)



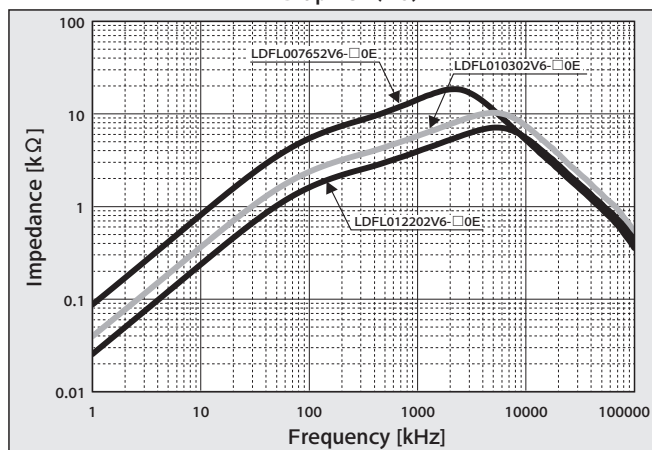
Graph-3 (VD)



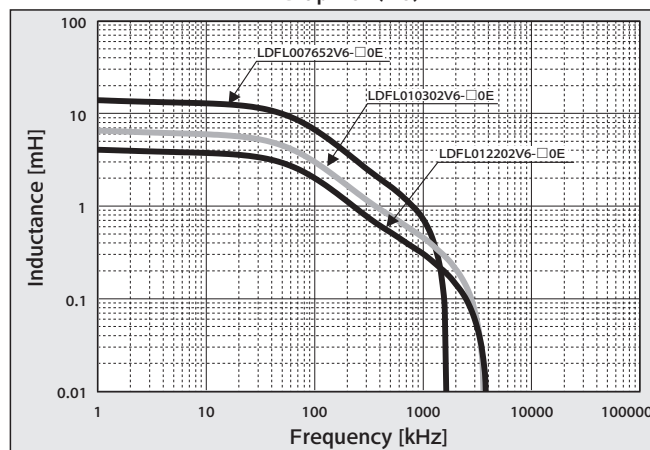
Graph-4 (VD)



Graph-5 (V6)

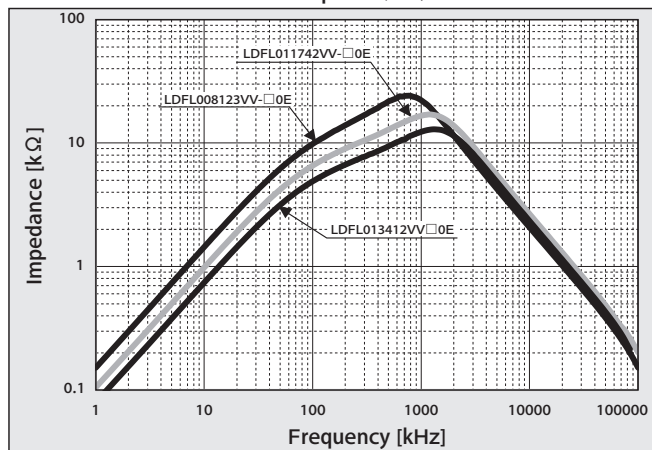


Graph-6 (V6)

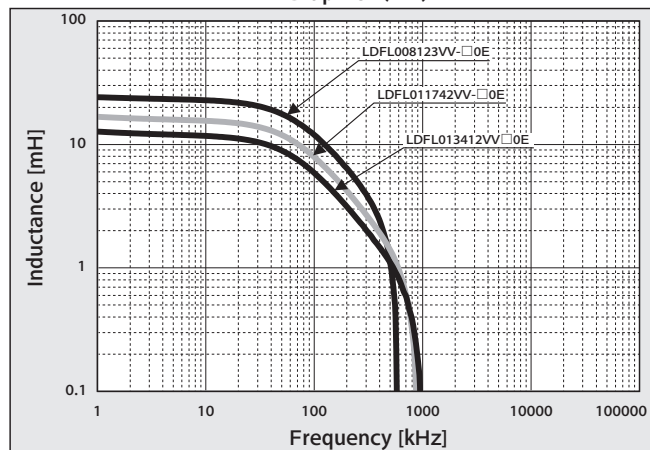


Frequency Characteristics Ambient temperature : 25°C

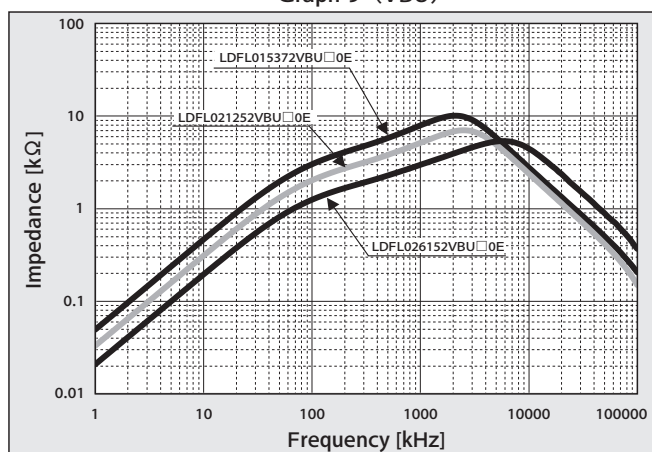
Graph-7 (VV)



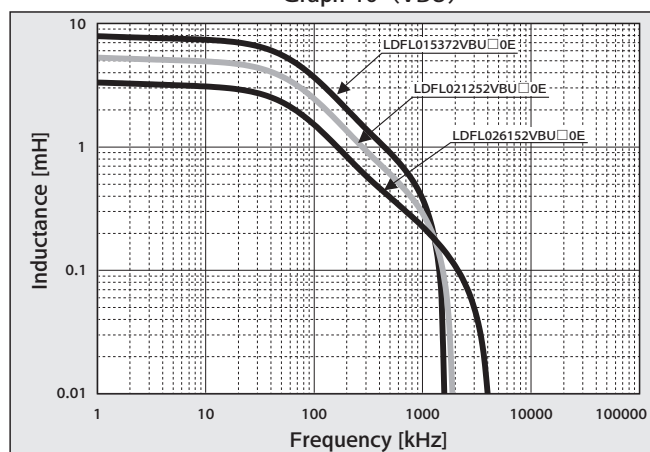
Graph-8 (VV)



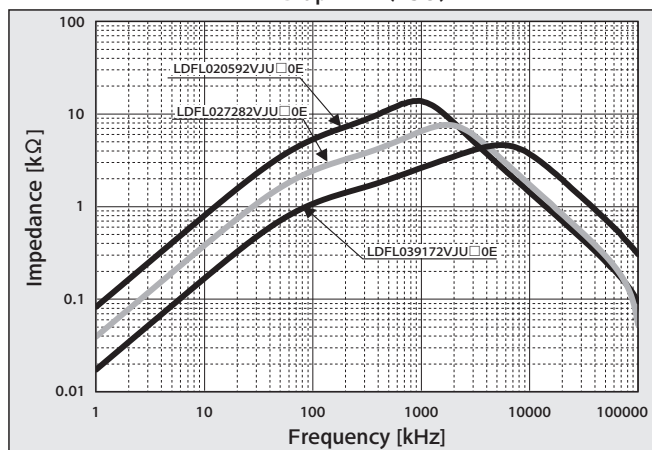
Graph-9 (VBU)



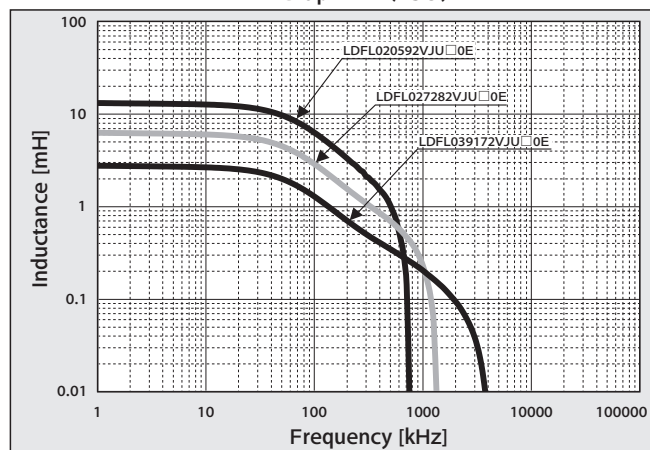
Graph-10 (VBU)



Graph-11 (VJU)

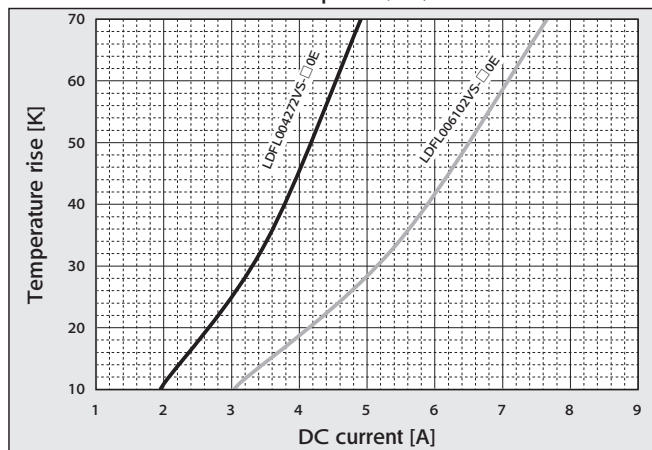


Graph-12 (VJU)

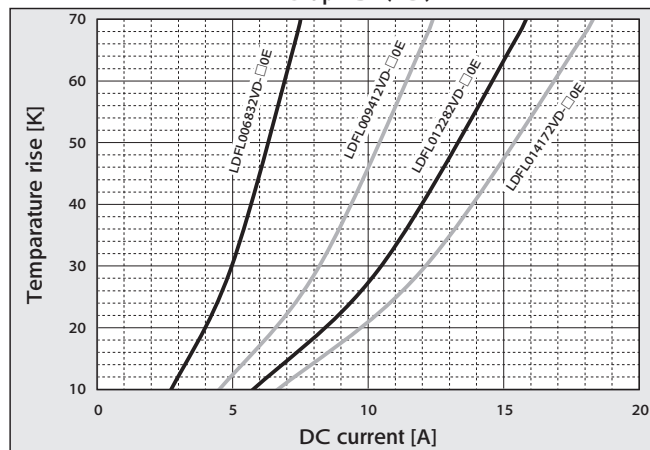


Temperature rise Ambient temperature: 25°C (calm) Saturation temperature for the DC current flow
* Installation conditions or the influence of heat emitted by surrounding components are not considered in this data.

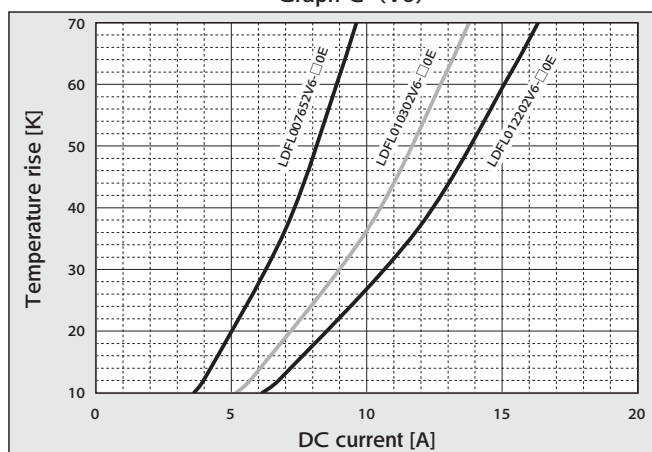
Graph-A (VS)



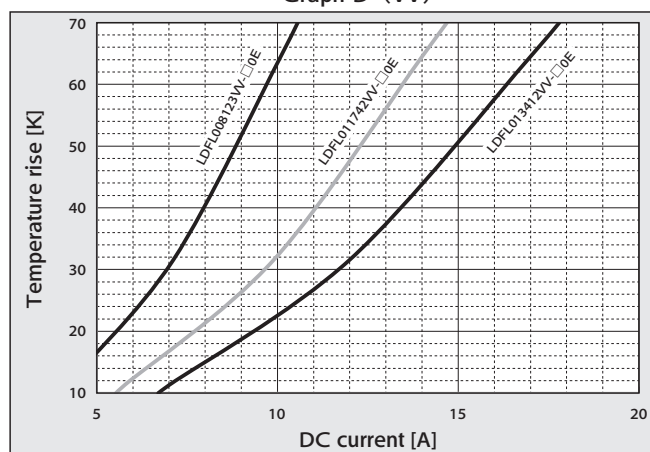
Graph-B (VD)



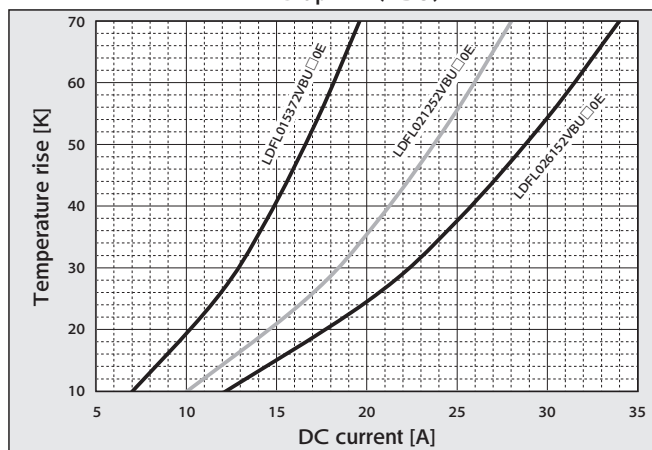
Graph-C (V6)



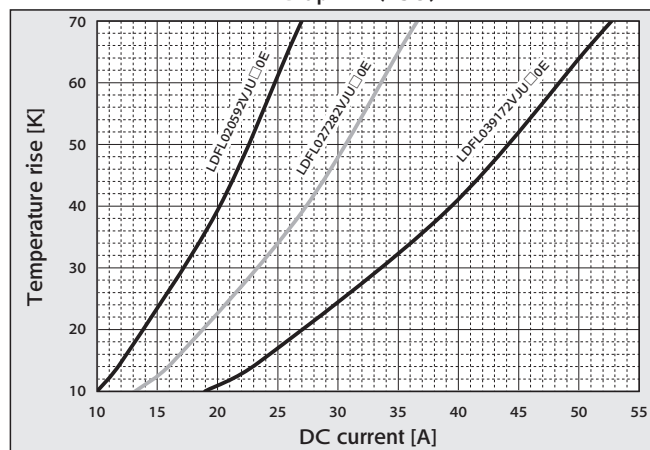
Graph-D (VV)



Graph-E (VBU)



Graph-F (VJU)



FL Series

Standard type for single phase

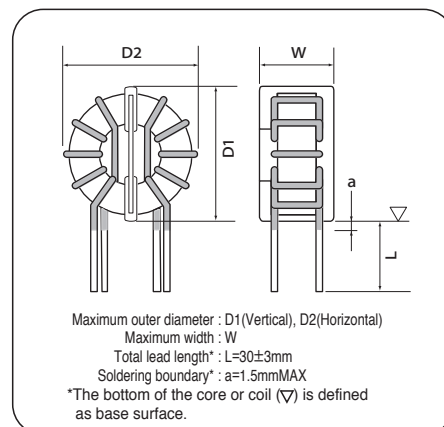
◆ MAJOR USES

- Common mode coils for noise filter in inverter or large capacity power supply

◆ FEATURES

- Small profile, light through adoption of high permeability core
- High inductance in spite of a small number of turns
- Low temperature rise and low D.C. resistance
- Stable frequency performance of noise suppression in wide frequency range
- Excellent temperature characteristics

◆ COIL STANDARD SPECIFICATIONS

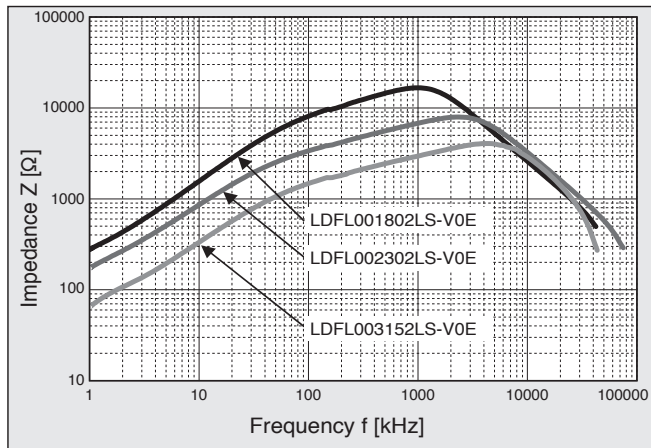


Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance		D.C.R. mΩ (max)	Winding mm φ × lines	Outside Dimensions		
		10kHz (Typical) mH	100kHz (Rating) mH			D1 mm	D2 mm	W mm
● LDFL001802LS-V0E (FL01393LSPBF)	1	28.0	8.0	200	0.35 × 1P	15.0	16.0	11.9
● LDFL002302LS-V0E (FL02173LSPBF)	2	11.6	3.0	85	0.45 × 1P	15.0	16.0	11.9
● LDFL003152LS-V0E (FL03872LSPBF)	3	5.6	1.5	45	0.55 × 1P	15.0	16.0	11.9
LDFL003552L5-V0E (FL03552L5PBF)	3	22.0	5.5	56	0.7 × 1P	28.0	29.0	15.0
LDFL003153L6-V0E (FL03153L6PBF)	3	60.0	15.0	82	0.7 × 1P	29.0	30.5	20.5
LDFL005132L5-V0E (FL05132L5PBF)	5	5.4	1.3	16	1.0 × 1P	29.0	30.0	15.0
LDFL005332L6-V0E (FL05332L6PBF)	5	13.0	3.3	21	1.0 × 1P	29.0	30.5	20.0
LDFL005302LT-V0E (FL05302LTPBF)	5	13.0	3.0	17	1.1 × 1P	34.0	36.0	20.0
LDFL005502LT-V0E (FL05502LTPBF)	5	23.0	5.0	23	1.1 × 1P	34.5	36.5	20.5
LDFL005103LR-V0E (FL05103LRPBF)	5	39.0	10.0	33	1.1 × 1P	39.0	41.0	25.5
LDFL008451L5-V0E (FL08451L5PBF)	8	1.8	0.45	6.5	1.3 × 1P	29.5	31.0	15.0
LDFL008102L6-V0E (FL08102L6PBF)	8	4.2	1.0	9	1.3 × 1P	29.5	31.5	20.5
LDFL010102LT-V0E (FL10102LTPBF)	10	5.8	1.0	8	1.5 × 1P	34.0	38.0	22.0
LDFL010302LT-V0E (FL10302LTPBF)	10	13.0	3.0	11	1.4 × 1P	36.0	38.0	22.0
LDFL010502LR-V0E (FL10502LRPBF)	10	24.0	5.0	15	1.5 × 1P	40.0	43.0	27.0
LDFL010103LJ-V0E (FL10103LJPBF)	10	46.5	10.0	20	1.5 × 1P	46.5	47.5	27.5
LDFL015102LT-V0E (FL15102LTPBF)	15	3.7	1.0	6	1.6 × 1P	34.5	38.0	20.5
LDFL015302LR-V0E (FL15302LRPBF)	15	15.0	3.0	10	1.8 × 1P	40.0	42.5	29.0
LDFL015502LJ-V0E (FL15502LJPBF)	15	24.8	5.0	11	1.8 × 1P	47.0	49.0	28.0
LDFL020102LR-V0E (FL20102LRPBF)	20	4.2	1.0	5	1.5 × 2P	42.5	43.0	28.0
LDFL020302LJ-V0E (FL20302LJPBF)	20	13.5	3.0	7	1.5 × 2P	46.5	48.0	30.0
LDFL025252LJ-V0E (FL25252LJPBF)	25	11.6	2.5	5	1.6 × 2P	47.0	49.0	31.0
LDFL030102LR-V0E (FL30102LRPBF)	30	4.2	1.0	5	1.7 × 2P	39.5	44.0	29.5
LDFL030202LJ-V0E (FL30202LJPBF)	30	9.9	2.0	6	1.7 × 2P	47.0	48.5	31.0

The total lead length of the items marked with ● is 15±3mm.

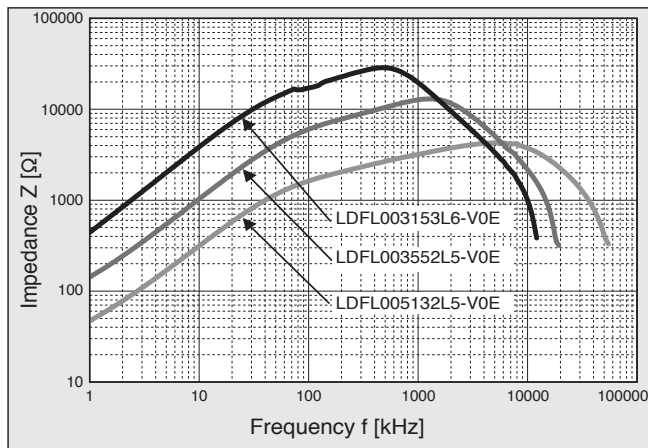
◆FREQUENCY - IMPEDANCE CHARACTERISTICS (1)

●Rated Current: 1, 2, 3 [A]



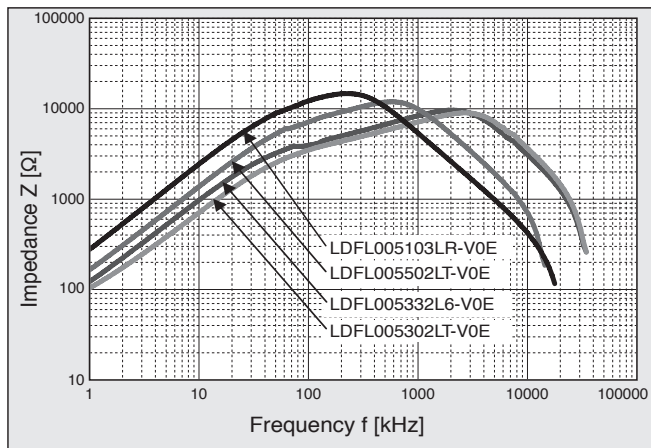
◆FREQUENCY - IMPEDANCE CHARACTERISTICS (2)

●Rated Current: 3, 5 [A]



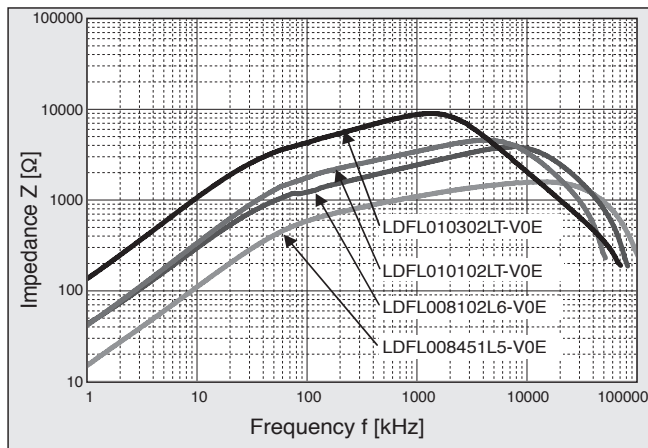
◆FREQUENCY - IMPEDANCE CHARACTERISTICS (3)

●Rated Current: 5 [A]



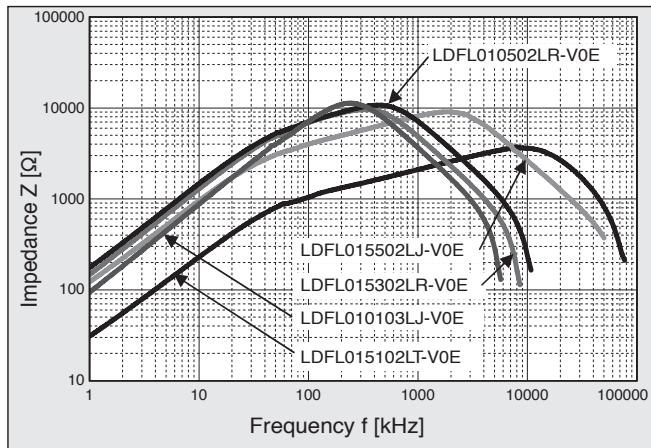
◆FREQUENCY - IMPEDANCE CHARACTERISTICS (4)

●Rated Current: 8, 10 [A]



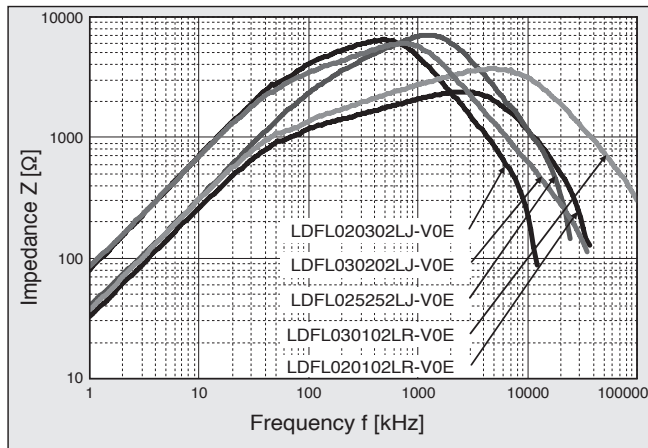
◆FREQUENCY - IMPEDANCE CHARACTERISTICS (5)

●Rated Current: 10, 15 [A]



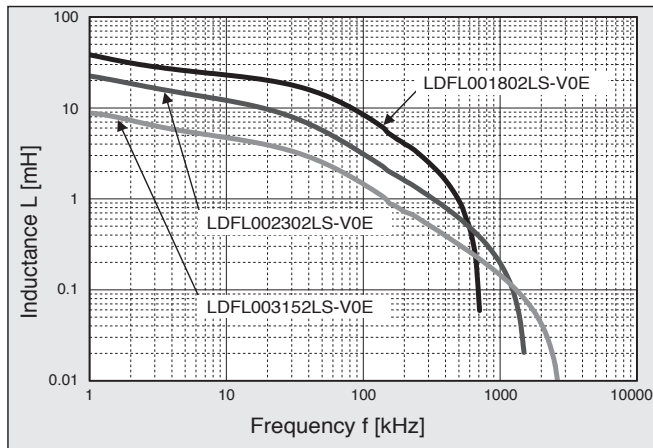
◆FREQUENCY - IMPEDANCE CHARACTERISTICS (6)

●Rated Current: 20, 25, 30 [A]



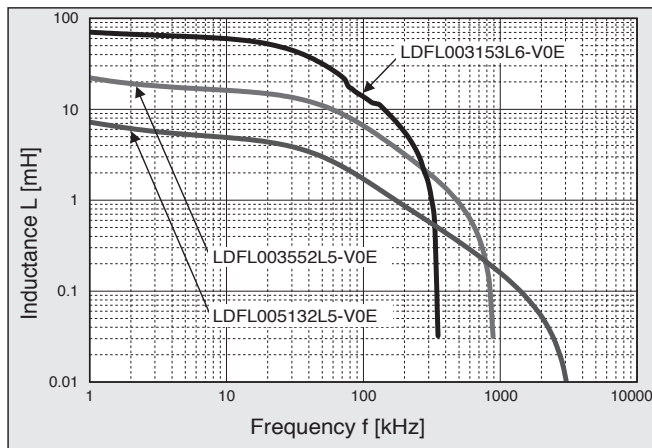
◆FREQUENCY - INDUCTANCE CHARACTERISTICS (1)

●Rated Current: 1, 2, 3 [A]



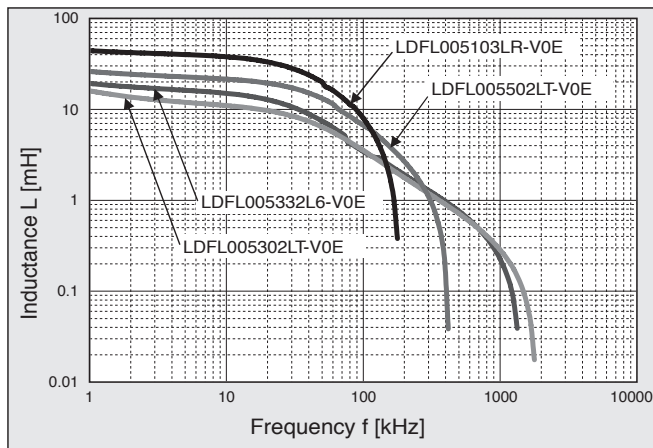
◆FREQUENCY - INDUCTANCE CHARACTERISTICS (2)

●Rated Current: 3, 5 [A]



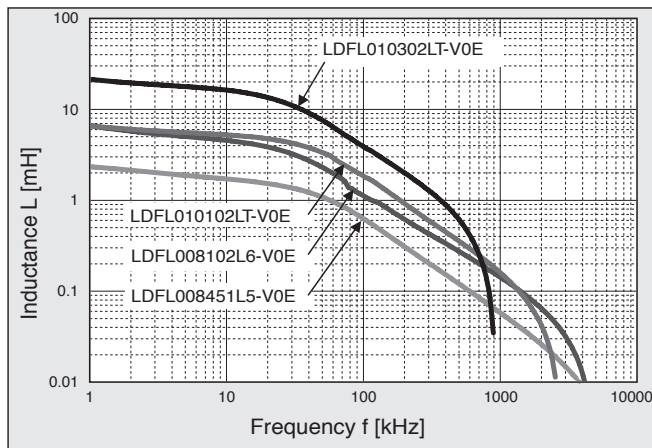
◆FREQUENCY - INDUCTANCE CHARACTERISTICS (3)

●Rated Current: 5 [A]



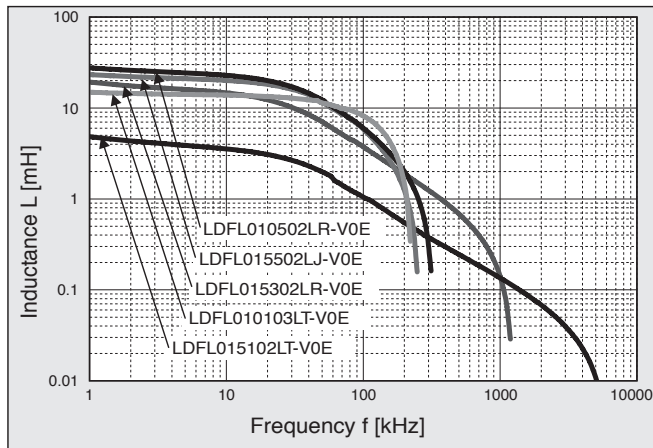
◆FREQUENCY - INDUCTANCE CHARACTERISTICS (4)

●Rated Current: 8, 10 [A]



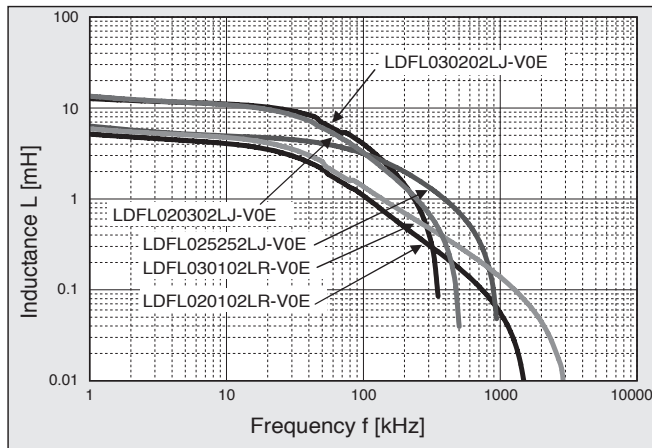
◆FREQUENCY - INDUCTANCE CHARACTERISTICS (5)

●Rated Current: 10, 15 [A]



◆FREQUENCY - INDUCTANCE CHARACTERISTICS (6)

●Rated Current: 20, 25, 30 [A]



FL Series

High voltage type for single phase

◆MAJOR USES

- Common mode coils for noise filter in inverter or large capacity power supply

◆FEATURES

- Applicable to input voltage (700V)
- Remarkably miniaturized in profile benefited by high permeability core
- High inductance in spite of a small number of turns
- Low temperature rise and low D.C. resistance
- Stable frequency performance of noise suppression in wide frequency range
- Excellent temperature characteristics

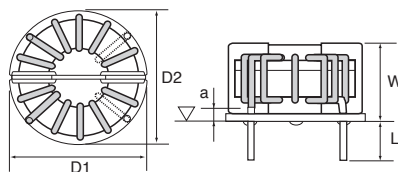
◆COIL STANDARD SPECIFICATIONS

Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance		D.C.R. mΩ (max)	Winding mm φ × lines	Outside Dimensions			
		10kHz (Typical)	100kHz (Rating)			D1 mm	D2 mm	W mm	Dimensions
		mH	mH						
LDFL010402LBUB0E (FL10402LBUBPBF)	10	16.0	4.0	12	1.5 × 1P	42.0	42.0	32.0	Fig1
LDFL015132LBUB0E (FL15132LBUBPBF)	15	5.1	1.3	6	1.9 × 1P	42.0	42.0	32.5	Fig1
LDFL020342LJUV0E (FL20342LJUPBF)	20	13.5	3.4	8	1.4 × 2P	49.0	49.0	31.0	Fig2
LDFL025252LJUV0E (FL25252LJUPBF)	25	9.9	2.5	6	1.6 × 2P	50.0	50.0	32.0	Fig2

LDFL010402LBUB0E, LDFL015132LBUB0E listed in the above table are coils of lying type with pedestal.

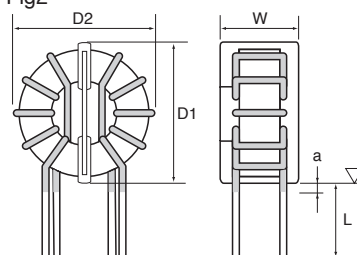
For LDFL020342LJUV0E, LDFL025252LJUV0E, lying type is also available. "V" changes into "H" in last the third digit of the name of items.

Fig1



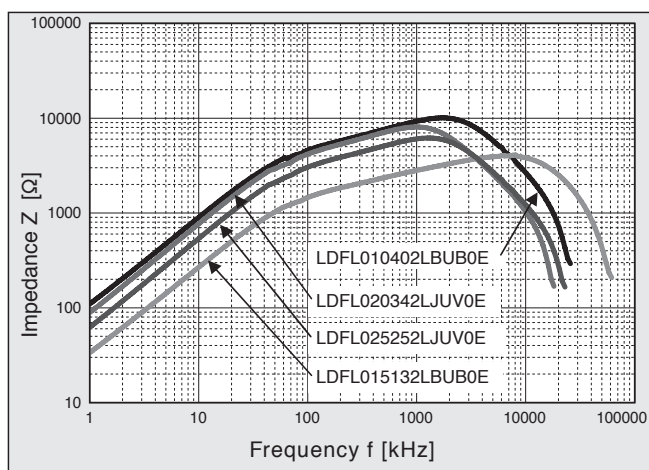
Maximum outer diameter : D1(Vertical), D2(Horizontal)
Maximum width : W
Total lead length* : L=15±3mm
Soldering boundary* : a=1.5mmMAX
*The bottom of the core or coil (▽) is defined as base surface.

Fig2

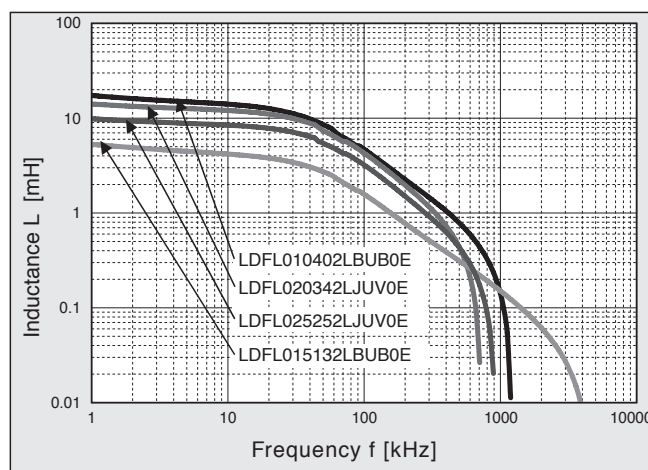


Maximum outer diameter : D1(Vertical), D2(Horizontal)
Maximum width : W
Total lead length* : L=30±3mm
Soldering boundary* : a=1.5mmMAX
*The bottom of the core or coil (▽) is defined as base surface.

◆FREQUENCY - IMPEDANCE CHARACTERISTICS



◆FREQUENCY - INDUCTANCE CHARACTERISTICS



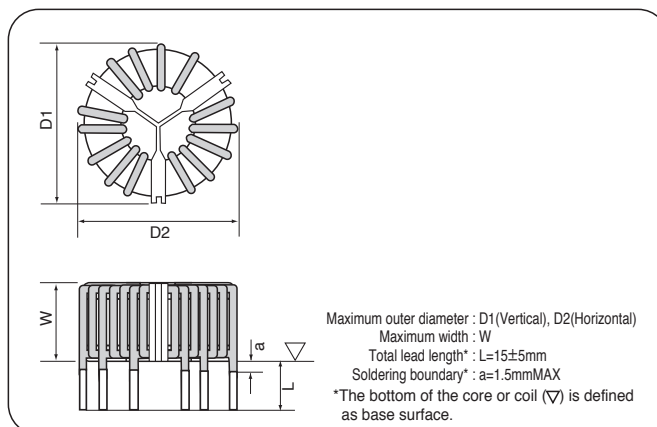
For three-phase circuit

◆MAJOR USES

- Common mode coils for noise filter in inverter or large capacity power supply

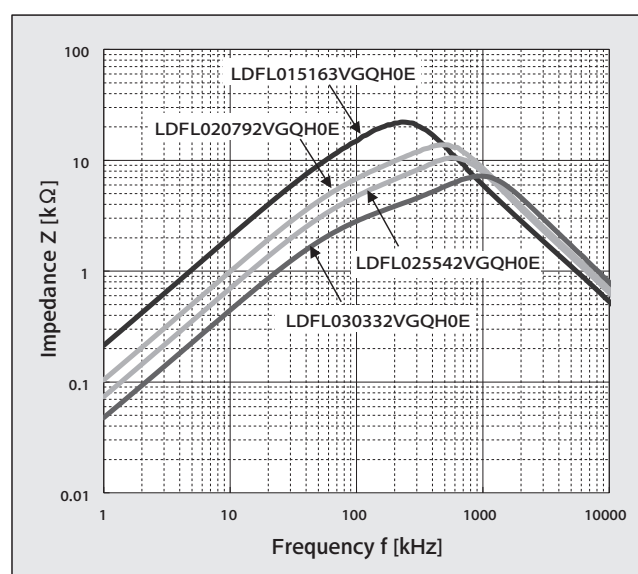
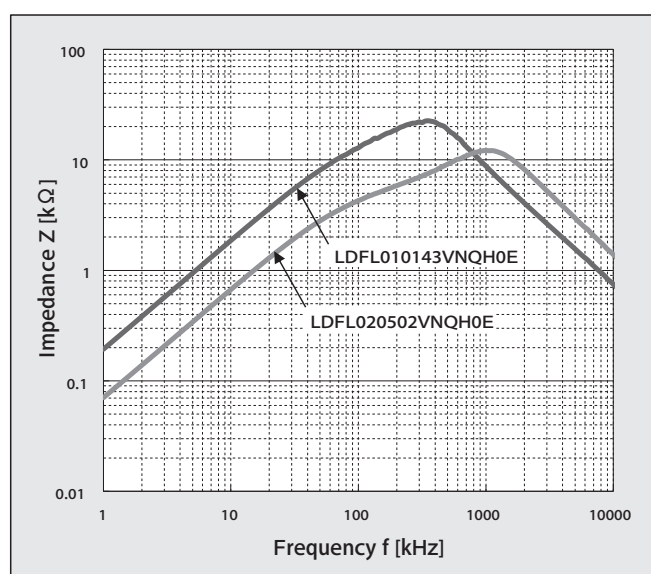
◆FEATURES

- Compared to conventional coils, the inductance level (100kHz) has been significantly improved.
- Compared to conventional coils, a higher impedance level has been realized within wide ranges of frequencies.
- Conforming to insulating type B and incombustibility UL94V-0



◆CORE STANDARD SPECIFICATIONS

Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance		D.C.R. mΩ (max)	Winding mm φ × lines	Outside Dimensions		
		10kHz (Typical)	100kHz (Rating)			D1 mm	D2 mm	W mm
		mH	mH					
LDFL010143VNQH0E (FL10143VNQPBF)	10	30.7	14.0	18	1.5 × 1P	56.0	56.0	32.0
LDFL020502VNQH0E (FL20502VNQPBF)	20	11.1	5.0	6	2.0 × 1P	56.0	56.0	32.0
LDFL015163VGQH0E (FL15163VGQPBF)	15	34.5	15.7	15	2.0 × 1P	65.0	65.0	35.0
LDFL020792VGQH0E (FL20792VGQPBF)	20	17.3	7.9	6	2.3 × 1P	65.0	65.0	35.0
LDFL025542VGQH0E (FL25542VGQPBF)	25	11.7	5.4	5	1.8 × 2P	65.0	65.0	35.0
LDFL030332VGQH0E (FL30332VGQPBF)	30	7.2	3.3	4	2.0 × 2P	65.0	65.0	35.0



FL Series

For three-phase circuit

◆ MAJOR USES

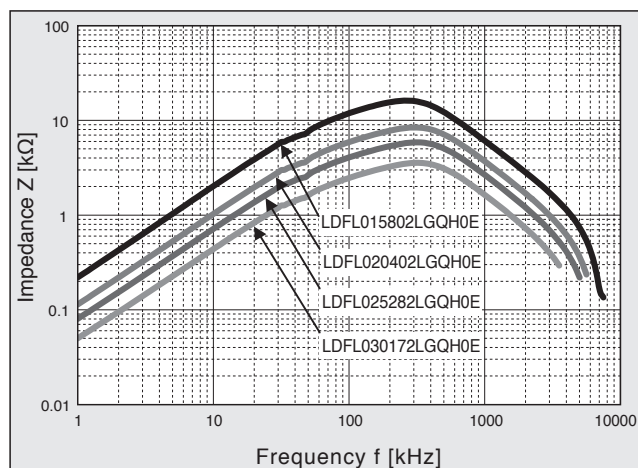
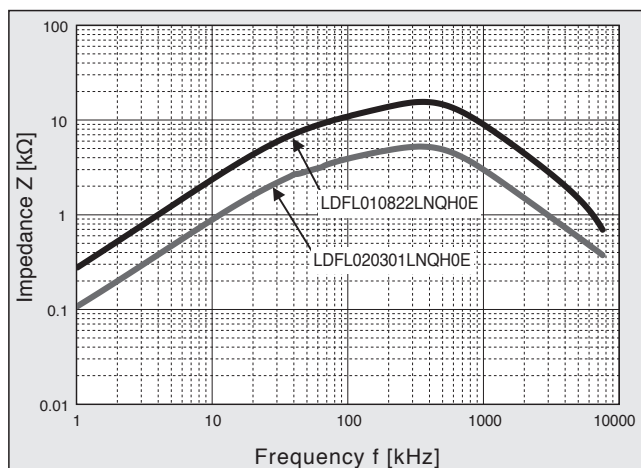
- Common mode coils for noise filter in inverter or large capacity power supply

◆ FEATURES

- Small profile, light through adoption of high permeability core
- High inductance in spite of a small number of turns
- Low temperature rise and low D.C. resistance
- Stable frequency performance of noise suppression in wide frequency range
- Excellent temperature characteristics
- Conforming to insulating type B and incombustibility UL94V-0

Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance		D.C.R. mΩ (max)	Winding mm φ × lines	Outside Dimensions		
		10kHz (Typical)	100kHz (Rating)			D1 mm	D2 mm	W mm
		mH	mH					
LDFL010822LNQH0E (FL10822LNQPBF)	10	27.0	8.2	18	1.5 × 1P	56.0	56.0	32.0
LDFL020302LNQH0E (FL20302LNQPBF)	20	11.0	3.0	6	2.0 × 1P	56.0	56.0	32.0
LDFL015802LGQH0E (FL15802LGQPBF)	15	30.0	8.0	15	2.0 × 1P	65.0	65.0	35.0
LDFL020402LGQH0E (FL20402LGQPBF)	20	16.0	4.0	6	2.3 × 1P	65.0	65.0	35.0
LDFL025282LGQH0E (FL25282LGQPBF)	25	10.0	2.8	5	1.8 × 2P	65.0	65.0	35.0
LDFL030172LGQH0E (FL30172LGQPBF)	30	7.0	1.7	4	2.0 × 2P	65.0	65.0	35.0

◆ COIL STANDARD SPECIFICATIONS



◆MAJOR USES

- Signal power line noise control
- DC power line noise control
- AC power line noise control
- Zero-phase reactor

◆FEATURES

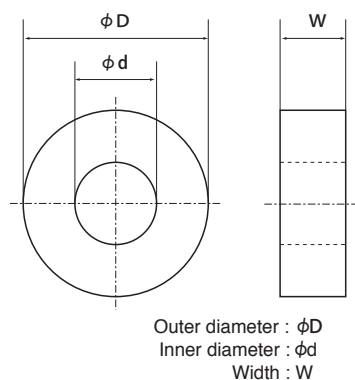
- Compared to conventional series, a higher impedance level has been realized within wide ranges of frequencies.
- Conforming to insulating type B and incombustibility UL94V-0



◆CORE STANDARD SPECIFICATIONS

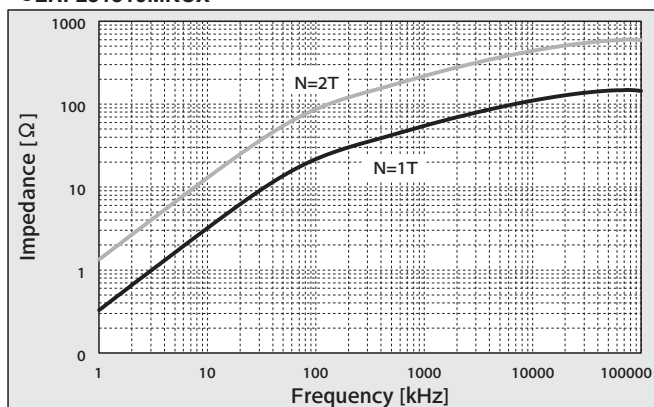
Core Part No.	Cross Sectional Area cm ²	Magnetic Path Length cm	Weight g	Outside Dimensions			Inductance Coefficient (AL Value) [μH/N ²] 100kHz at 0A
				φD mm	φd mm	W mm	
LRF251510MKCX	0.41	6.38	21	28.3	12.7	12.3	25.2
LRF251515MKCX	0.63	6.38	32	28.3	12.7	17.5	38.1
LRF322015MKCX	0.69	8.09	60	35.2	17.5	17.3	33.1
LRF372315MKCX	0.83	9.33	80	40.5	19.5	18.0	34.7
LRF462715MKCX	1.14	11.47	98	49.4	22.7	18.0	38.7
LRF462725MKCX	1.90	11.47	162	49.4	22.7	28.0	64.6
LRF624520MKCX	1.36	16.81	173	66.0	41.0	24.0	31.5

◆DIMENSIONS OF CORE

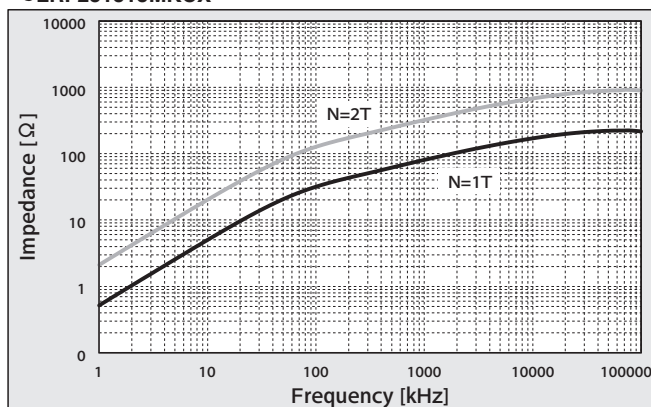


◆FREQUENCY - IMPEDANCE CHARACTERISTICS

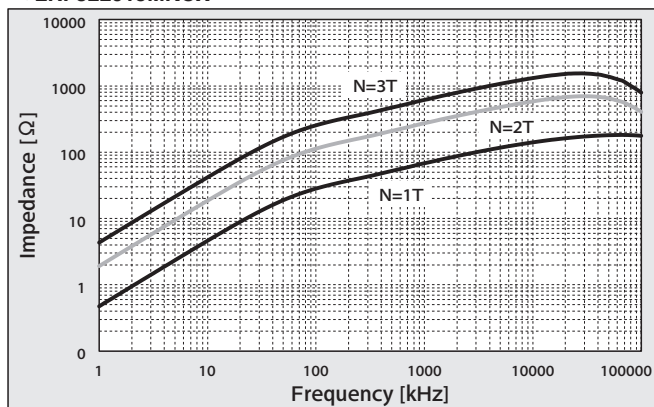
●LRF251510MKCX



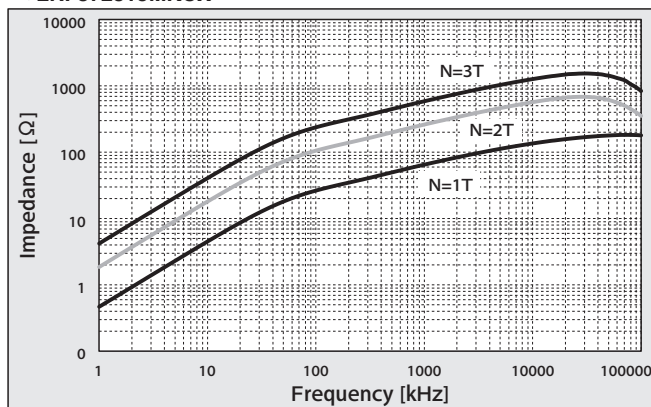
●LRF251515MKCX



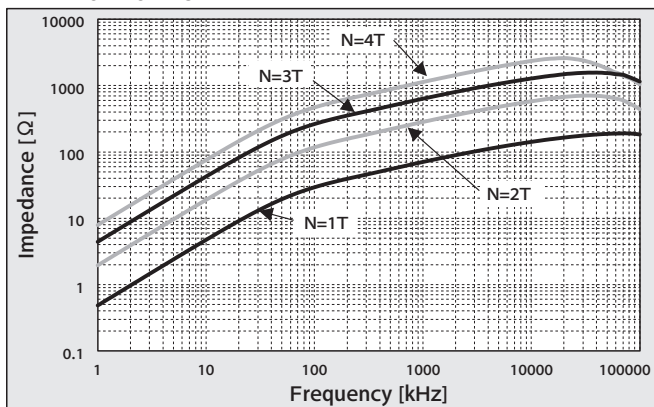
●LRF322015MKCX



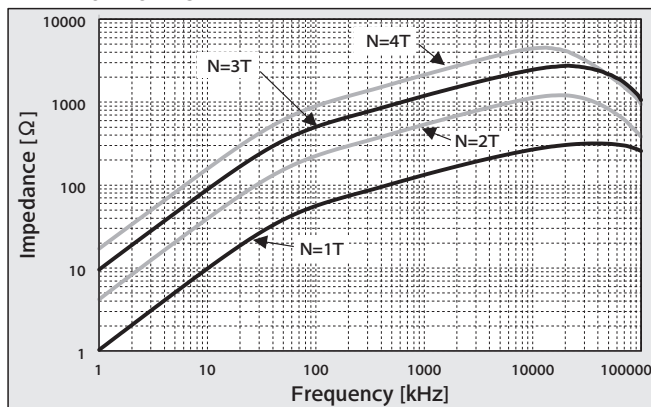
●LRF372315MKCX



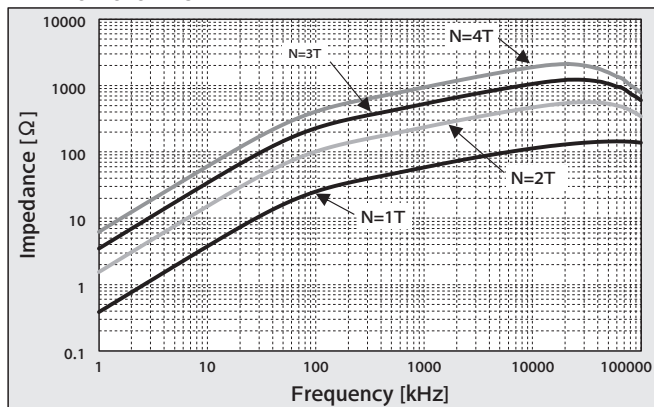
●LRF462715MKCX



●LRF462725MKCX



●LRF624520MKCX



The FM series coils are made of nano-crystal.

◆MAJOR USES

- Signal power line noise control
- DC power line noise control
- AC power line noise control
- Filter line
- Zero-phase reactor

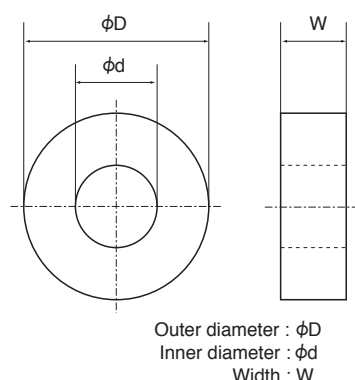
◆FEATURES

- The high permeability core is made of nanocrystalline soft magnetic alloy
- High impedance in spite of a small number of turns
- Excellent temperature characteristics
- Conforming to insulating type B and incombustibility UL94V-0

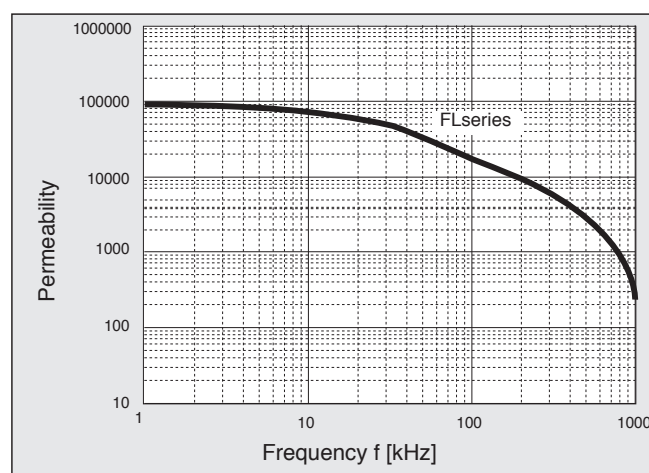
◆CORE STANDARD SPECIFICATIONS

Core Part No. (Old Core Part No.)	Cross Sectional Area cm ²	Magnetic Path Length cm	Weight g	Outside Dimensions			Inductance Coefficient (AL Value) [μH/100kHz at 0A]
				φD mm	φd mm	W mm	
LRF251515MKX (F251515MKX)	0.63	6.40	35	28.3	12.7	17.5	18.3
LRF322015MKX (F322015MKX)	0.73	8.17	50	35.2	17.5	17.3	16.6
LRF372315MKX (F372315MKX)	0.85	9.42	67	40.5	19.5	18.0	17.2
LRF462715MKX (F462715MKX)	1.15	11.50	110	49.4	22.7	18.0	18.6
LRF462725MKX (F462725MKX)	1.92	11.50	176	49.4	22.7	28.0	31.0
LRF603525MKX (F603525MKX)	2.53	14.90	310	66.7	29.3	29.2	31.6
LRF624520MKX (F624520MKX)	1.36	16.80	200	66.0	41.0	24.0	15.2

◆DIMENSIONS OF CORE

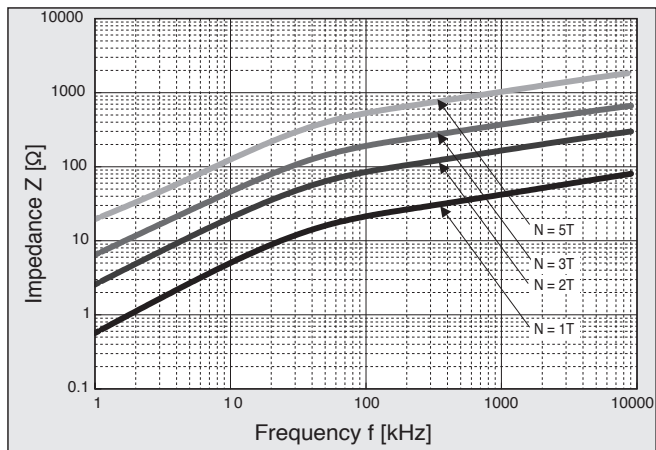


◆FREQUENCY - PERMEABILITY CHARACTERISTICS



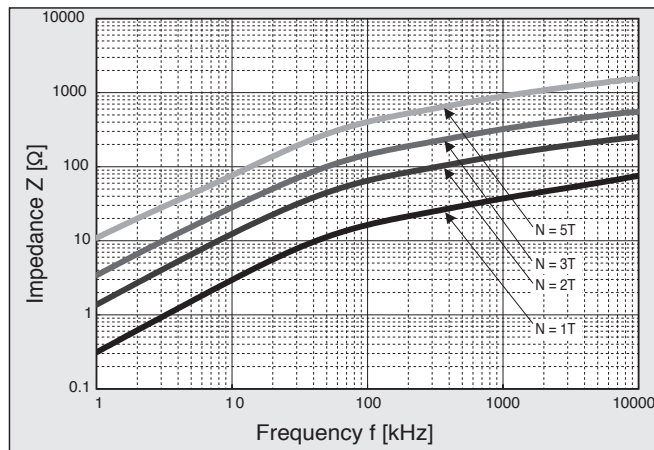
◆FREQUENCY - IMPEDANCE CHARACTERISTICS (1)

●LRF251515MKX



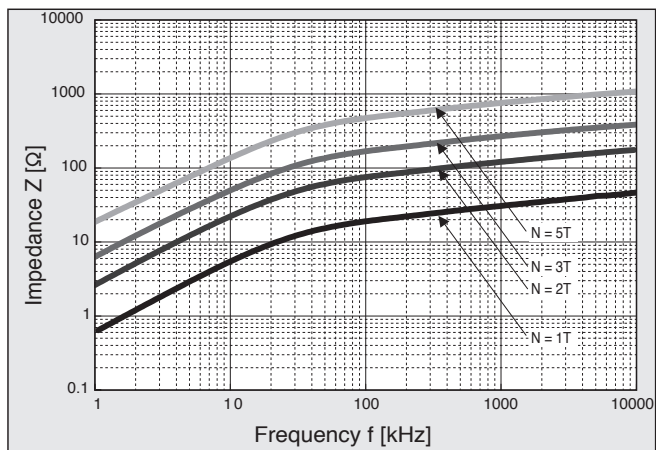
◆FREQUENCY - IMPEDANCE CHARACTERISTICS (2)

●LRF322015MKX



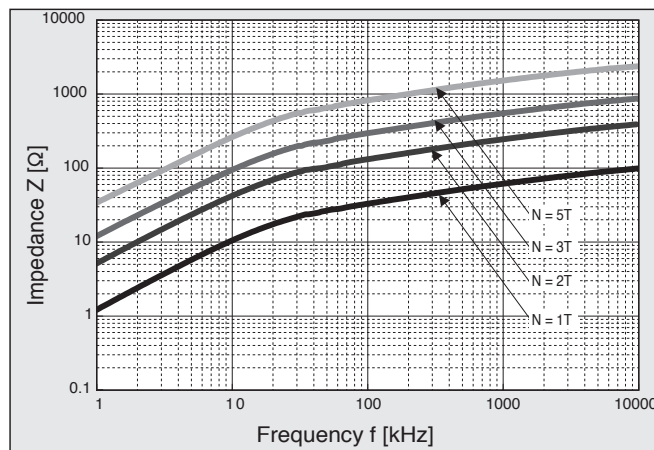
◆FREQUENCY - IMPEDANCE CHARACTERISTICS (3)

●LRF372315MKX



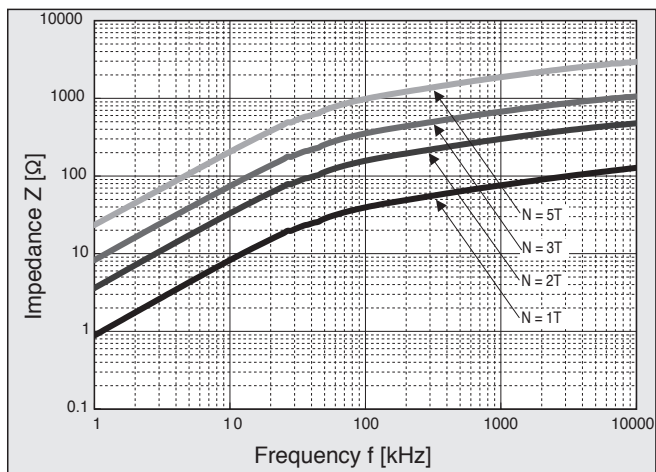
◆FREQUENCY - IMPEDANCE CHARACTERISTICS (4)

●LRF462725MKX



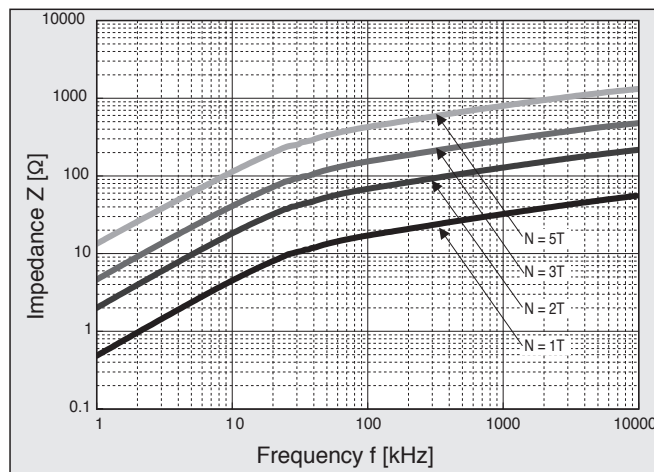
◆FREQUENCY - IMPEDANCE CHARACTERISTICS (5)

●LRF603525MKX



◆FREQUENCY - IMPEDANCE CHARACTERISTICS (6)

●LRF624520MKX



FL Series

◆ MAJOR USES

- Zero-phase reactor
- Filter line
- AC/DC power line noise control

◆ FEATURES

- Holes have been created to be used to attach the chassis to the housing case.
- High impedance in spite of a small number of turns
- Excellent temperature characteristics
- Conforming to insulating type B and incombustibility UL94-0



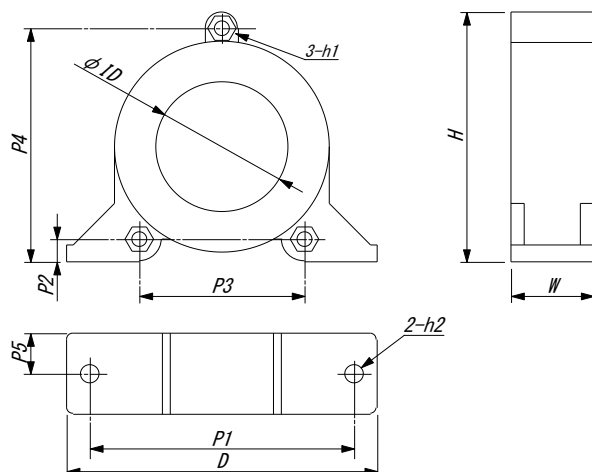
◆ CORE STANDARD SPECIFICATIONS

Core Part No.	Cross Sectional Area [cm ²]	Magnetic Path Length [cm]	AL [μH/N ²]	
			10kHz	100kHz
LRF604520MBX	1.2typ.	16.4typ.	77.0typ.	13.0typ.
LRF1108020MBX	2.2typ.	30.0typ.	85.0typ.	15.0typ.

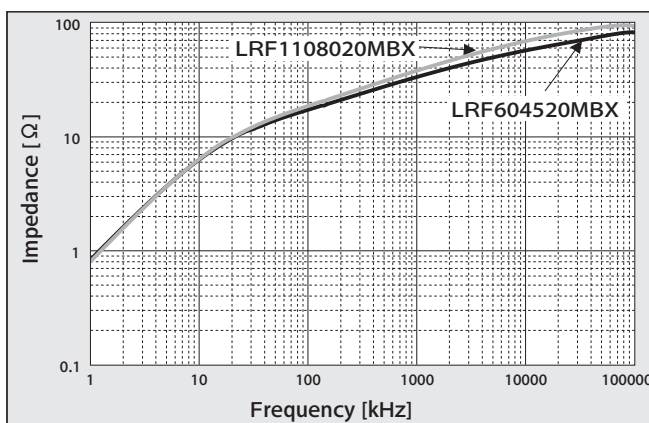
Core Part No.	Outside Dimensions [mm]								
	D	φID	H	W	P1	P2	P3	P4	P5
LRF604520MBX	95max.	39.5min.	78max.	26max.	80±0.5	7±0.5	50±0.5	72±0.5	12.5±0.3
LRF1108020MBX	181max.	74min.	131max.	26max.	150±0.5	20±0.5	100±0.5	124±0.5	12.5±0.3

Core Part No.	Applicable screws	
	h1	h2
LRF604520MBX	M4	M5
LRF1108020MBX	M5	M6

◆ DIMENSIONS OF CORE



◆ FREQUENCY - IMPEDANCE CHARACTERISTICS (number of turns 1T)





◆ MAJOR USES

- Normal mode choke coils for noise/ripple control
- Choke coils for DC-DC converters
- Output choke coils for Switching Mode Power Supply

◆ FEATURES

- Feedthrough core with a single-turn lead wire for remarkably small D.C. resistance (0.36 mΩ*)
- Supports high D.C. rated current (50 A*)
- Use of a Fe-base amorphous core for excellent operation stability at high temperatures
- Automotive grade models available
- Significantly improved safety and reliability because layer short circuits will not occur and because the leakage magnetic flux is extremely small

◆ GENERAL SPECIFICATION

Items	SM Series
Operating temperature range* ¹	-40 to 130°C
Storage temperature range	-40 to 130°C
Operating humidity range	20 to 95%RH
Storage humidity range	20 to 80%RH
Operating frequency range* ²	20kHz to 500kHz
Insulating Type (Housing case)	Type F (155°C)
Incombustibility (Housing case)	UL94V-0

*¹ Temperature on the coil surface including the temperature rise in installation.
Never use the coil at a temperature exceeding the rated temperature range.

*² Recommended range.
When infra-acoustic frequency component is impressed, a beat sound sometimes occurs.

◆ COIL STANDARD SPECIFICATIONS

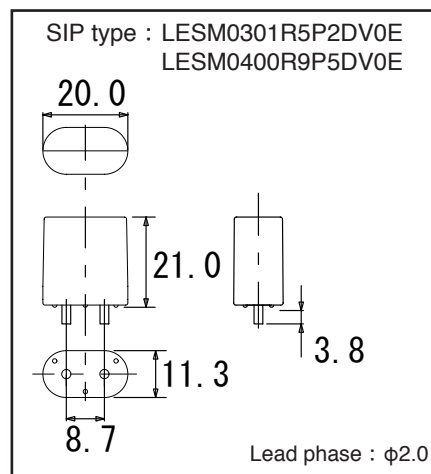
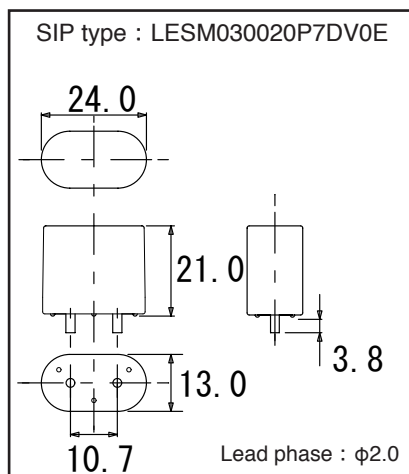
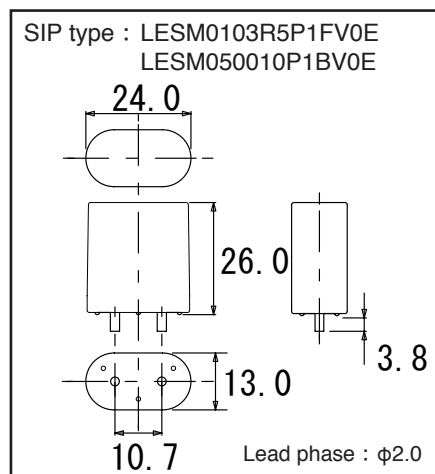
Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance (20kHz)		D.C.R. mΩ (max)	Mounting Direction	Outside Dimensions		
		0[A] μH	Rating μH			ℓ mm	w mm	h mm
LESM0103R5P1FV0E (SM103R5P1FPBF)	10	3.7	3.5	0.40	Vertical	24.0	13.0	26.0
LESM0301R5P2DV0E (SM301R5P2DPBF)	30	2.3	1.3	0.36	Vertical	20.0	11.3	21.0
LESM030020P7DV0E (SM30020P7DPBF)	30	2.2	1.9	0.40	Vertical	24.0	13.0	21.0
LESM0400R9P5DV0E (SM400R9P5DPBF)	40	1.5	0.9	0.36	Vertical	20.0	11.3	21.0
LESM050010P1BV0E (SM50010P1BPBF)	50	2.4	1.2	0.40	Vertical	24.0	13.0	26.0

* The inductance at current 0[A] indicates the reference value.

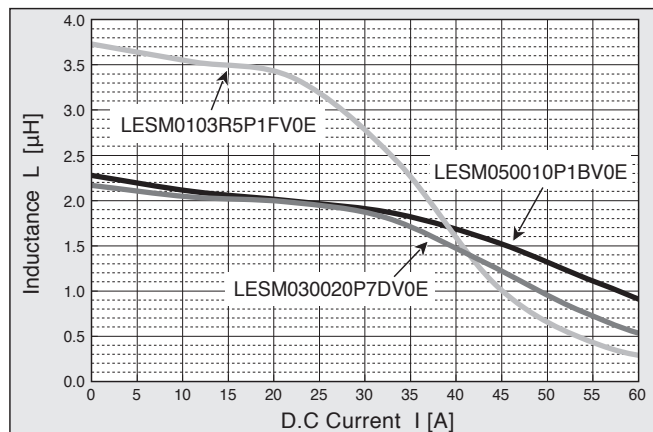
* When using the product for automobiles, check with our representative about the usage conditions and other details before using the product.

Note that the rated current refers to the current that flows under the rated inductance condition. Be sure to use the product below the maximum operating temperature.

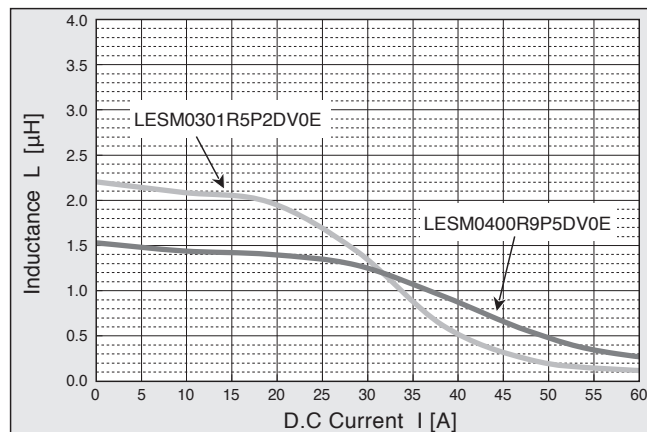
◆ STANDARD DIMENSION DIAGRAM (mm)



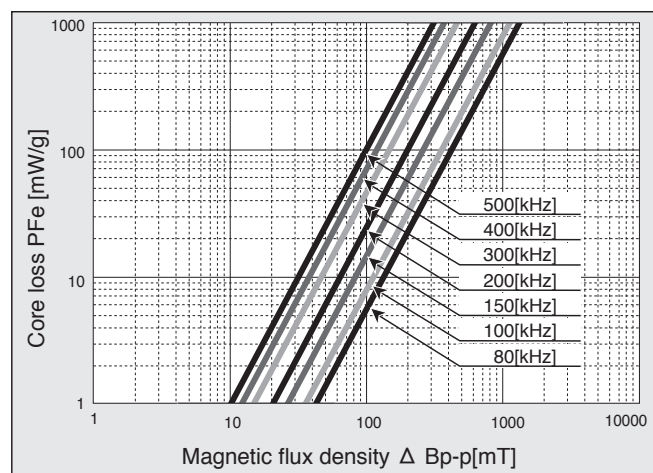
◆D.C. BIAS CHARACTERISTICS (1)



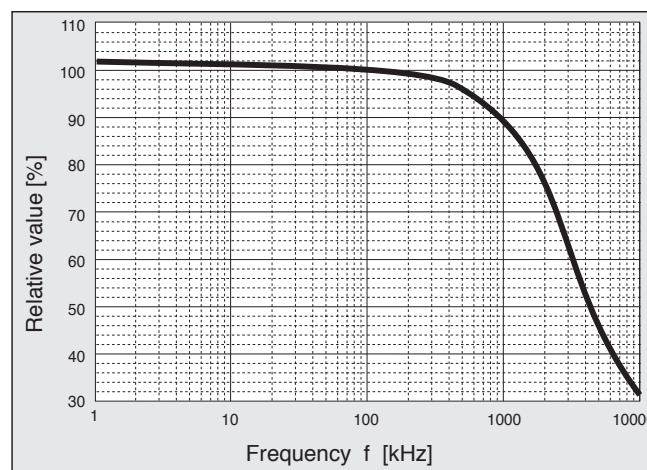
◆D.C. BIAS CHARACTERISTICS (2)



◆CORE LOSS CHARACTERISTICS

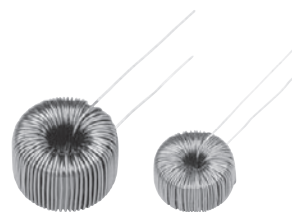


◆FREQUENCY - INDUCTANCE CHARACTERISTICS



◆MAJOR USES

- Output choke coils for Switching Mode Power Supply
- For DC-DC converter
- Normal mode choke coils for noise control
- Please contact us when the coils are used in a high-voltage circuit.



◆FEATURES

- Smaller size in comparison with ferrite choke coil by about half in volume
- Lower core loss in comparison with silicon steel sheet by about half
- More excellent DC bias and temperature characteristics in comparison with dust choke
- Unidirectional leakage flux enables parts to be mounted adjacently adjacent mounting parts.

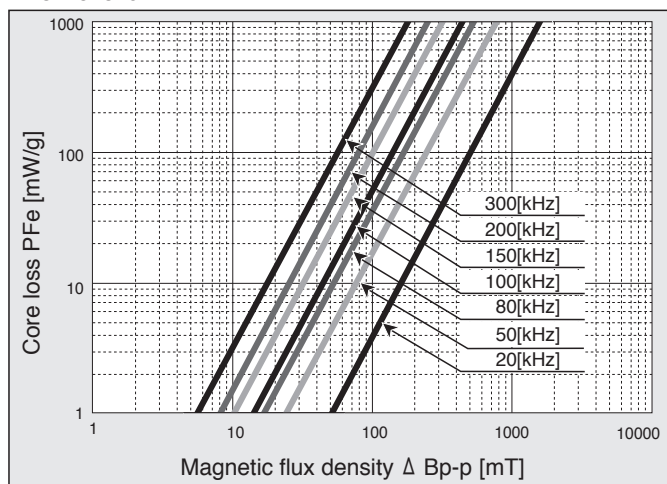
◆CORE STANDARD SPECIFICATIONS

Core Part No. (Old Core Part No.)	Abbreviation	Cross Sectional Area cm ²	Magnetic Path Length cm	Outside Dimensions			Inductance Coefficient AL Value		
				Outer Diameter mm	Width mm	Height mm	I _{dc} =0[A] μH	Rated Current* μH	Rated Current Ampere Turn [AT]
LNC181210G (C181210G)	G3	0.264	4.71	20.2	8.8	11.8	0.122	0.116	150
LNC191305G (C191305G)	G4	0.132	5.03	22.0	10.0	8.0	0.050	0.045	200
LNC221310G (C221310G)	G6	0.396	5.50	24.7	10.5	12.0	0.164	0.147	190
LNC251510G (C251510G)	G7	0.440	6.28	28.3	12.7	12.3	0.133	0.120	300
LNC251515G (C251515G)	G8	0.660	6.28	28.3	12.7	17.5	0.185	0.170	330
LNC322010G (C322010G)	G9	0.528	8.17	35.2	17.5	12.3	0.137	0.125	330
LNC372310G (C372310G)	G0	0.616	9.42	40.5	19.5	13.0	0.154	0.140	350
LNC372315G (C372315G)	GJ	0.924	9.42	40.5	19.5	18.0	0.210	0.190	400
LNC462715G (C462715G)	GQ	1.254	11.5	49.4	22.7	18.0	0.235	0.207	450
LNC462725G (C462725G)	GK	2.090	11.5	49.4	22.7	28.0	0.360	0.320	550

*10[kHz], ±25%

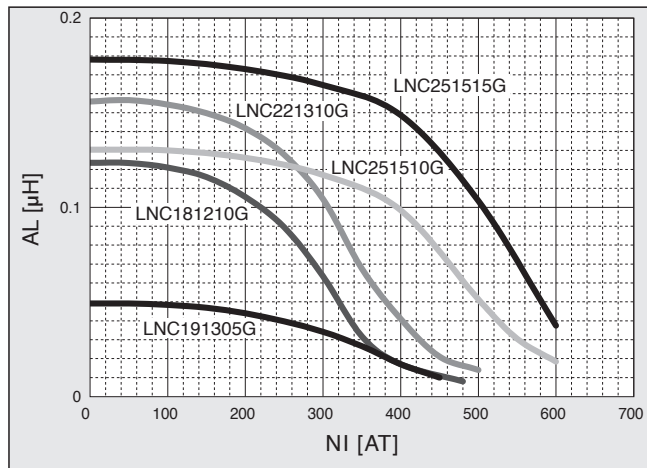
◆CORE LOSS CHARACTERISTICS

- CM choke



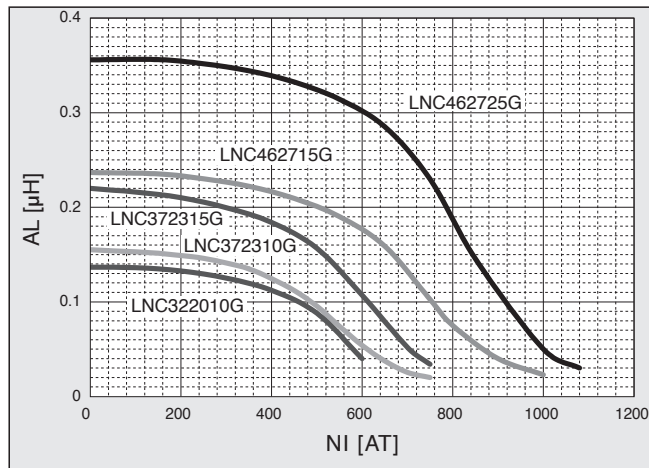
◆D.C. BIAS CHARACTERISTICS AL-AT(1)

●Frequency : 10[kHz]

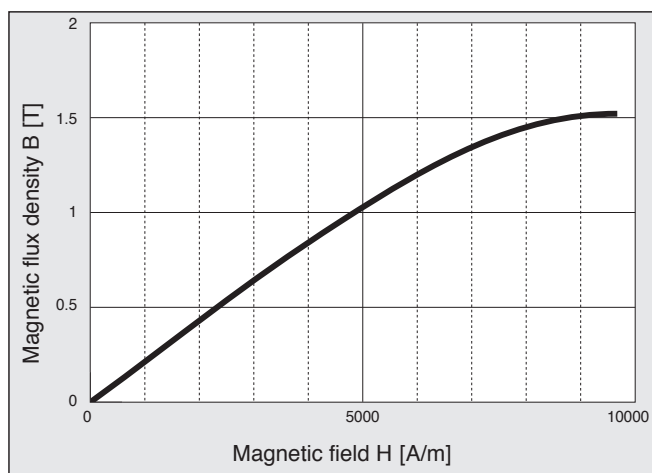


◆D.C. BIAS CHARACTERISTICS AL-AT(2)

●Frequency : 10[kHz]

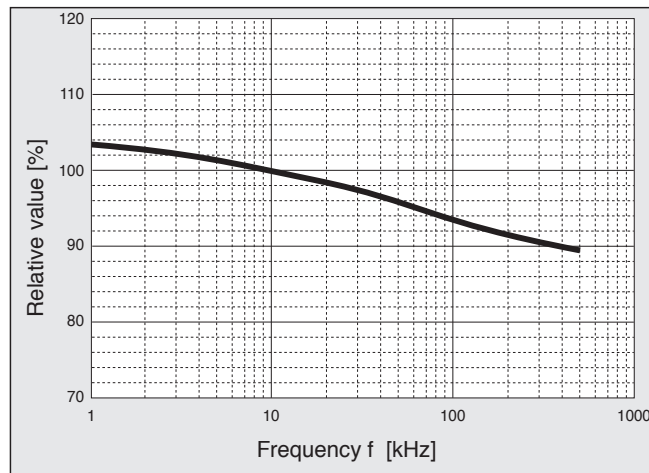


◆MAGNETIC FIELD - MAGNETIC DENSITY



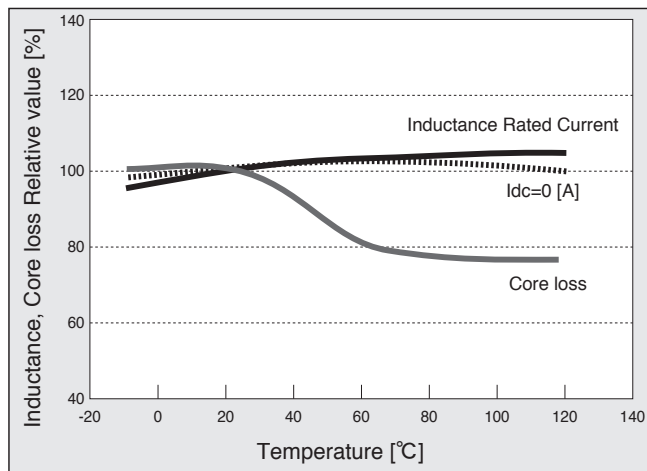
◆FREQUENCY - INDUCTANCE CHARACTERISTICS

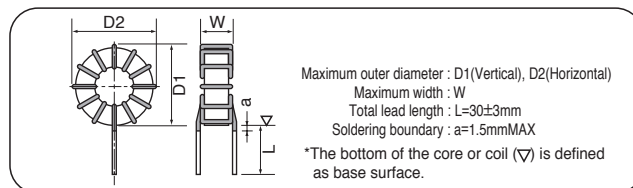
●CM Core



◆TEMPERATURE DEPENDENCE - INDUCTANCE AND CORE LOSS

●Frequency : 100[kHz]





◆COIL STANDARD SPECIFICATIONS

Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance ^{*1} (10kHz)		D.C.R. mΩ (max)	Winding mmφ×lines	Outside Dimensions		
		0[A] μH	Rating μH			D1 mm	D2 mm	W mm
● LACM002601G3-V0E (CM02601G3PBF)	2	645	600	190	0.6×1P	23.5	24.0	16.0
● LACM003401G3-V0E (CM03401G3PBF)	3	420	400	92	0.8×1P	24.5	25.0	17.5
● LACM004201G3-V0E (CM04201G3PBF)	4	209	200	51	0.9×1P	24.5	25.0	16.5
● LACM006101G3-V0E (CM06101G3PBF)	6	110	100	24	0.8×2P	24.5	25.0	17.5
● LACM008700G3-V0E (CM08700G3PBF)	8	85	70	17	0.9×2P	25.0	25.5	19.0
● LACM002401G4-V0E (CM02401G4PBF)	2	425	400	190	0.6×1P	24.5	25.0	12.5
● LACM003251G4-V0E (CM03251G4PBF)	3	265	250	87	0.8×1P	25.5	26.0	13.5
● LACM004101G4-V0E (CM04101G4PBF)	4	110	100	43	0.9×1P	25.5	26.0	13.0
● LACM006500G4-V0E (CM06500G4PBF)	6	55	50	20	0.8×2P	25.5	26.0	14.0
● LACM008300G4-V0E (CM08300G4PBF)	8	33	30	13	0.9×2P	26.0	26.5	14.0
● LACM010150G4-V0E (CM10150G4PBF)	10	18	15	8	1.0×2P	26.5	27.0	13.5
◎ LACM001152G6-V0E (CM01152G6PBF)	1	1530	1500	390	0.5×1P	27.0	27.5	15.5
◎ LACM002102G6-V0E (CM02102G6PBF)	2	1050	1000	230	0.6×1P	27.5	28.0	16.0
◎ LACM003601G6-V0E (CM03601G6PBF)	3	690	600	110	0.8×1P	28.0	28.5	18.0
◎ LACM004301G6-V0E (CM04301G6PBF)	4	339	300	59	0.9×1P	28.5	29.0	17.0
◎ LACM005151G6-V0E (CM05151G6PBF)	5	165	150	34	1.0×1P	28.5	29.0	17.5
◎ LACM006151G6-V0E (CM06151G6PBF)	6	171	150	27	0.8×2P	28.0	28.5	17.5
◎ LACM010500G6-V0E (CM10500G6PBF)	10	60	50	11	1.0×2P	28.5	29.0	18.0
◎ LACM010700G6-V0E (CM10700G6PBF)	10	85	70	13	1.0×2P	29.5	30.0	18.5
◎ LACM015150G6-V0E (CM15150G6PBF)	15	17	15	5	1.0×3P	28.5	29.0	17.5
◎ LACM020150G6-V0E (CM20150G6PBF)	20	17	15	4	1.0×4P	29.0	29.5	18.5

*1 Rated inductance tolerance : ±25%, the inductance at current 0[A] indicates the reference value.

There is a horizontal putting type in all items in the above list."V"changes into "H" in last the third digit of the name of items.

There is a type with the length putting seat in ● item in the above list."V" changes into "D" in last the third digit of the name of items.

There are the type with the length putting seat and the horizontal putting seat in ◎ item.

The type with the length putting seat is "V" changes into "B" in last the third digit of the name of items.

*Order the auxiliary pins separately if they are required for the pedestal.

Please select them according to the situation.

◆ COIL STANDARD SPECIFICATIONS

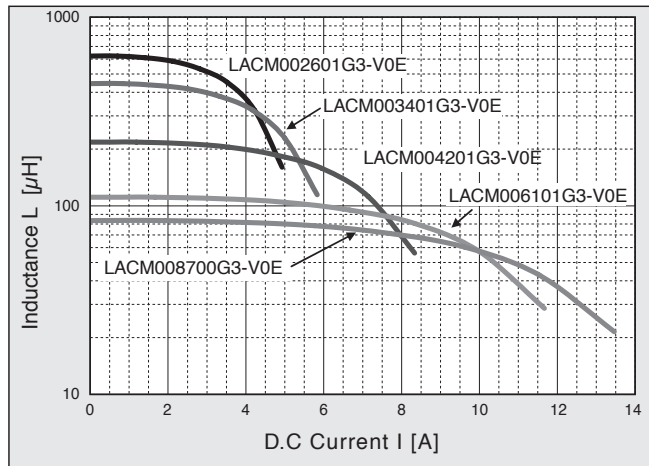
	Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance ¹ (10kHz)		D.C.R. mΩ (max)	Winding mmφ×lines	Outside Dimensions		
			0[A] μH	Rating μH			D1 mm	D2 mm	W mm
○	LACM004401G7-V0E (CM04401G7PBF)	4	420	400	77	0.9×1P	32.0	32.5	18.0
○	LACM006201G7-V0E (CM06201G7PBF)	6	207	200	35	0.8×2P	32.0	32.5	18.0
○	LACM006261G7-V0E (CM06261G7PBF)	6	270	260	41	0.8×2P	32.0	32.5	18.5
○	LACM008151G7-V0E (CM08151G7PBF)	8	160	150	24	0.9×2P	32.5	33.0	18.5
○	LACM008191G7-V0E (CM08191G7PBF)	8	215	190	33	0.9×2P	32.5	33.0	19.5
○	LACM010101G7-V0E (CM10101G7PBF)	10	110	100	16	1.0×2P	32.5	33.0	18.5
○	LACM010121G7-V0E (CM10121G7PBF)	10	140	120	19	1.0×2P	33.0	33.5	19.5
○	LACM015300G7-V0E (CM15300G7PBF)	15	35	30	7	1.0×3P	32.5	33.0	19.0
○	LACM015500G7-V0E (CM15500G7PBF)	15	55	50	9	1.0×3P	33.0	33.5	19.5
○	LACM020300G7-V0E (CM20300G7PBF)	2	35	30	6	1.0×4P	33.0	33.5	20.0
●	LACM025200G7-V0E (CM25200G7PBF)	25	26	20	4	1.0×5P	33.5	34.0	20.0
○	LACM030130G7-V0E (CM30130G7PBF)	30	16	13	3	1.0×6P	34.0	34.5	20.0
○	LACM002192G8-V0E (CM02192G8PBF)	2	1940	1900	390	0.6×1P	31.0	31.5	22.5
○	LACM005301G8-V0E (CM05301G8PBF)	5	306	300	58	1.0×1P	33.0	33.5	24.5
○	LACM010151G8-V0E (CM10151G8PBF)	10	170	150	22	1.0×2P	33.0	33.5	25.5
○	LACM015700G8-V0E (CM15700G8PBF)	15	75	70	11	1.0×3P	33.5	34.0	26.0
○	LACM020400G8-V0E (CM20400G8PBF)	20	45	40	7	1.0×4P	33.5	34.0	26.0
●	LACM025250G8-V0E (CM25250G8PBF)	25	27	25	5	1.0×5P	33.5	34.0	26.5
○	LACM003102G9-V0E (CM03102G9PBF)	3	1070	1000	170	0.8×1P	39.0	39.5	19.0
○	LACM006301G9-V0E (CM06301G9PBF)	6	335	300	48	0.8×2P	39.5	40.0	19.0
○	LACM008251G9-V0E (CM08251G9PBF)	8	289	250	37	0.9×2P	39.5	40.0	19.0
○	LACM010191G9-V0E (CM10191G9PBF)	10	220	190	21	1.1×2P	41.0	41.5	21.0
○	LACM015850G9-V0E (CM15850G9PBF)	15	100	85	10	1.3×2P	41.0	41.5	21.5
○	LACM020450G9-V0E (CM20450G9PBF)	20	55	45	7	1.2×3P	41.0	41.5	21.5
●	LACM030200G9-V0E (CM30200G9PBF)	30	23	20	3	1.3×4P	42.0	42.5	22.0

◆COIL STANDARD SPECIFICATIONS

	Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance ¹ (10kHz)		D.C.R. mΩ (max)	Winding mmφ×lines	Outside Dimensions		
			0[A] μH	Rating μH			D1 mm	D2 mm	W mm
○	LACM006501G0-V0E (CM06501G0PBF)	6	569	500	61	0.8×2P	44.0	44.5	19.5
○	LACM010201G0-V0E (CM10201G0PBF)	10	255	200	27	1.0×2P	45.0	45.5	20.0
○	LACM015900G0-V0E (CM15900G0PBF)	15	135	90	13	1.0×3P	45.0	45.5	20.0
○	LACM020500G0-V0E (CM20500G0PBF)	20	70	50	8	1.0×4P	45.0	45.5	20.5
○	LACM025300G0-V0E (CM25300G0PBF)	25	38	30	6	1.0×5P	45.0	45.5	20.0
○	LACM030250G0-V0E (CM30250G0PBF)	30	35	25	5	1.0×6P	45.5	46.0	20.5
○	LACM035150G0-V0E (CM35150G0PBF)	35	18	15	4	1.0×7P	45.5	46.0	20.5
○	LACM004102GJ-V0E (CM04102GJPBF)	4	1080	1000	140	0.9×1P	44.0	44.5	23.0
○	LACM010301GJ-V0E (CM10301GJPBF)	10	380	300	31	1.0×2P	45.0	45.5	25.0
○	LACM015121GJ-V0E (CM15121GJPBF)	15	137	120	14	1.0×3P	45.5	46.0	25.5
○	LACM020700GJ-V0E (CM20700GJPBF)	20	83	70	12	1.0×4P	45.5	46.0	25.5
○	LACM025500GJ-V0E (CM25500GJPBF)	25	60	50	7	1.0×5P	46.0	46.5	26.0
○	LACM030300GJ-V0E (CM30300GJPBF)	30	38	30	4	1.0×6P	45.5	46.0	26.0
○	LACM040150GJ-V0E (CM40150GJPBF)	40	18	15	3	1.3×5P	46.0	46.5	26.5
○	LACM015201GQ-V0E (CM15201GQPBF)	15	255	200	20	1.0×3P	54.0	54.5	26.0
○	LACM020101GQ-V0E (CM20101GQPBF)	20	125	100	12	1.0×4P	54.5	55.0	25.5
○	LACM035300GQ-V0E (CM35300GQPBF)	35	35	30	5	1.0×7P	55.0	55.5	26.0
○	LACM040200GQ-V0E (CM40200GQPBF)	40	24	20	3	1.3×5P	55.5	56.0	26.0
○	LACM010501GK-V0E (CM10501GKPBF)	10	530	500	44	1.0×2P	54.5	55.0	34.5
○	LACM015301GK-V0E (CM15301GKPBF)	15	350	300	24	1.0×3P	55.0	55.5	36.0
○	LACM015451GK-V0E (CM15451GKPBF)	15	516	450	30	1.0×3P	55.5	56.0	36.5
○	LACM020201GK-V0E (CM20201GKPBF)	20	250	200	15	1.0×4P	55.0	55.5	36.0
○	LACM025101GK-V0E (CM25101GKPBF)	25	115	100	9	1.0×5P	55.5	56.0	35.5
○	LACM030101GK-V0E (CM30101GKPBF)	30	115	100	8	1.0×6P	55.5	56.0	36.5
○	LACM035500GK-V0E (CM35500GKPBF)	35	60	50	6	1.0×7P	56.0	56.5	36.5

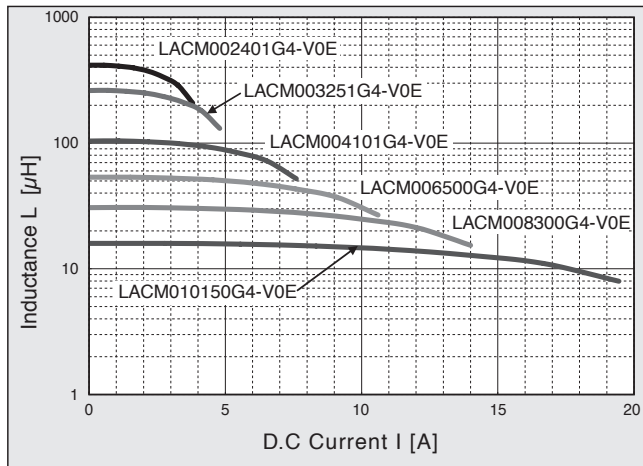
◆D.C. BIAS CHARACTERISTICS (1)

●Core : LNC181210G, Frequency : 10[kHz]



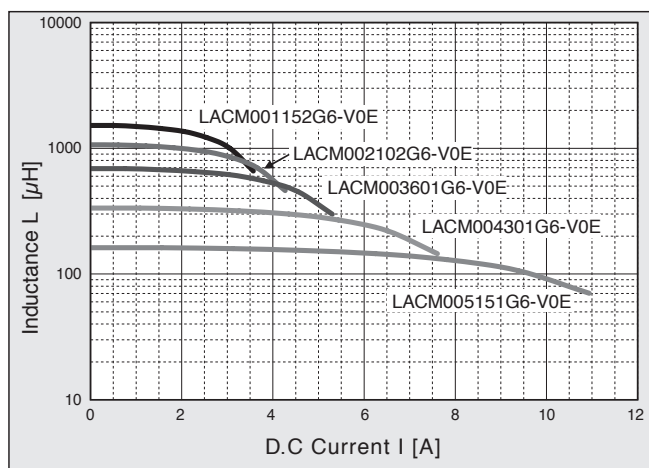
◆D.C. BIAS CHARACTERISTICS (2)

●Core : LNC191305G, Frequency : 10[kHz]



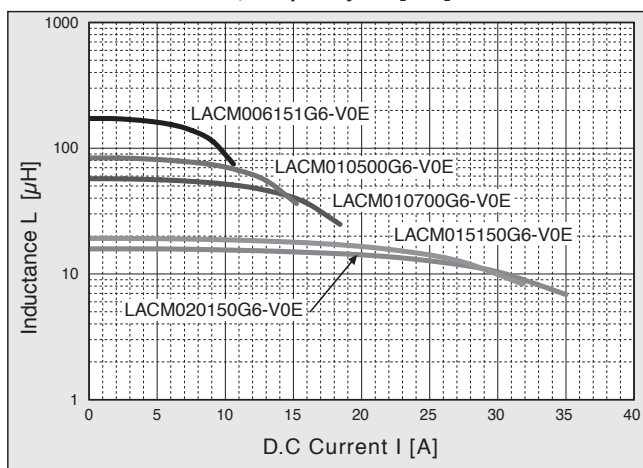
◆D.C. BIAS CHARACTERISTICS (3)

●Core : LNC221310G, Frequency : 10[kHz]



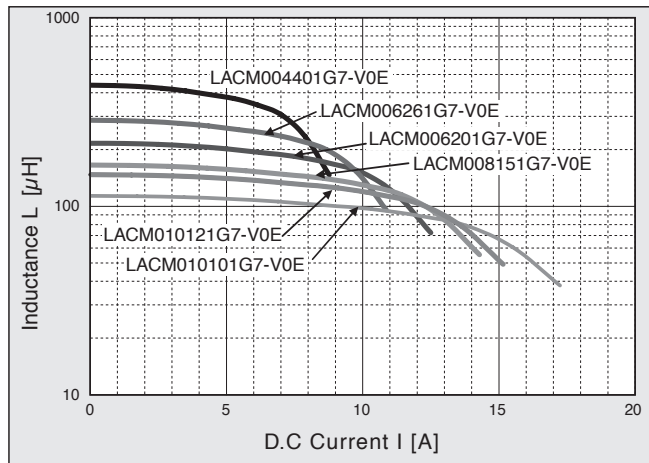
◆D.C. BIAS CHARACTERISTICS (4)

●Core : LNC221310G, Frequency : 10[kHz]



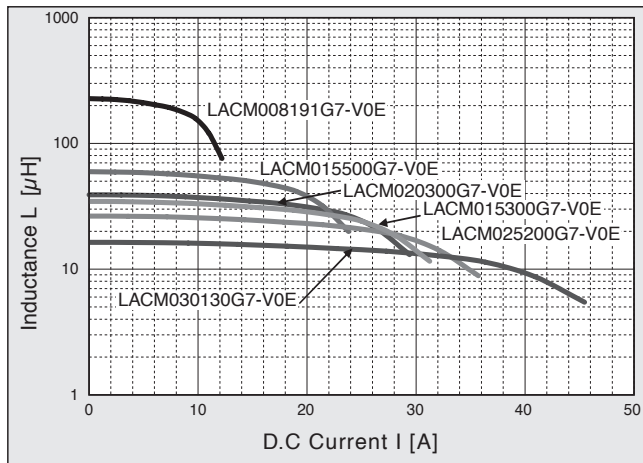
◆D.C. BIAS CHARACTERISTICS (5)

●Core : LNC251510G, Frequency : 10[kHz]



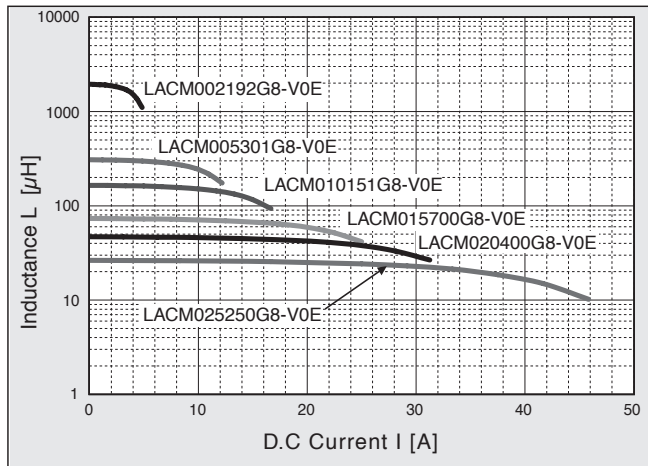
◆D.C. BIAS CHARACTERISTICS (6)

●Core : LNC251510G, Frequency : 10[kHz]



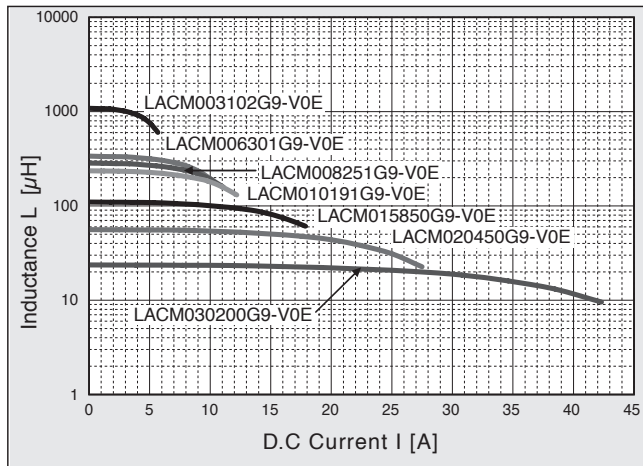
◆D.C. BIAS CHARACTERISTICS (7)

●Core : LNC251515G, Frequency : 10[kHz]



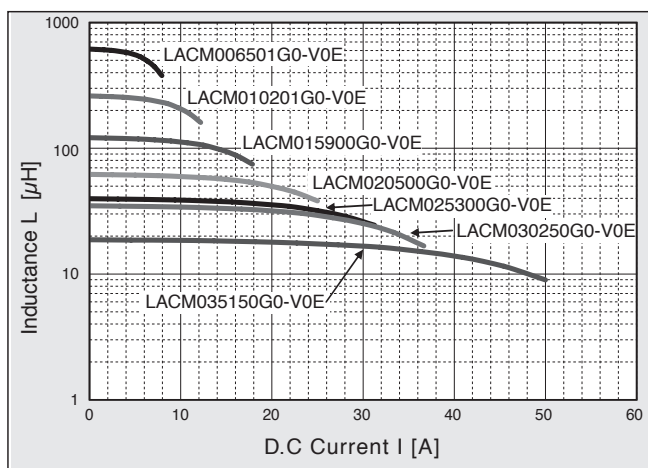
◆D.C. BIAS CHARACTERISTICS (8)

●Core : LNC322010G, Frequency : 10[kHz]



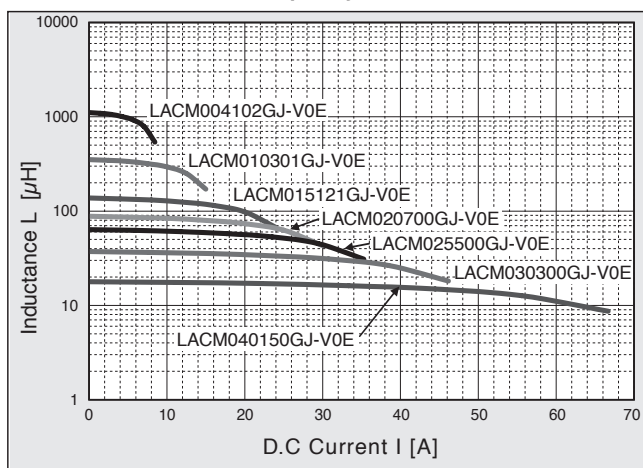
◆D.C. BIAS CHARACTERISTICS (9)

●Core : LNC372310G, Frequency : 10[kHz]



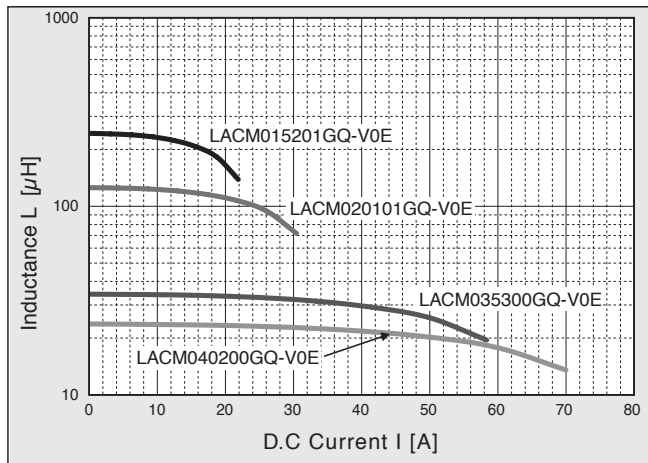
◆D.C. BIAS CHARACTERISTICS (10)

●Core : LNC372315G, Frequency : 10[kHz]



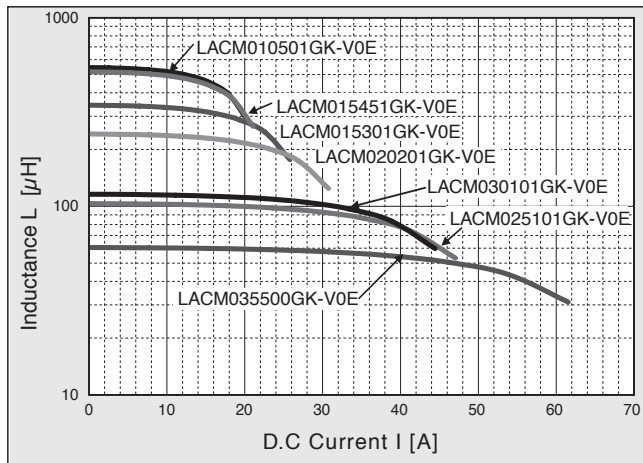
◆D.C. BIAS CHARACTERISTICS (11)

●Core : LNC462715G, Frequency : 10[kHz]



◆D.C. BIAS CHARACTERISTICS (12)

●Core : LNC462725G, Frequency : 10[kHz]



◆MAJOR USES

- Output choke coils for Switching Mode Power Supply
- Choke coils for DC-DC converter
- Normal mode choke coils for noise control

◆FEATURES

- Miniaturization in comparison with CM series coils by about 30 percent
- Lineup about the standard from 3 to 30A
- Little inductance fall when overload

◆COIL STANDARD SPECIFICATIONS

Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance ^{*1} (10kHz)		D.C.R. mΩ (max)	Winding mmφ×lines	Outside Dimensions		
		0[A] μH	Rating μH			D1 mm	D2 mm	W mm
○ LACM003192JRHV0E (CM03192JRPBF)	3	2000	1900	290	0.9φ×1P	41.5	41.5	27.0
○ LACM005102JRHV0E (CM05102JRPBF)	5	1200	1000	150	1.1φ×1P	42.0	42.0	28.0
○ LACM008511JRHV0E (CM08511JRPBF)	8	600	510	77	1.3φ×1P	42.0	42.0	29.5
○ LACM010261JRHV0E (CM10261JRPBF)	10	290	260	38	1.1φ×2P	42.0	42.0	28.0
○ LACM015131JRHV0E (CM15131JRPBF)	15	150	130	20	1.3φ×2P	42.0	42.0	29.5
○ LACM020790JRHV0E (CM20790JRPBF)	20	92	79	13	1.2φ×3P	42.5	42.5	28.5
● LACM025430JRHV0E (CM25430JRPBF)	25	50	43	7	1.2φ×4P	42.5	42.5	28.5
● LACM030320JRHV0E (CM30320JRPBF)	30	36	32	6	1.3φ×4P	42.5	42.5	29.5

*1 Rated inductance tolerance : ±25%, the inductance at current 0[A] indicates the reference value.

There is a horizontal putting type in all items in the above list."V"changes into "H" in last the third digit of the name of items.

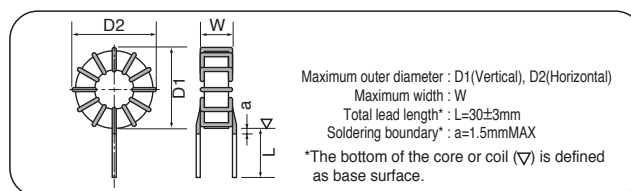
There is a type with the length putting seat in ● item in the above list."V" changes into "D" in last the third digit of the name of items.

There are the type with the length putting seat and the horizontal putting seat in ○ item.

The type with the length putting seat is "V" changes into "B" in last the third digit of the name of items.

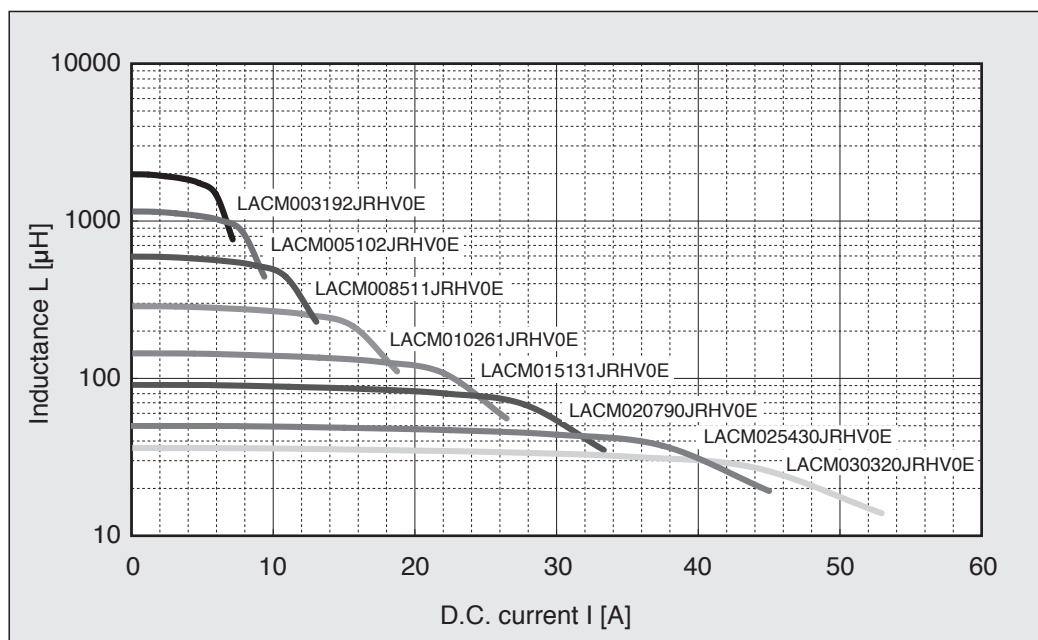
*Order the auxiliary pins separately if they are required for the pedestal.

Please select them according to the situation.



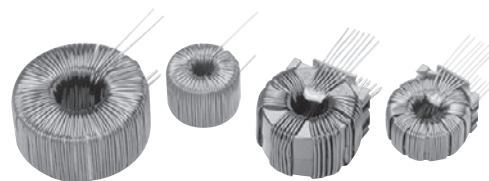
◆D.C. BIAS CHARACTERISTICS

●Core : LNC322015J2, Frequency : 10 [kHz]



◆MAJOR USES

- Choke coils for Power Factor Corrective circuit
- Normal mode choke coils for noise control



◆FEATURES

- Excellent D.C. bias characteristics
- Reduction of core loss in comparison with the conventional CM-series coils, providing low temperature rises for uses at power of 100V or larger
- Excellent temperature stability

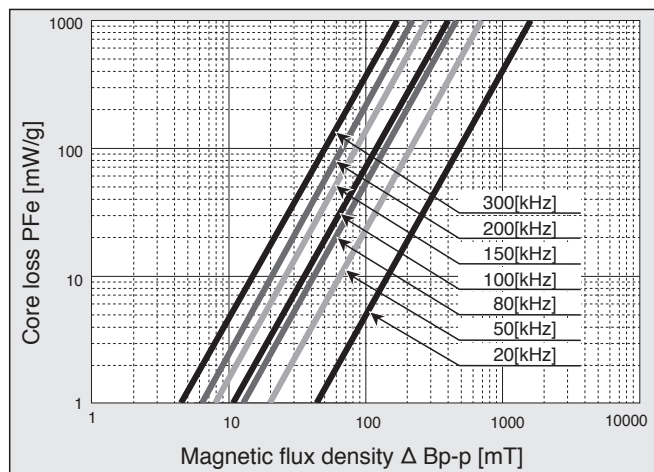
◆CORE STANDARD SPECIFICATIONS

Core Part No. (Old Core Part No.)	Abbreviation	Cross Sectional Area cm ²	Magnetic Path Length cm	Outside Dimensions			Inductance Coefficient AL Value		
				Outer Diameter mm	Width mm	Height mm	I _{dc} =0[A] μH	Rated Current* μH	Rated Current Ampere Turn [AT]
LNC251510J3 (C251510J3)	J7H	0.430	6.28	28.3	12.7	12.3	0.100	0.075	430
LNC251515J2 (C251515J2)	J8H	0.645	6.28	28.3	12.7	17.5	0.140	0.113	460
LNC322015J2 (C322015J2)	JRH	0.774	8.17	35.2	17.5	17.3	0.122	0.102	600
LNC322020J2 (C322020J2)	JAH	1.032	8.17	35.5	17.0	23.8	0.156	0.125	660
LNC372320J2 (C372320J2)	JBH	1.204	9.42	40.5	19.5	23.0	0.173	0.140	700
LNC462720J2 (C462720J2)	JCH	1.634	11.50	49.4	22.7	23.0	0.191	0.156	840
LNC462725J2 (C462725J2)	JKH	2.043	11.50	49.4	22.7	28.0	0.230	0.183	900
LNC603525J2 (C603525J2)	JLH	2.688	14.90	66.7	29.3	29.2	0.230	0.166	1300

*100[kHz], ±25%

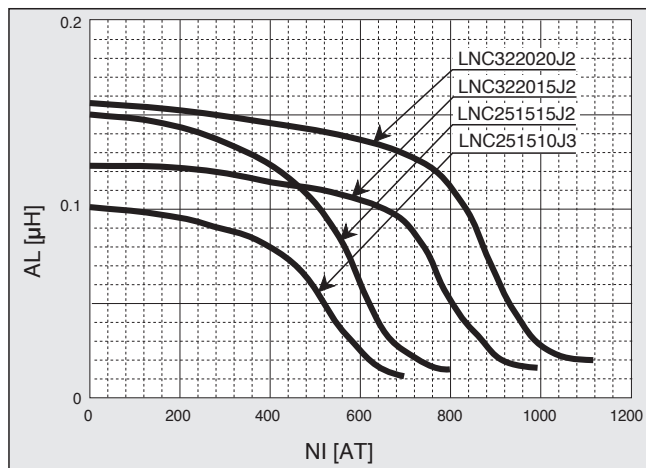
◆CORE LOSS CHARACTERISTICS

- AM choke



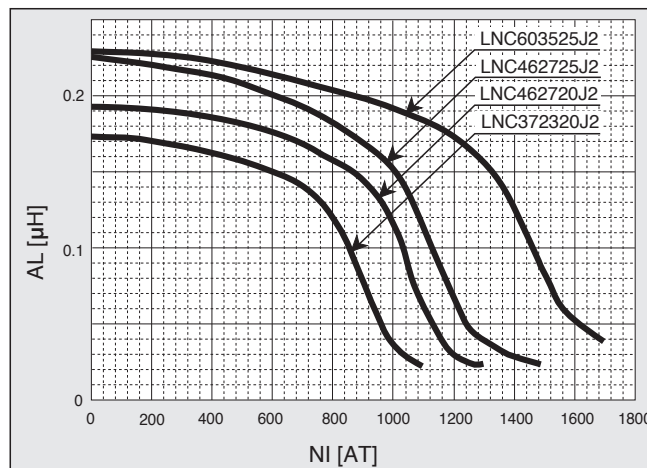
◆D.C. BIAS CHARACTERISTICS AL-AT(1)

●Frequency : 100[kHz]



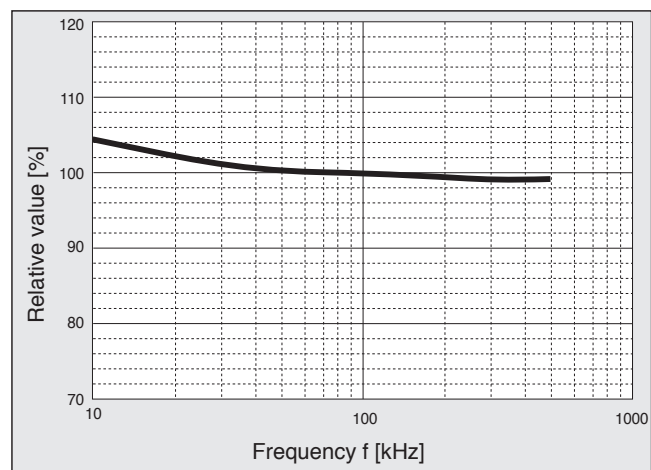
◆D.C. BIAS CHARACTERISTICS AL-AT(2)

●Frequency : 100[kHz]



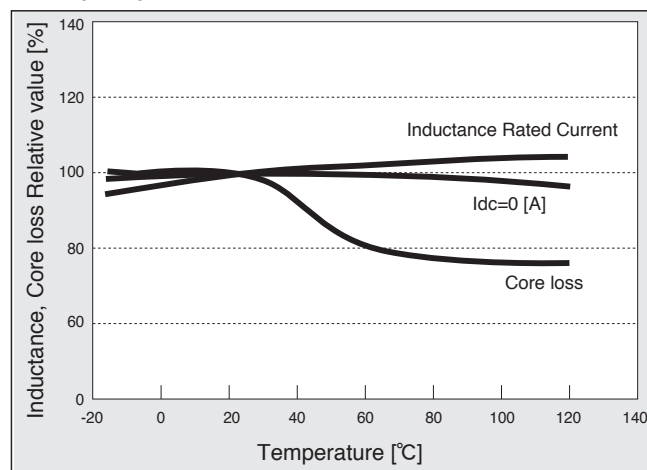
◆FREQUENCY - INDUCTANCE CHARACTERISTICS

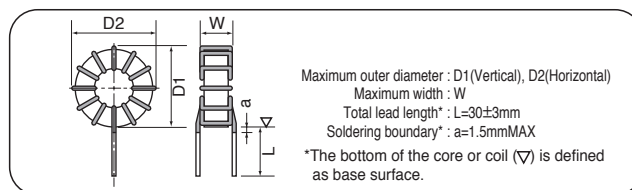
●AM choke



◆TEMPERATURE DEPENDENCE - INDUCTANCE AND CORE LOSS

●Frequency : 100[kHz]





◆COIL STANDARD SPECIFICATIONS

Coil Part No. (Old Coil Part No.)	Rated Current Arms	Peak Current A	Inductance (100kHz)		D.C.R. mΩ (max)	Winding mmφXlines	Outside Dimensions		
			0[A] μH	Rating μH			D1 mm	D2 mm	W mm
○ LAAM002202J7HV0E (AM02202J7HPBF)	2	2.8	2400 ^{*2}	2000 ^{*2}	350	0.7X1P	33.0	34.5	19.0
○ LAAM003901J7HV0E (AM03901J7HPBF)	3	4.2	1100	900	170	0.9X1P	33.0	34.5	19.5
○ LAAM003152J8HV0E (AM03152J8HPBF)	3	4.2	2000	1500	230	0.85X1P	35.5	35.5	26.0
○ LAAM004801J8HV0E (AM04801J8HPBF)	4	5.7	1100	800	150	0.9X1P	34.0	34.0	25.5
○ LAAM005501J8HV0E (AM05501J8HPBF)	5	7.1	600	500	80	1.1X1P	34.5	34.5	28.0
○ LAAM004102JRHV0E (AM04102JRHPBF)	4	5.7	1200	1000	160	1.0X1P	40.5	42.0	26.5
○ LAAM005751JRHV0E (AM05751JRHPBF)	5	7.1	890	750	110	1.1X1P	40.5	42.0	27.0
○ LAAM005901JAHV0E (AM05901JAHPBF)	5	7.1	1000	900	115	1.1X1P	40.5	42.0	32.0
○ LAAM006651JAHV0E (AM06651JAHPBF)	6	8.5	740	650	87	1.2X1P	41.0	42.5	32.5
○ LAAM005122JBHV0E (AM05122JBHPBF)	5	7.1	1500	1200	140	1.1X1P	45.5	47.0	31.5
○ LAAM006801JBHV0E (AM06801JBHPBF)	6	8.5	970	800	94	1.2X1P	45.0	46.5	30.5
○ LAAM008501JBHV0E (AM08501JBHPBF)	8	11.3	600	500	53	1.0X2P	46.5	48.0	32.0
○ LAAM008801JCHV0E (AM08801JCHPBF)	8	11.3	1000	800	73	1.0X2P	56.0	57.5	33.5
○ LAAM010501JCHV0E (AM10501JCHPBF)	10	14.1	600	500	45	1.1X2P	54.5	56.0	32.5
○ LAAM012351JCHV0E (AM12351JCHPBF)	12	17.0	420	350	33	1.2X2P	55.0	56.5	32.0
○ LAAM010651JKHV0E (AM10651JKHPBF)	10	14.1	840	650	53	1.1X2P	56.0	57.5	38.0
○ LAAM012451JKHV0E (AM12451JKHPBF)	12	17.0	590	450	41	1.2X2P	55.5	57.0	38.0
○ LAAM015301JKHV0E (AM15301JKHPBF)	15	21.2	380	300	26	1.1X3P	55.5	57.0	38.0
LAAM012701JLHV0E (AM12701JLHPBF)	12	17.0	860	700	53	1.2X2P	72.5	74.0	39.0
LAAM015451JLHV0E (AM15451JLHPBF)	15	21.2	550	450	35	1.1X3P	72.0	73.5	40.0
LAAM020251JLHV0E (AM20251JLHPBF)	20	28.3	310	250	20	1.1X4P	72.5	74.0	39.0

*1 Rated inductance tolerance : ±25%, the inductance at current 0[A] indicates the reference value.

*2 LAAM002202J7HV0E : 10kHz.

There is a horizontal putting type in all items in the above list."V"changes into "H" in last the third digit of the name of items.

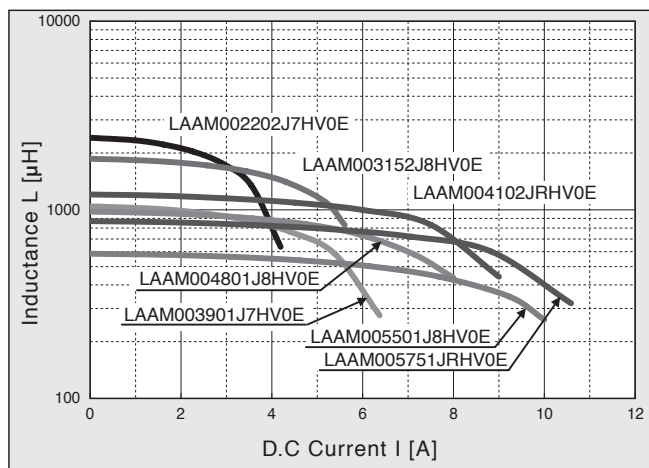
There are the type with the length putting seat and the horizontal putting seat in ○ item.

*Order the auxiliary pins separately if they are required for the pedestal.

Please select them according to the situation.

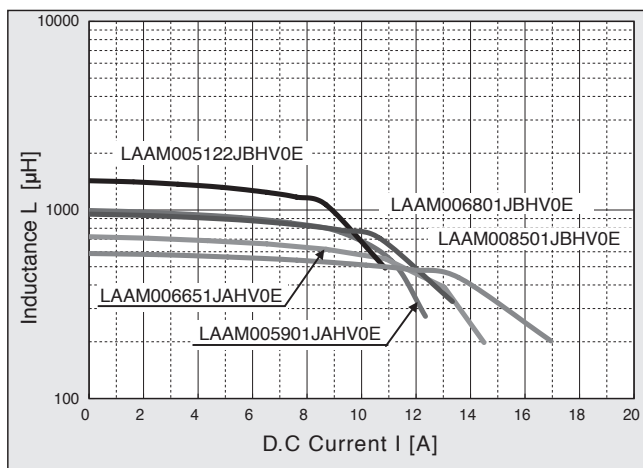
◆D.C. BIAS CHARACTERISTICS (1)

●Core : LNC251510J3, LNC251515J2, LNC322015J2,
Frequency : 100[kHz]



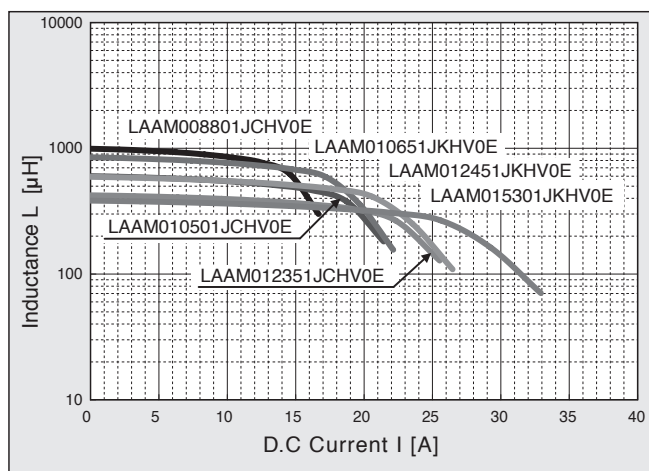
◆D.C. BIAS CHARACTERISTICS (2)

●Core : LNC322020J2, LNC372320J2, Frequency : 100[kHz]



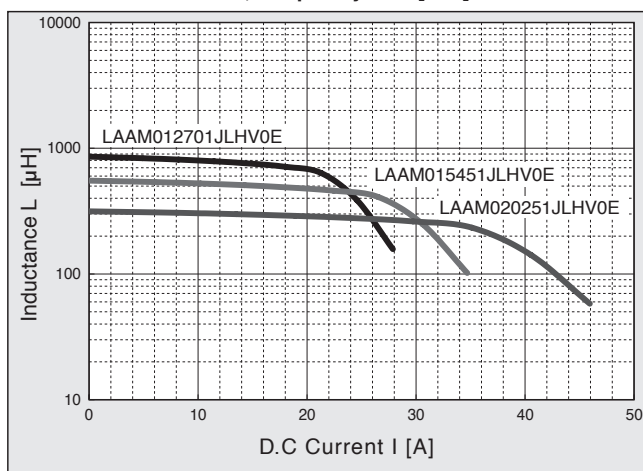
◆D.C. BIAS CHARACTERISTICS (3)

●Core : LNC462720J2, Frequency : 100[kHz]



◆D.C. BIAS CHARACTERISTICS (4)

●Core : LNC603525J2, Frequency : 100[kHz]

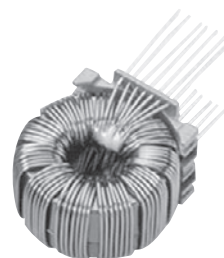


◆MAJOR USES

- Choke coils for Power Factor Corrective circuit
- Output choke coils for inverter smoothing

◆FEATURES

- Miniaturization in comparison with AM series coils by about 30 percent
- Excellent D.C.bias characteristics



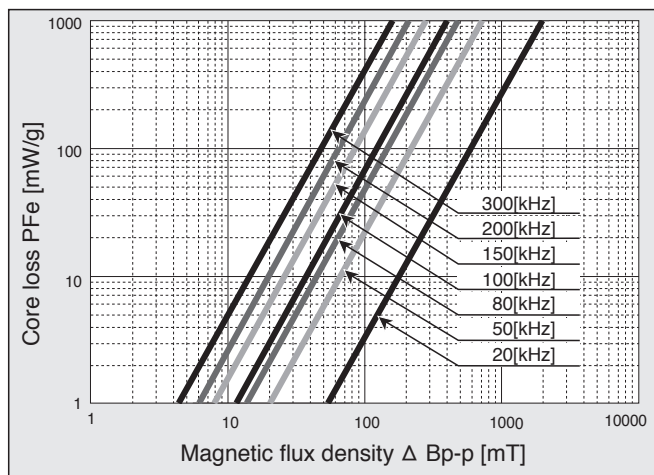
◆CORE STANDARD SPECIFICATIONS

Core Part No. (Old Core Part No.)	Abbreviation	Cross Sectional Area cm ²	Magnetic Path Length cm	Outside Dimensions			Inductance Coefficient AL Value		
				Outer Diameter mm	Width mm	Height mm	Idc=0[A] μH	Rated Current* μH	Rated Current Ampere Turn [AT]
LNW462715J2 (W462715J2)	WQ	1.254	11.5	49.4	22.7	18.0	0.076	0.061	1760
LNW462720J2 (W462720J2)	WC	1.634	11.5	49.4	22.7	23.0	0.094	0.080	1800
LNW462725J2 (W462725J2)	WK	2.043	11.5	49.4	22.7	28.0	0.133	0.106	1900
LNW603525J2 (W603525J2)	WL	2.688	14.9	66.7	29.3	29.2	0.135	0.109	2500

*100[kHz], ±25%

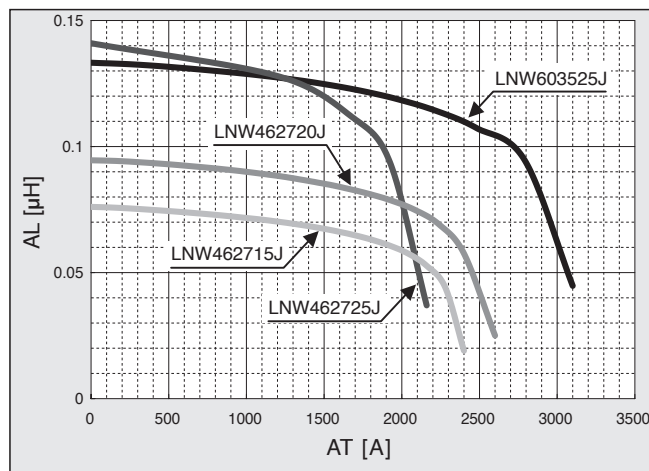
◆CORE LOSS CHARACTERISTICS (Magnetic Flux Density Dependency)

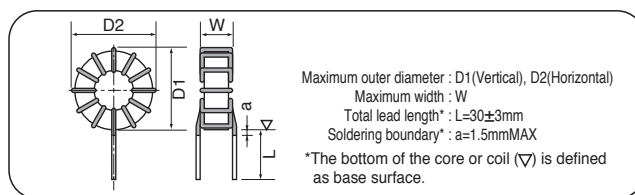
- AW choke



◆D.C. BIAS CHARACTERISTICS AL-AT

- AW core, Frequency : 100[kHz]





◆COIL STANDARD SPECIFICATIONS

Coil Part No. (Old Coil Part No.)	Rated Current Arms	Peak Current A	Inductance ^{*1} (100kHz)		D.C.R. mΩ (max)	Winding mmφ×lines	Outside Dimensions		
			0[A] μH	Rating μH			D1 mm	D2 mm	W mm
◎ LAAW020251WKHV0E (AW20251WKHPBF)	20	28.3	270	250	20	1.0×5P	59.0	59.0	41.5
◎ LAAW030101WKHV0E (AW30101WKHPBF)	30	42.4	105	100	10	1.3×4P	57.0	57.0	41.5
LAAW040500WKHV0E (AW40500WKHPBF)	40	56.6	53	50	6	1.5×4P	57.0	57.0	41.5
LAAW020501WLHV0E (AW20501WLHPBF)	20	28.3	546	500	35	1.0×5P	78.5	78.5	46.0
LAAW030201WLHV0E (AW30201WLHPBF)	30	42.4	213	200	15	1.3×4P	78.5	78.5	46.0
LAAW040101WLHV0E (AW40101WLHPBF)	40	56.6	105	100	10	1.5×4P	78.5	78.5	46.0

*1 Rated inductance tolerance : ±25%, the inductance at current 0[A] indicates the reference value.

There is a horizontal putting type in all items in the above list. "V" changes into "H" in last the third digit of the name of items.

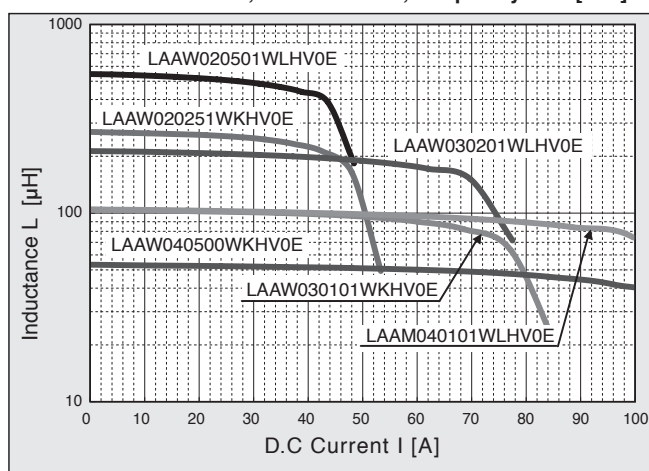
There are the type with the length putting seat and the horizontal putting seat in ◎ item.

*Order the auxiliary pins separately if they are required for the pedestal.

Please select them according to the situation.

◆D.C. BIAS CHARACTERISTICS

●Core : LNW462725J2, LNW603525J2, Frequency : 100[kHz]

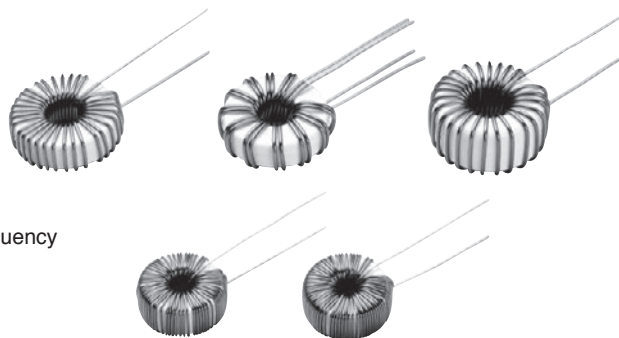


◆ MAJOR USES

- Output choke coils for Switching Mode Power Supply
- Choke coils for DC-DC converter
- Normal mode choke coils for noise control

◆ FEATURES

- Great reduction of core loss enabling low temperature rise at high frequency
- Miniaturization and reduction of DC resistance
- Low leakage flux due to gap-less structure
- Excellent frequency and temperature features



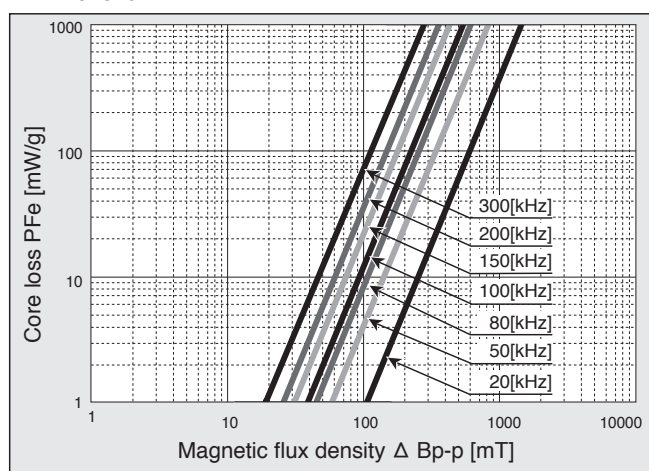
◆ CORE STANDARD SPECIFICATIONS

Core Part No. (Old Core Part No.)	Abbreviation	Cross Sectional Area cm ²	Magnetic Path Length cm	Outside Dimensions			Inductance Coefficient AL Value		
				Outer Diameter mm	Width mm	Height mm	Idc=0[A] μH	Rated Current* μH	Rated Current Ampere Turn [AT]
LPT100805N (T100805N)	NS	0.08	2.84	13.0	6.0	6.5	0.100	0.063	70
LPT130805N (T130805N)	N1	0.13	3.44	16.0	5.8	7.4	0.120	0.070	75
LPT150905N (T150905N)	N2	0.14	3.85	17.2	7.3	6.4	0.118	0.063	100
LPT211205N (T211205N)	N5	0.21	5.26	23.2	10.2	6.9	0.126	0.060	155
LPT160910N (T160910N)	NU	0.29	3.92	18.0	7.3	11.9	0.260	0.115	120
LPT191210N (T191210N)	NP	0.33	4.95	21.9	9.8	11.8	0.212	0.095	160
LPT221310N (T221310N)	N6	0.40	5.50	24.7	10.5	12.0	0.229	0.112	160
LPT251510N (T251510N)	N7	0.53	6.60	29.7	12.5	12.3	0.253	0.120	200
LPT322010N (T322010N)	N9	0.56	8.25	35.2	17.5	12.3	0.211	0.090	280

*200[kHz], ±25% (LPT100805N : 100[kHz], ±25%)

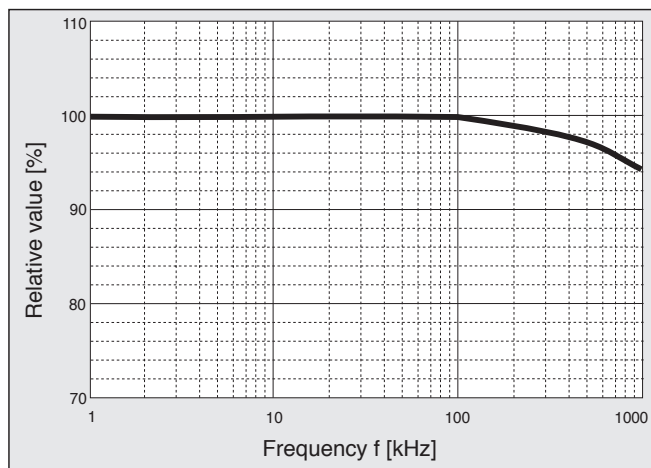
◆ CORE LOSS CHARACTERISTICS

● TM choke



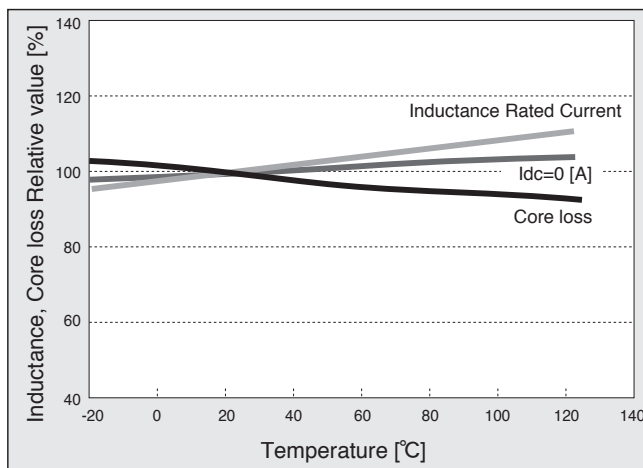
◆FREQUENCY - INDUCTANCE CHARACTERISTICS

●TM choke

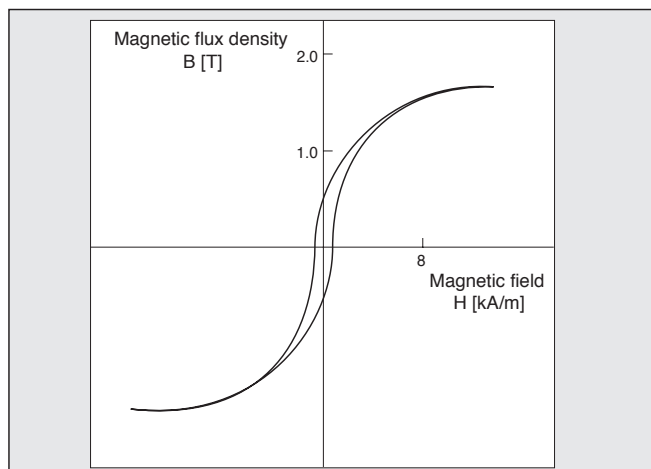


◆TEMPERATURE DEPENDENCE - INDUCTANCE AND CORE LOSS

●Frequency : 200[kHz]

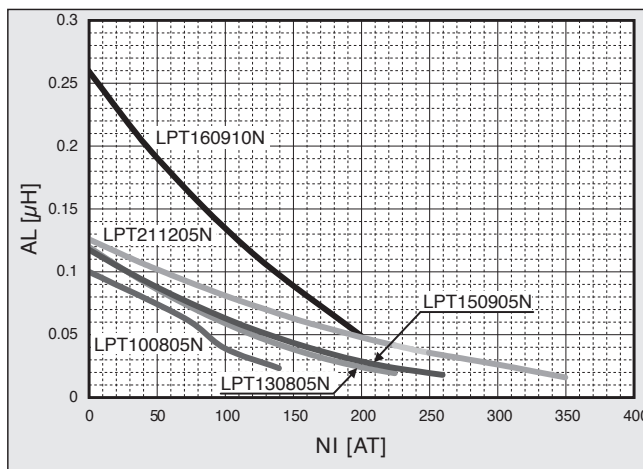


◆B-H CURVE



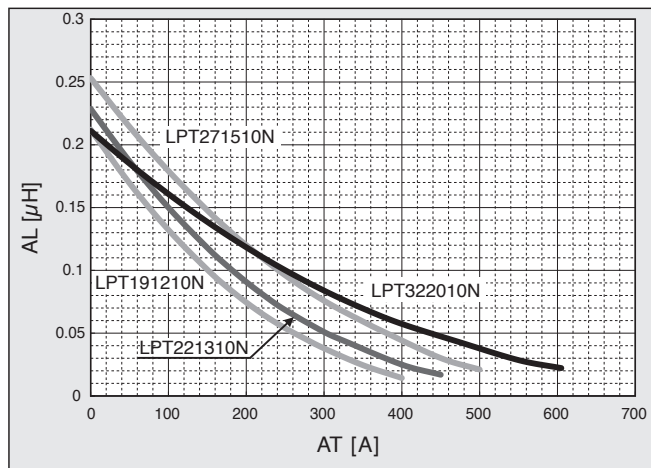
◆D.C. BIAS CHARACTERISTICS AL-AT(1)

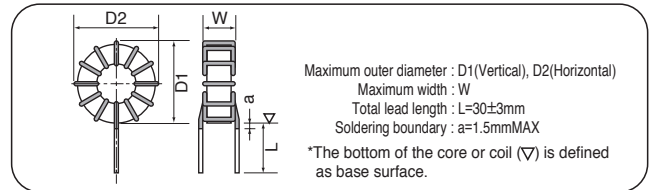
●Frequency : 200[kHz] (LPT100805N : 100[kHz])



◆D.C. BIAS CHARACTERISTICS AL-AT(2)

●Frequency : 200[kHz]





◆COIL STANDARD SPECIFICATIONS

Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance ^{*1} (200kHz) ^{*2}		D.C.R. mΩ (max)	Winding mmφ×lines	Outside Dimensions		
		0[A] μH	Rating μH			D1 mm	D2 mm	W mm
● LBTM001201NS-V0E (TM01201NSPBF)	1	260 ^{*2}	200 ^{*2}	120	0.5×1P	16.0	16.0	11.0
● LBTM002800NS-V0E (TM02800NSPBF)	2	120 ^{*2}	80 ^{*2}	60	0.6×1P	16.5	16.5	11.0
● LBTM003270NS-V0E (TM03270NSPBF)	3	40 ^{*2}	27 ^{*2}	20	0.8×1P	16.5	17.0	11.5
● LBTM005100NS-V0E (TM05100NSPBF)	5	14 ^{*2}	10 ^{*2}	9	1.0×1P	17.0	17.5	11.5
● LBTM001201N1-V0E (TM01201N1PBF)	1	290	200	150	0.5×1P	18.5	19.0	10.5
● LBTM001251N1-V0E (TM01251N1PBF)	1	400	250	170	0.5×1P	18.5	19.0	11.0
● LBTM001301N1-V0E (TM01301N1PBF)	1	430	300	170	0.5×1P	19.5	19.5	11.5
● LBTM002101N1-V0E (TM02101N1PBF)	2	160	100	70	0.6×1P	19.5	19.5	11.5
● LBTM003400N1-V0E (TM03400N1PBF)	3	69	40	27	0.8×1P	19.5	19.5	11.5
● LBTM004250N1-V0E (TM04250N1PBF)	4	43	25	18	0.9×1P	19.5	19.5	11.5
● LBTM005150N1-V0E (TM05150N1PBF)	5	23	15	11	1.0×1P	19.5	20.0	11.5
● LBTM001401N2-V0E (TM01401N2PBF)	1	580	400	210	0.5×1P	19.5	20.0	11.0
● LBTM001501N2-V0E (TM01501N2PBF)	1	770	500	230	0.5×1P	20.0	20.5	11.0
● LBTM002151N2-V0E (TM02151N2PBF)	2	240	150	89	0.6×1P	20.0	20.5	10.5
● LBTM002201N2-V0E (TM02201N2PBF)	2	360	200	110	0.6×1P	20.0	20.5	11.0
● LBTM002211N2-V0E (TM02211N2PBF)	2	400	210	110	0.6×1P	20.5	21.0	11.5
● LBTM003700N2-V0E (TM03700N2PBF)	3	110	70	36	0.8×1P	20.5	21.0	11.5
● LBTM004450N2-V0E (TM04450N2PBF)	4	74	45	24	0.9×1P	21.0	21.5	11.5
● LBTM004500N2-V0E (TM04500N2PBF)	4	92	50	24	0.9×1P	21.0	21.5	11.5
● LBTM005300N2-V0E (TM05300N2PBF)	5	52	30	17	1.0×1P	21.0	21.5	12.0
● LBTM006200N2-V0E (TM06200N2PBF)	6	34	20	11	0.8×2P	21.0	21.5	12.0

*1 Rated inductance tolerance : ±25%, the inductance at current 0[A] indicates the reference value.

*2 LBTM001201NS-V0E, LBTM002800NS-V0E, LBTM003270NS-V0E, LBTM005100NS-V0E, LBTM001132N5-V0E : 100kHz

There is a horizontal putting type in all items in the above list."V" changes into "H" in last the third digit of the name of items.

There is a type with the length putting seat in ● item in the above list."V" changes into "D" in last the third digit of the name of items.

There are the type with the length putting seat and the horizontal putting seat in ◎ item.

The type with the length putting seat is "V" changes into "B" in last the third digit of the name of items.

*Order the auxiliary pins separately if they are required for the pedestal.

Please select them according to the situation.

◆COIL STANDARD SPECIFICATIONS

Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance ^{*1} (200kHz) ^{*2}		D.C.R. mΩ (max)	Winding mmφ×lines	Outside Dimensions		
		0[A] μH	Rating μH			D1 mm	D2 mm	W mm
● LBTM001132N5-V0E (TM01132N5PBF)	1	2000 ^{*2}	1300 ^{*2}	400	0.5×1P	26.0	27.0	12.0
● LBTM003800N5-V0E (TM03800N5PBF)	3	120	80	41	0.8×1P	26.5	27.5	11.0
● LBTM003171N5-V0E (TM03171N5PBF)	3	290	170	59	0.8×1P	26.5	27.5	12.0
● LBTM005750N5-V0E (TM05750N5PBF)	5	150	75	27	1.0×1P	27.0	28.0	13.5
● LBTM006450N5-V0E (TM06450N5PBF)	6	85	45	18	0.8×2P	27.0	28.0	13.0
● LBTM008250N5-V0E (TM08250N5PBF)	8	45	25	11	0.9×2P	27.0	28.0	13.5
● LBTM010160N5-V0E (TM10160N5PBF)	10	28	16	7	1.1×2P	28.0	29.0	14.0
● LBTM015080N5-V0E (TM15080N5PBF)	15	15	8	4	1.1×3P	28.5	29.5	14.5
● LBTM002351NU-V0E (TM02351NUPBF)	2	700	350	135	0.6×1P	22.0	22.0	16.5
● LBTM003131NU-V0E (TM03131NUPBF)	3	230	130	44	0.8×1P	22.5	22.5	17.0
● LBTM005500NU-V0E (TM05500NUPBF)	5	94	50	19	1.0×1P	22.5	22.5	16.5
● LBTM008170NU-V0E (TM08170NUPBF)	8	31	17	7	0.9×2P	22.5	22.5	16.5
● LBTM002621NP-V0E (TM02621NPPBF)	2	1200	620	150	0.7×1P	25.0	25.5	16.5
● LBTM003291NP-V0E (TM03291NPPBF)	3	550	290	76	0.8×1P	25.0	25.5	16.0
● LBTM004161NP-V0E (TM04161NPPBF)	4	320	160	46	0.9×1P	25.0	25.0	16.5
● LBTM005101NP-V0E (TM05101NPPBF)	5	190	100	29	1.0×1P	25.5	26.0	16.5
● LBTM006700NP-V0E (TM06700NPPBF)	6	130	70	19	0.8×2P	25.0	25.5	16.0
● LBTM008400NP-V0E (TM08400NPPBF)	8	77	40	12	0.9×2P	25.0	25.0	16.5
● LBTM010270NP-V0E (TM10270NPPBF)	10	54	27	7	1.1×2P	26.0	26.0	17.0
● LBTM015120NP-V0E (TM15120NPPBF)	15	26	12	4	1.1×3P	26.0	26.0	17.5

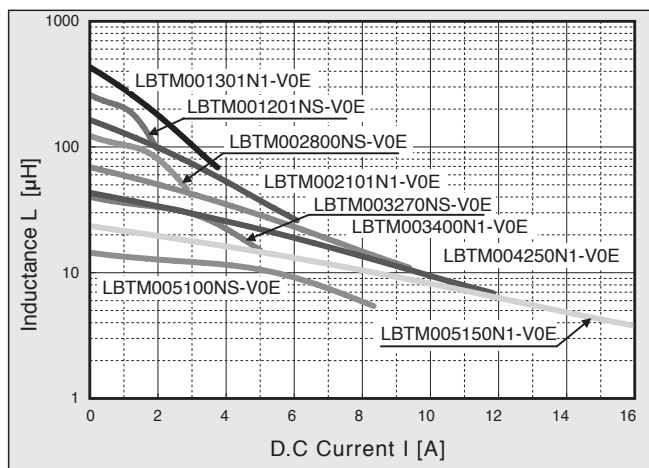
◆COIL STANDARD SPECIFICATIONS

	Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance ^{*1} (200kHz) ^{*2}		D.C.R. mΩ (max)	Winding mmφ×lines	Outside Dimensions		
			0[A] μH	Rating μH			D1 mm	D2 mm	W mm
◎	LBTM002701N6-V0E (TM02701N6PBF)	2	1200	700	150	0.7×1P	27.5	28.0	16.5
◎	LBTM003181N6-V0E (TM03181N6PBF)	3	260	180	50	0.8×1P	27.5	28.0	15.0
◎	LBTM003351N6-V0E (TM03351N6PBF)	3	640	350	82	0.8×1P	27.5	28.0	16.5
◎	LBTM004101N6-V0E (TM04101N6PBF)	4	140	100	33	0.9×1P	27.5	28.0	16.0
◎	LBTM004201N6-V0E (TM04201N6PBF)	4	370	200	48	0.9×1P	28.0	28.5	16.5
◎	LBTM005131N6-V0E (TM05131N6PBF)	5	250	130	34	1.0×1P	28.5	29.0	17.0
◎	LBTM006850N6-V0E (TM06850N6PBF)	6	170	85	22	0.8×2P	28.0	28.5	17.0
◎	LBTM008450N6-V0E (TM08450N6PBF)	8	83	45	13	0.9×2P	28.0	28.5	17.0
◎	LBTM010300N6-V0E (TM10300N6PBF)	10	51	30	7	1.1×2P	29.0	29.5	17.5
◎	LBTM015160N6-V0E (TM15160N6PBF)	15	33	16	5	1.1×3P	28.5	29.0	18.5
◎	LBTM020100N6-V0E (TM20100N6PBF)	20	23	10	4	1.3×3P	29.5	30.0	19.0
◎	LBTM002901N7-V0E (TM02901N7PBF)	2	1500	900	240	0.6×1P	32.0	32.5	15.5
◎	LBTM002112N7-V0E (TM02112N7PBF)	2	1800	1100	190	0.7×1P	32.5	33.0	16.5
◎	LBTM003481N7-V0E (TM03481N7PBF)	3	820	480	94	0.8×1P	32.5	33.0	16.5
◎	LBTM005141N7-V0E (TM05141N7PBF)	5	240	140	34	1.0×1P	33.0	33.5	16.0
◎	LBTM005211N7-V0E (TM05211N7PBF)	5	390	210	42	1.0×1P	33.0	33.5	17.5
◎	LBTM010300N7-V0E (TM10300N7PBF)	10	45	30	7	1.6×1P	35.5	36.0	18.5
◎	LBTM010500N7-V0E (TM10500N7PBF)	10	100	50	11	1.1×2P	34.0	34.5	18.0
◎	LBTM015260N7-V0E (TM15260N7PBF)	15	65	26	6	1.1×3P	33.5	34.0	18.0
◎	LBTM025100N7-V0E (TM25100N7PBF)	25	25	10	3	1.6×2P	35.5	36.0	19.0
◎	LBTM003501N9-V0E (TM03501N9PBF)	3	840	500	120	0.8×1P	38.5	39.0	18.5
◎	LBTM005281N9-V0E (TM05281N9PBF)	5	530	280	61	1.0×1P	39.5	40.0	19.0
◎	LBTM005301N9-V0E (TM05301N9PBF)	5	550	300	62	1.0×1P	39.5	40.0	19.0
◎	LBTM010600N9-V0E (TM10600N9PBF)	10	110	60	12	1.6×1P	41.5	42.0	20.0
◎	LBTM010800N9-V0E (TM10800N9PBF)	10	170	80	15	1.1×2P	41.0	41.5	20.5
◎	LBTM015400N9-V0E (TM15400N9PBF)	15	93	40	8	1.1×3P	39.5	40.0	20.0
◎	LBTM020130N9-V0E (TM20130N9PBF)	20	21	13	4	1.3×3P	41.0	41.5	19.5
◎	LBTM020200N9-V0E (TM20200N9PBF)	20	41	20	5	1.3×3P	40.5	41.0	20.5

Product specifications in this catalog are subject to change without notice. Request our product specifications before purchase and/or use. Please use our products based on the information contained in this catalog and product specifications.

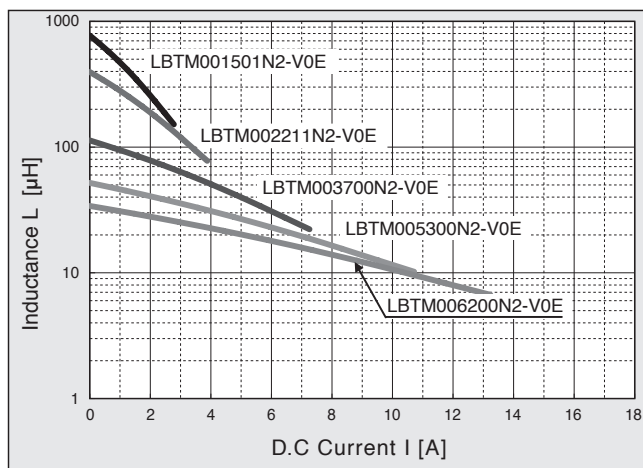
◆D.C. BIAS CHARACTERISTICS (1)

- Core : LPT100805N, Frequency : 100[kHz]
- Core : LPT130805N, Frequency : 200[kHz]



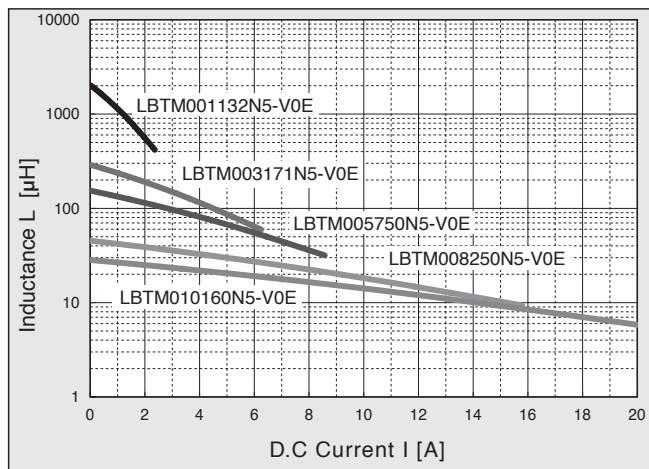
◆D.C. BIAS CHARACTERISTICS (2)

- Core : LPT150905N, Frequency : 200[kHz]



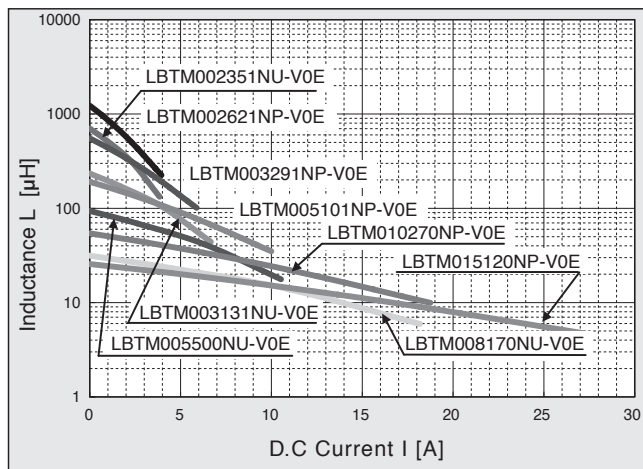
◆D.C. BIAS CHARACTERISTICS (3)

- Core : LPT211205N, Frequency : 200[kHz]



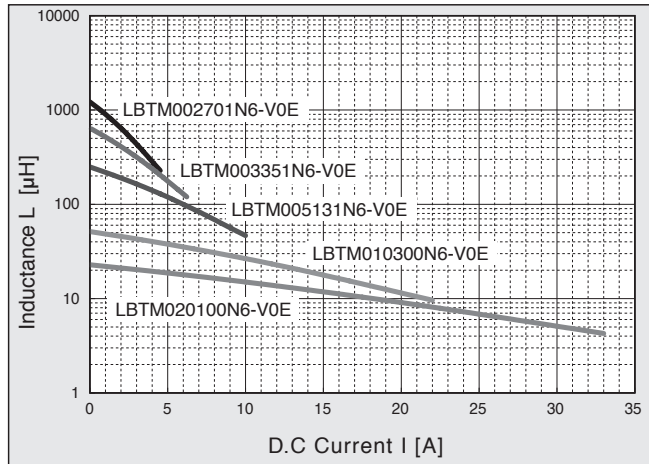
◆D.C. BIAS CHARACTERISTICS (4)

- Core : LPT160910N, LPT191210N, Frequency : 200[kHz]



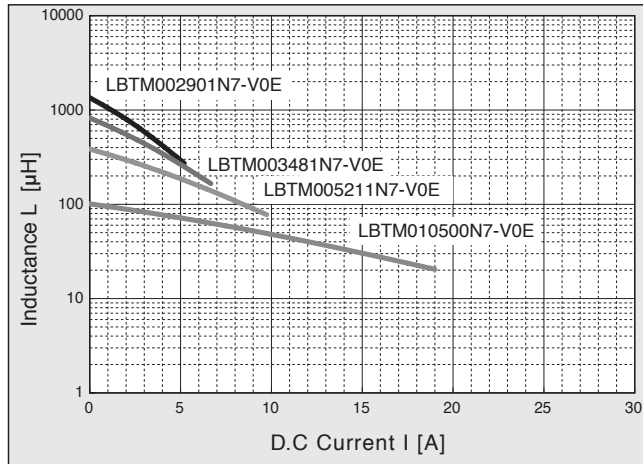
◆D.C. BIAS CHARACTERISTICS (5)

- Core : LPT221310N, Frequency : 200[kHz]



◆D.C. BIAS CHARACTERISTICS (6)

- Core : LPT271510N, Frequency : 200[kHz]



◆MAJOR USES

- Output choke coils for Switching Mode Power Supply
- Choke coils for DC-DC converter
- Normal mode choke coils for noise control

◆FEATURES

- Miniaturization in comparison with TM series coils
- High inductance in low load current
- Low leakage flux due to gap-less structure



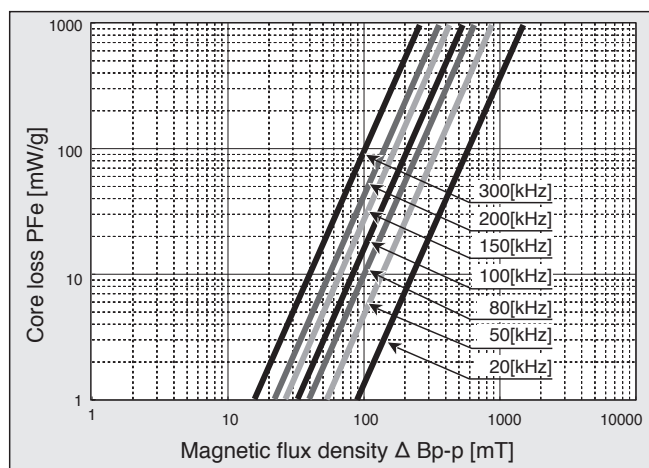
◆CORE STANDARD SPECIFICATIONS

Core Part No. (Old Core Part No.)	Abbreviation	Cross Sectional Area cm ²	Magnetic Path Length cm	Outside Dimensions			Inductance Coefficient AL Value		
				Outer Diameter mm	Width mm	Height mm	I _{dc} =0[A] μH	Rated Current** μH	Rated Current Ampere Turn [AT]
LPB150905N (B150905N)	X2	0.140	3.85	17.2	7.3	6.4	0.079	0.047	100
LPB190910N (B190910N)	XU	0.447	4.49	21.6	7.3	11.9	0.248	0.100	200
LPB221310N (B221310N)	X6	0.396	5.50	24.7	10.5	12.0	0.153	0.065	240
LPB251510N (B251510N)	X7	0.430	6.28	28.3	12.7	12.3	0.153	0.068	270
LPB251515N (B251515N)	X8	0.645	6.28	28.3	12.7	17.5	0.226	0.091	300
LPB322015N (B322015N)	XR	0.774	8.17	35.2	17.5	17.3	0.229	0.091	350
LPB372315N (B372315N)	XJ	0.924	9.42	40.5	19.5	18.0	0.209	0.096	375
LPB462715N (B462715N)	XQ	1.254	11.50	49.4	22.7	18.0	0.232	0.084	600
LPB462720N (B462720N)	XC	1.634	11.50	49.4	22.7	23.0	0.310	0.112	600

*200[kHz], ±25%

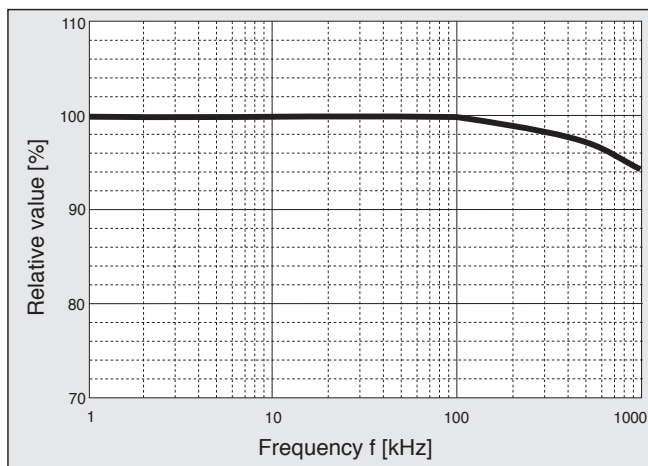
◆CORE LOSS CHARACTERISTICS

●BM choke



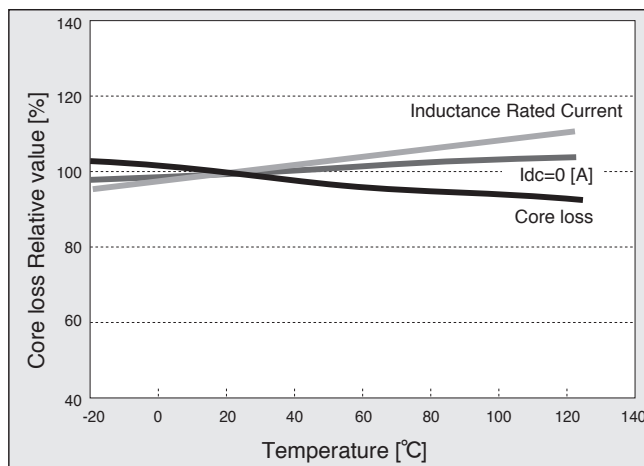
◆FREQUENCY - INDUCTANCE CHARACTERISTICS

●BM choke

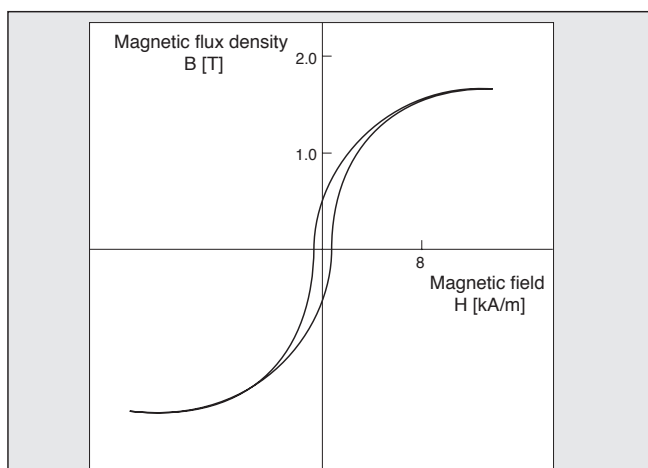


◆TEMPERATURE DEPENDENCE - INDUCTANCE AND CORE LOSS

●Frequency : 200[kHz]

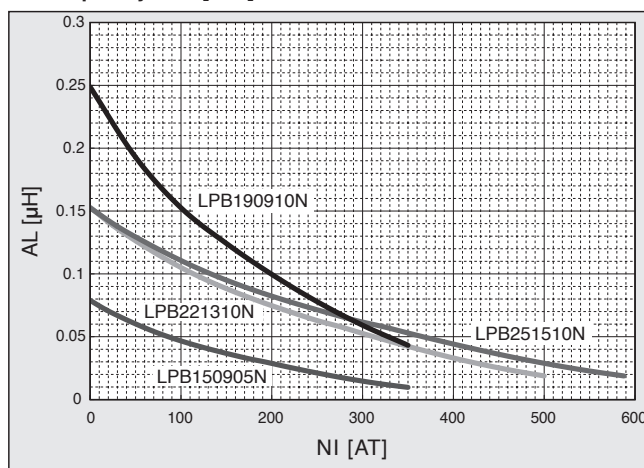


◆B-H CURVE



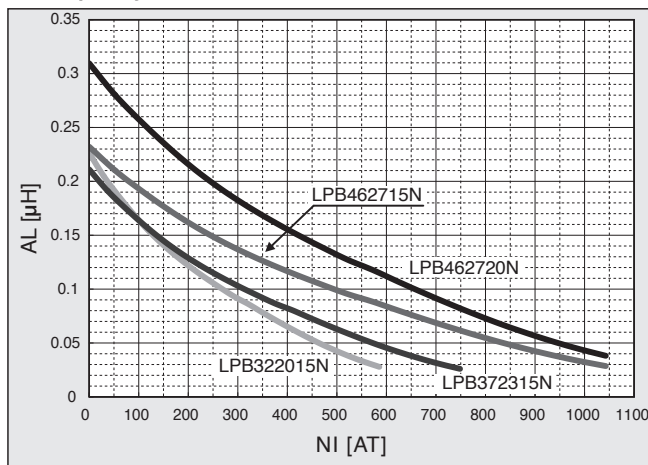
◆D.C. BIAS CHARACTERISTICS AL-AT(1)

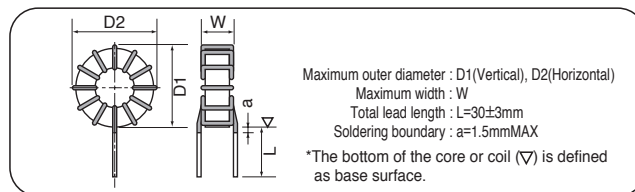
●Frequency : 200[kHz]



◆D.C. BIAS CHARACTERISTICS AL-AT(2)

●Frequency : 200[kHz]





◆COIL STANDARD SPECIFICATIONS

Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance ^{*1} (200kHz) ^{*2}		D.C.R. mΩ (max)	Winding mmφ×lines	Outside Dimensions		
		0[A] μH	Rating μH			D1 mm	D2 mm	W mm
◎ LBBM003421X6-V0E (BM03421X6PBF)	3	980 ^{*2}	420 ^{*2}	130	0.8×1p	29.0	29.0	17.5
◎ LBBM005161X6-V0E (BM05161X6PBF)	5	360	160	55	1.0×1p	29.0	29.0	18.0
◎ LBBM008600X6-V0E (BM08600X6PBF)	8	140	60	20	0.9×2p	29.0	29.0	18.0
◎ LBBM010300X6-V0E (BM10300X6PBF)	10	62	30	11	1.0×2p	29.0	29.0	18.0
◎ LBBM015150X6-V0E (BM15150X6PBF)	15	35	15	6	1.0×3p	29.5	29.5	18.5
◎ LBBM020100X6-V0E (BM20100X6PBF)	20	23	10	4	1.0×4p	29.5	29.5	18.5
◎ LBBM025060X6-V0E (BM25060X6PBF)	25	13	6	2	1.2×4p	30.0	30.0	19.0
◎ LBBM0303R6X6-V0E (BM30040X6PBF)	30	7.5	3.6	2	1.3×4p	31.0	31.0	19.5
◎ LBBM003551X7-V0E (BM03551X7PBF)	3	1300 ^{*2}	550 ^{*2}	150	0.8×1p	32.5	32.5	18.0
◎ LBBM005201X7-V0E (BM05201X7PBF)	5	460	200	60	1.0×1p	32.0	32.5	18.0
◎ LBBM008800X7-V0E (BM08800X7PBF)	8	190	80	26	0.9×2p	32.5	33.0	18.5
◎ LBBM010500X7-V0E (BM10500X7PBF)	10	120	50	16	1.0×2p	32.5	33.0	18.5
◎ LBBM015270X7-V0E (BM15270X7PBF)	15	65	27	8	1.0×3p	33.0	33.5	19.0
◎ LBBM020150X7-V0E (BM20150X7PBF)	20	36	15	5	1.2×3p	33.5	33.5	20.0
◎ LBBM025090X7-V0E (BM25090X7PBF)	25	24	9	3	1.2×4p	33.5	33.5	21.0
◎ LBBM030070X7-V0E (BM30070X7PBF)	30	16	7	3	1.3×4p	34.5	34.5	21.0
◎ LBBM035050X7-V0E (BM35050X7PBF)	35	13	5.0	3	1.4×4p	34.0	34.0	21.0
◎ LBBM0403R4X7-V0E (BM40030X7PBF)	40	8.0	3.4	2	1.4×5p	35.0	35.0	21.0

*1 Rated inductance tolerance : ±25%, the inductance at current 0[A] indicates the reference value.

*2 LBBM003801X8-V0E, LBBM003122XR-V0E, LBBM003421X6-V0E, LBBM003551X7-V0E : 50kHz.

There is a horizontal putting type in all items in the above list."V" changes into "H" in last the third digit of the name of items.

There is a type with the length putting seat in ● item in the above list."V" changes into "D" in last the third digit of the name of items.

There are the type with the length putting seat and the horizontal putting seat in ◎ item.

The type with the length putting seat is "V" changes into "B" in last the third digit of the name of items.

*Order the auxiliary pins separately if they are required for the pedestal.

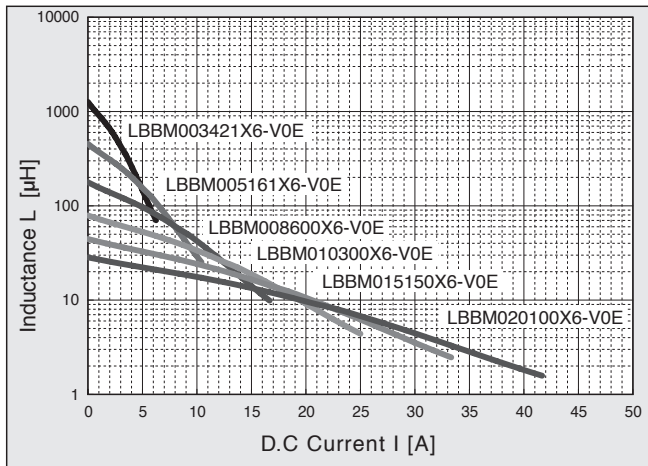
Please select them according to the situation.

◆COIL STANDARD SPECIFICATIONS

	Coil Part No. (Old Coil Part No.)	Rated Current A	Inductance ^{*1} (200kHz) ^{*2}		D.C.R. mΩ (max)	Winding mmφ×lines	Outside Dimensions		
			0[A] μH	Rating μH			D1 mm	D2 mm	W mm
○	LBBM003801X8-V0E (BM03801X8PBF)	3	1800 ^{*2}	800 ^{*2}	185	0.8×1P	33.0	33.0	24.5
○	LBBM005351X8-V0E (BM05351X8PBF)	5	820	350	85	1.0×1p	34.0	34.0	24.5
○	LBBM008121X8-V0E (BM08121X8PBF)	8	280	120	30	1.3×1p	34.0	34.0	24.5
○	LBBM010750X8-V0E (BM10750X8PBF)	10	170	75	17	1.1×2p	34.0	34.0	25.5
○	LBBM015350X8-V0E (BM15350X8PBF)	15	82	35	9	1.3×2p	34.5	34.5	25.0
○	LBBM020210X8-V0E (BM20210X8PBF)	20	51	21	6	1.2×3p	34.0	34.0	26.0
○	LBBM025130X8-V0E (BM25130X8PBF)	25	33	13	4	1.2×4p	35.0	35.0	26.0
○	LBBM030090X8-V0E (BM30090X8PBF)	30	23	9	3	1.3×4p	35.5	35.5	27.0
	LBBM0357R5X8-V0E (BM35070X8PBF)	35	18	7.5	3	1.4×4p	35.0	35.0	27.5
	LBBM040050X8-V0E (BM40050X8PBF)	40	11	5.0	2	1.4×5p	36.5	36.5	26.5
○	LBBM003122XR-V0E (BM03122XRPBF)	3	2800 ^{*2}	1200 ^{*2}	155	1.0×1p	41.5	41.5	26.5
○	LBBM005481XR-V0E (BM05481XRPBF)	5	1000	480	100	1.1×1p	41.0	41.0	25.5
○	LBBM008191XR-V0E (BM08191XRPBF)	8	430	190	40	1.3×1p	41.5	41.5	25.5
○	LBBM010121XR-V0E (BM10121XRPBF)	10	260	120	22	1.1×2p	42.0	42.0	26.0
○	LBBM015570XR-V0E (BM15570XRPBF)	15	130	57	13	1.3×2p	41.5	41.5	26.0
○	LBBM020310XR-V0E (BM20310XRPBF)	20	68	31	7	1.2×3p	42.0	42.0	26.0
●	LBBM025200XR-V0E (BM25200XRPBF)	25	48	20	5	1.2×4p	41.5	41.5	26.0
●	LBBM030140XR-V0E (BM30140XRPBF)	30	30	14	4	1.3×4p	42.0	42.0	27.0
●	LBBM0359R5XR-V0E (BM35100XRPBF)	35	21	9.5	3	1.4×4p	42.0	42.0	26.0
●	LBBM0406R5XR-V0E (BM40070XRPBF)	40	14	6.5	2	1.4×5p	42.5	42.5	26.5
●	LBBM0454R9XR-V0E (BM45050XRPBF)	45	10	4.9	2	1.3×6p	42.5	42.5	26.5

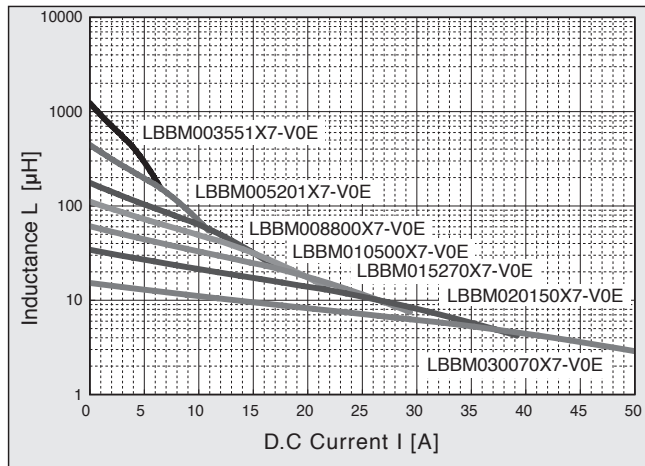
◆D.C. BIAS CHARACTERISTICS (1)

●Core : LPB221310N, Frequency : 200[kHz]



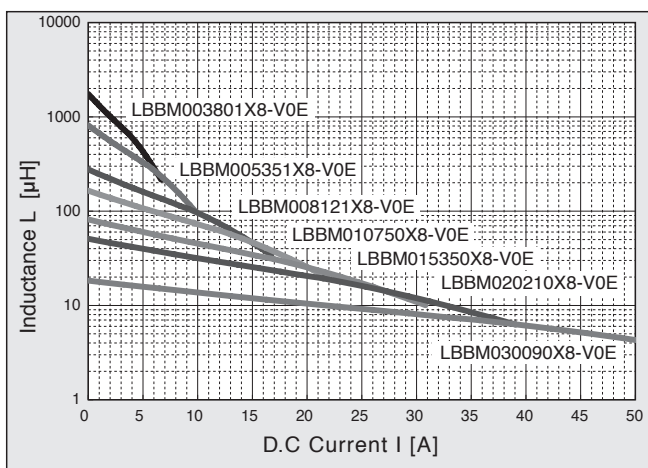
◆D.C. BIAS CHARACTERISTICS (2)

●Core : LPB251510N, Frequency : 200[kHz]



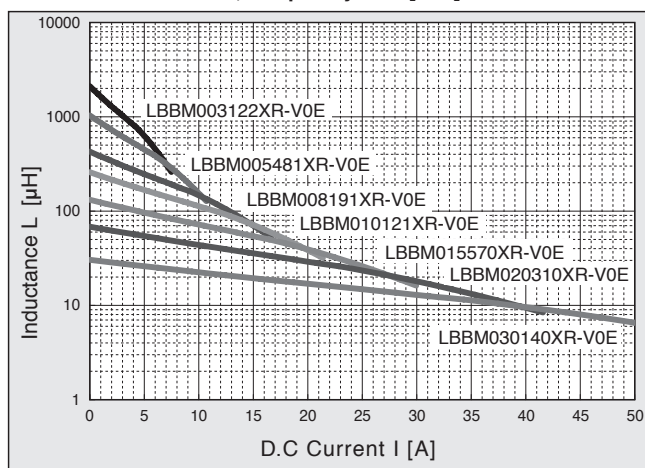
◆D.C. BIAS CHARACTERISTICS (3)

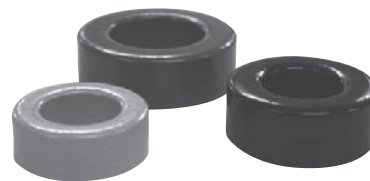
●Core : LPB251515N, Frequency : 200[kHz]



◆D.C. BIAS CHARACTERISTICS (4)

●Core : LPB322015N, Frequency : 200[kHz]





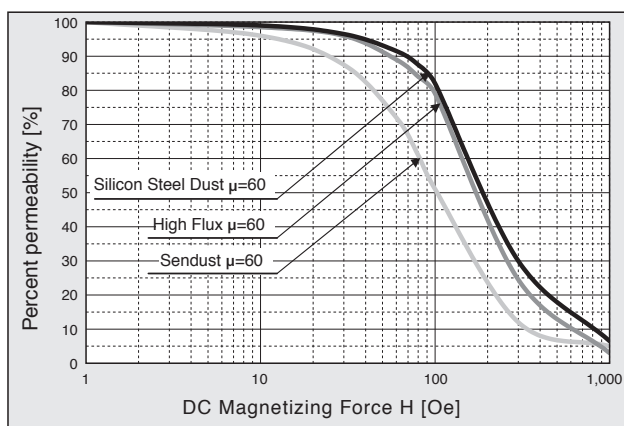
◆MAJOR USES

- Output choke coils for Switching Mode Power Supply
- Choke coils for DC-DC converter
- Normal mode choke coils for noise control
- Choke coils for Power Factor Corrective circuit

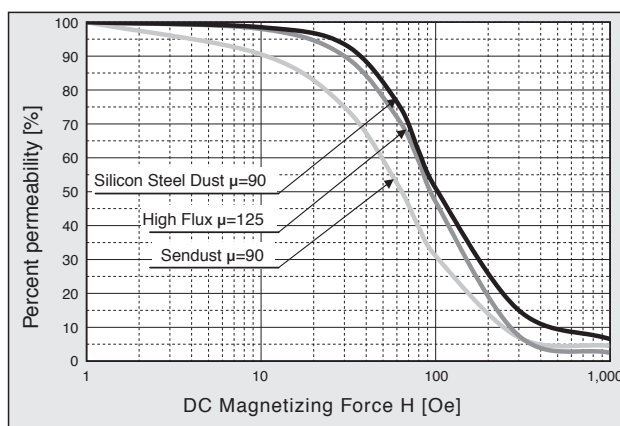
◆FEATURES

- Excellent characteristics in frequency and temperature
- Miniaturization and excellent D.C. bias characteristics in comparison with ferrite choke coils by the feature of higher saturation magnetic flux density

◆D.C. bias of Dust core (1)

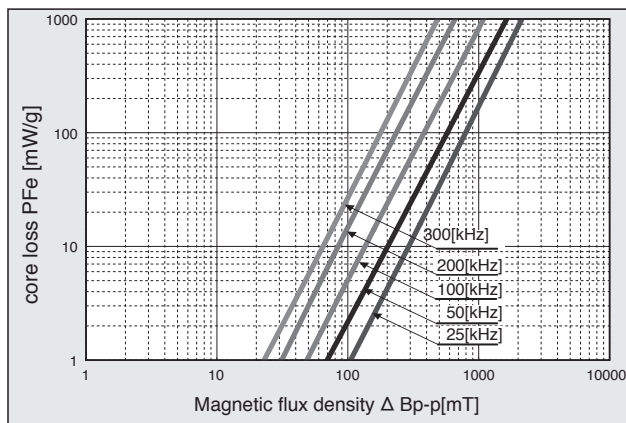


◆D.C. bias of Dust core (2)



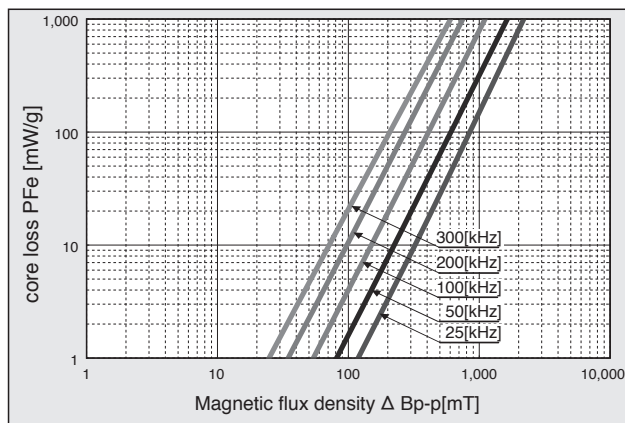
◆Core Loss Characteristics (1) (Magnetic Flux Density Dependency)

- Sendust(Fe-Si-Al)



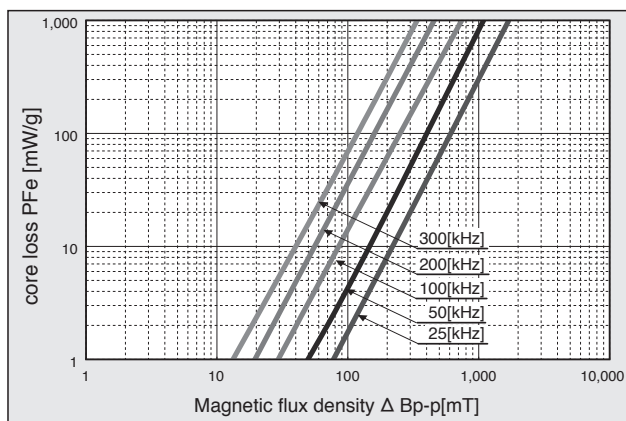
◆Core Loss Characteristics (2) (Magnetic Flux Density Dependency)

- High Flux(Fe-Ni)

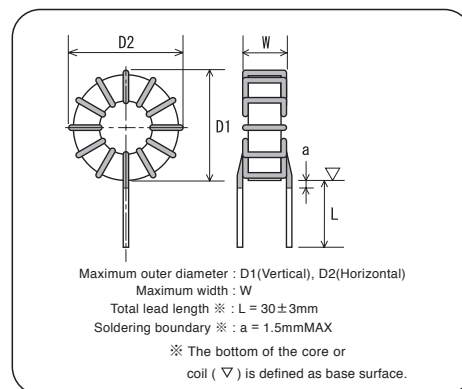


◆Core Loss Characteristics (3) (Magnetic Flux Density Dependency)

- Silicon steel dust (Fe-Si)



● Permissible end-to-end voltage of coils : 250V



◆ COIL STANDARD SPECIFICATIONS

Coil Part No.	Rated Current A	Inductance ^{*1} (100kHz)		D.C.R. mΩ (max)	Winding mm φ × lines	Outside Dimensions		
		0[A] μH	Rating μH			D1 mm	D2 mm	W mm
● LHDM002141AQDV0E	2	190	135	78	0.7φ × 1P	22.5	23.5	12.5
● LHDM003800AQDV0E	3	120	80	48	0.8φ × 1P	23.0	24.0	13.5
● LHDM005300AQDV0E	5	46	30	23	1.0φ × 1P	23.5	24.5	14.5
● LHDM002331ARDV0E	2	550	330	150	0.7φ × 1P	26.0	27.0	14.0
● LHDM003101ARDV0E	3	140	100	58	0.8φ × 1P	26.0	27.0	14.0
● LHDM005550ARDV0E	5	95	55	32	1.0φ × 1P	26.5	27.0	14.5
◎ LHDM003251AUGV0E	3	360	250	90	0.8φ × 1P	32.5	33.0	14.0
◎ LHDM005161AUGV0E	5	310	160	55	1.0φ × 1P	33.5	34.0	15.0
◎ LHDM010300AUGV0E	10	48	30	14	1.1φ × 2P	34.0	34.5	16.0
◎ LHDM002951AUDV0E ^{*2}	2	1500	950	260	0.7φ × 1P	32.5	33.5	18.5
◎ LHDM003231AUDV0E ^{*2}	3	300	230	90	0.8φ × 1P	32.5	33.5	18.5
◎ LHDM005141AUDV0E ^{*2}	5	210	140	50	1.0φ × 1P	33.0	34.0	19.0
◎ LHDM010330AUDV0E ^{*2}	10	48	33	12	1.6φ × 1P	35.0	36.0	20.5
◎ LHDM005571AZDV0E ^{*2}	5	800	570	95	1.1φ × 1P	52.5	53.0	26.5
◎ LHDM010151AZDV0E ^{*2}	10	220	150	28	1.6φ × 1P	55.0	56.0	28.0
◎ LHDM020200AZDV0E ^{*2}	20	26	20	6	1.8φ × 2P	55.0	56.0	28.5

*1 Rated inductance tolerance ; ±20%, the inductance at current 0[A] indicates the reference value.

*2 Correspondence with the core case is possible.

There is a horizontal putting type in all items in the above list.

'V' changes into 'H' in last the third digit of the name of items.

There is a type with the length putting seat in ● item in the above list. "D" in last the third digit of the name of items.

There is a type with the length putting seat in ◎ item in the above list.

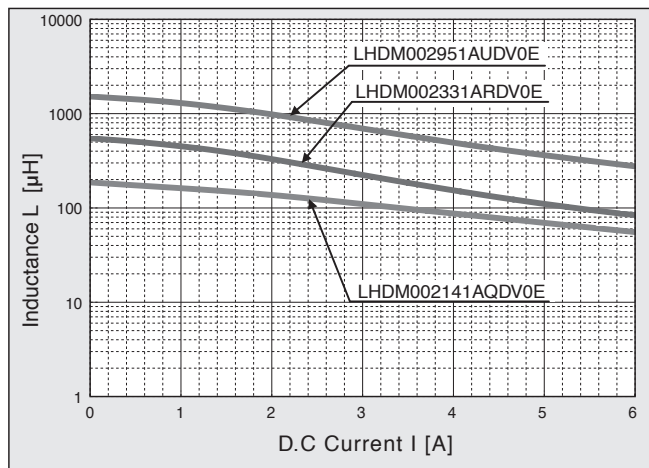
"V" changes into "D" in last the third digit of the name of items.

*Order the auxiliary pins separately if they are required for the pedestal.

Please select them according to the situation.

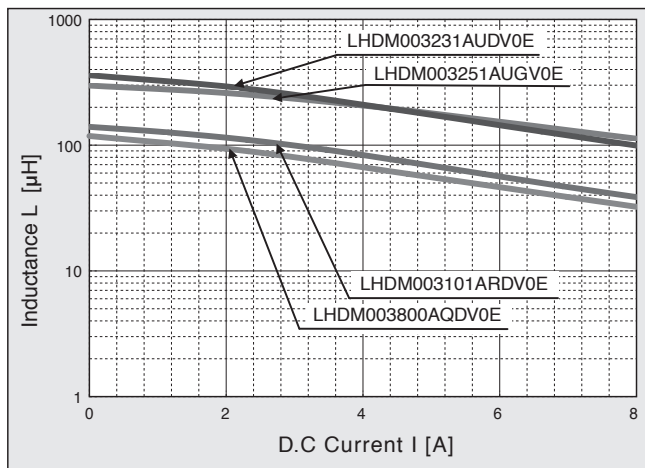
◆D.C. BIAS CHARACTERISTICS (1)

●Rated Current : 2[A], Frequency : 100[kHz]



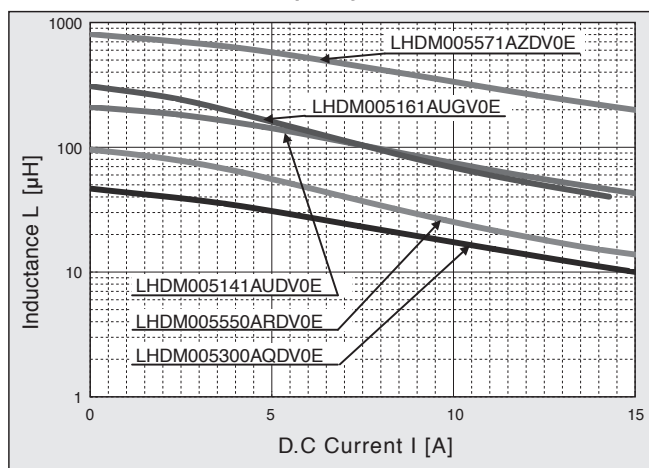
◆D.C. BIAS CHARACTERISTICS (2)

●Rated Current : 3[A], Frequency : 100[kHz]



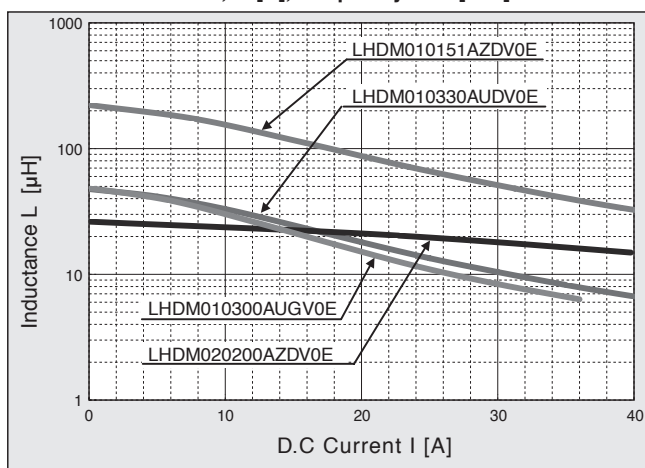
◆D.C. BIAS CHARACTERISTICS (3)

●Rated Current : 5[A], Frequency : 100[kHz]

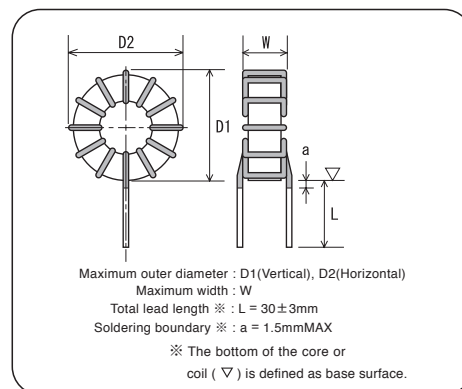


◆D.C. BIAS CHARACTERISTICS (4)

●Rated Current : 10, 20[A], Frequency : 100[kHz]



● Permissible end-to-end voltage of coils : 250V



◆ COIL STANDARD SPECIFICATIONS

Coil Part No.	Rated Current A	Inductance ^{*1} (100kHz)		D.C.R. mΩ (max)	Winding mm φ × lines	Outside Dimensions		
		0[A] μH	Rating μH			D1 mm	D2 mm	W mm
● LHDM003101CQFV0E	3	115	100	45	0.8φ × 1P	22.0	23.0	13.5
● LHDM005570CQFV0E	5	70	57	25	1.0φ × 1P	22.5	23.5	14.5
● LHDM003231CTBV0E	3	250	230	96	0.8φ × 1P	29.0	30.0	16.5
● LHDM005141CTBV0E	5	160	140	52	1.0φ × 1P	29.5	30.5	17.5
LHDM010330CTBV0E	10	37	33	12	1.6φ × 1P	31.5	32.5	19.5
◎ LHDM005571CYFV0E ^{*2}	5	710	570	76	1.1φ × 1P	46.5	47.5	23.0
LHDM010151CYBV0E ^{*2}	10	170	150	28	1.6φ × 1P	47.5	48.5	26.0
LHDM020200CYBV0E ^{*2}	20	24	20	6	1.8φ × 2P	48.0	49.0	26.5

^{*1} Rated inductance tolerance ; ±20%, the inductance at current 0[A] indicates the reference value.

^{*2} Correspondence with the core case is possible.

There is a horizontal putting type in all items in the above list.

"V" changes into "H" in last the third digit of the name of items.

There is a type with the length putting seat in ● item in the above list. "D" in last the third digit of the name of items.

There is a type with the length putting seat in ◎ item in the above list.

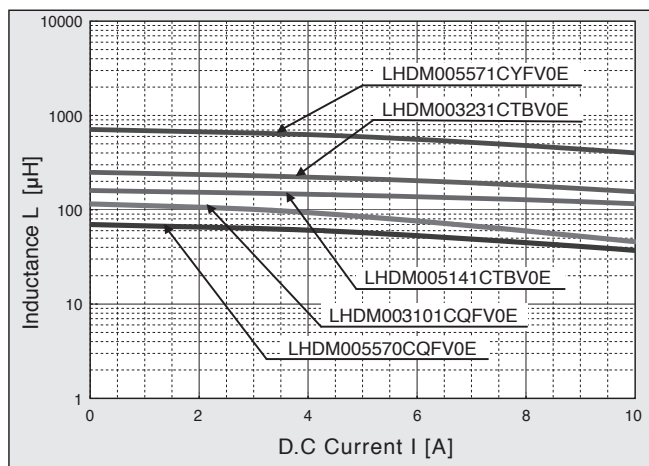
"V" changes into "D" in last the third digit of the name of items.

*Order the auxiliary pins separately if they are required for the pedestal.

Please select them according to the situation.

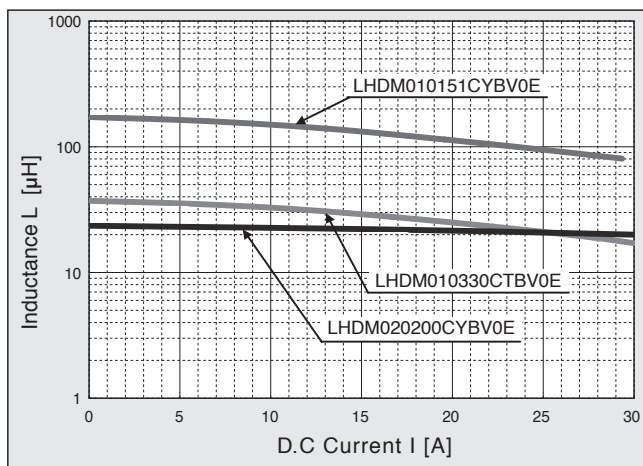
◆ D.C. BIAS CHARACTERISTICS (1)

● Frequency : 100[kHz]



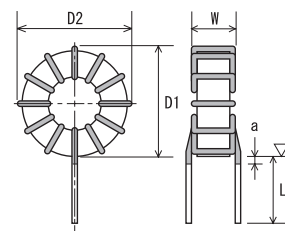
◆ D.C. BIAS CHARACTERISTICS (2)

● Frequency : 100[kHz]



◆FEATURES

- Dust coils of case type are applicable as PET UL94V-0 Type F (155°C).



Maximum outer diameter : D1(Vertical), D2(Horizontal)
Maximum width : W
Total lead length ※ : L = 30 ± 3mm
Soldering boundary ※ : a = 1.5mmMAX
※ The bottom of the core or coil (▽) is defined as base surface.

◆COIL STANDARD SPECIFICATIONS

Coil Part No.	Rated Current A	Inductance ^{*1} (100kHz)		D.C.R. mΩ (max)	Winding mmφ×lines	Outside Dimensions		
		0[A] μH	Rating μH			D1 mm	D2 mm	W mm
◎ LHDM005451DUFV0E	5	620	450	85	1.0φ×1P	34.5	35.5	22.0
◎ LHDM007381DVFV0E	7	640	380	65	1.2φ×1P	41.5	42.0	21.5
◎ LHDM008371DVFV0E	8	750 ^{*2}	370 ^{*2}	59	1.3φ×1P	42.5	43.0	23.0
◎ LHDM008501DYBV0E	8	570 ^{*2}	500 ^{*2}	68	1.4φ×1P	50.0	50.5	27.5
◎ LHDM010201DVFV0E	10	340	200	30	1.1φ×2P	43.5	44.0	23.0
● LHDM010401DYBV0E	10	490	400	58	1.5φ×1P	50.0	50.5	27.0
◎ LHDM010651DZBV0E	10	760 ^{*2}	650 ^{*2}	72	1.0φ×2P	57.5	58.0	31.0
◎ LHDM015301DZBV0E	15	360	300	35	1.3φ×2P	57.0	57.5	32.0

*1 Rated inductance tolerance : ±20%, inductance at current 0[A] indicates reference value.

*2 LHDM008371DVFV0E, LHDM008501DYBV0E, LHDM010651DZBFV0E:50kHz

There is a horizontal putting type in all items in the above list. "V" changes into "H" in last the third digit of the name of items.

There is a type with the length putting seat in ● item in the above list. "V" changes into "D" in the last the third digit of the name of items.

There are the type with the length putting seat and the horizontal putting seat in ◎ item.

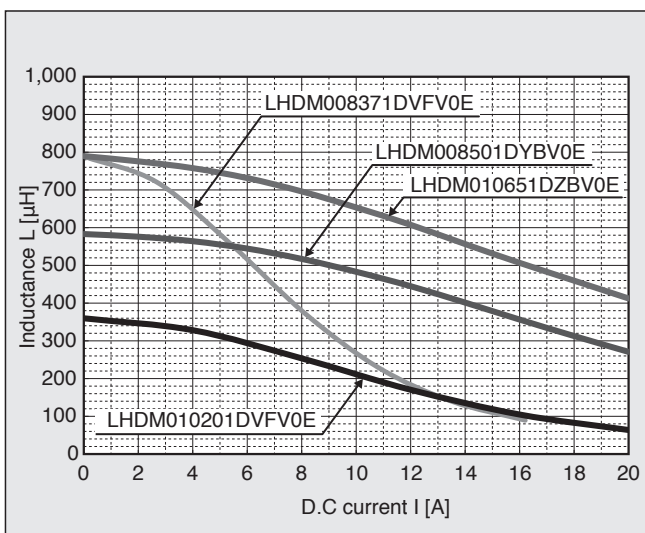
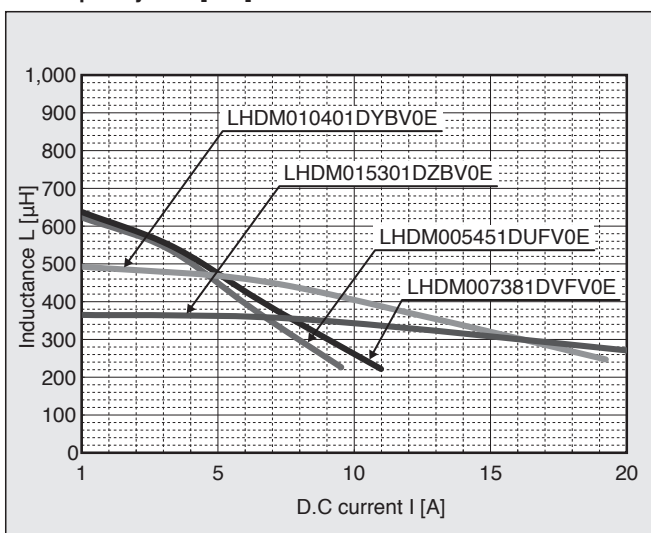
The type with the length putting seat is "V" changes into "B" in last the third digit of the name of items.

*Order the auxiliary pins separately if they are required for the pedestal.

Please select them according to the situation.

◆D.C. BIAS CHARACTERISTICS

- Frequency : 100[kHz]



Minimum quantity in a package

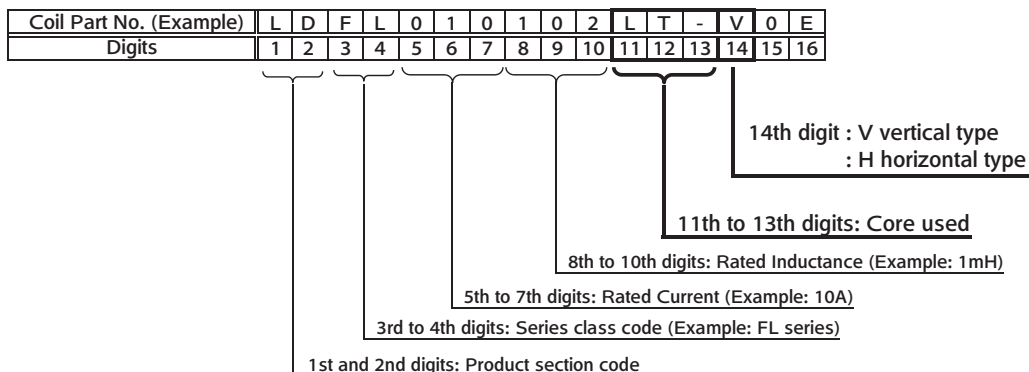
●Minimum Packaging Quantity

Please order by units of minimum packaging quantity.

The quantity in a package basically depends on the **core size** and **coil shapes**.

Note that the outside dimensions vary depending on the diameter of the winding and/or the number of turns, therefore, the number of products in a package may differ.

How to read a Coil Part No.



◆Quantity in a package (pcs/pack)

Digits in Coil Part No.			
3rd to 4th digits	11th to 13th digits	14th digit	
Series	Core used	Coil shape	
		V: vertical type	H: horizontal type
FL	LS-	200	400
	L5-	231	192
	L6-	231	192
	LT-	100	75
	LR-	80	75
	LJ-	48	50
	LBU	---	50
	LJU	48	50
	LNQ	---	32
	LGQ	---	32
SM	P1F	270	---
	P2D	280	---
	P7D	200	---
	P5D	280	---
	P1B	270	---
CM	G3-	200	192
	G4-	200	256
	G6-	231	192
	G7-	231	75
	G8-	132	75
	G9-	100	75
	G0-	100	75
	GJ-	80	75
	GQ-	64	32
	GK-	48	32
	JRH	100	75
	JKH	48	32
AM	J7H	231	75
	J8H	132	75
	JAH	80	50
	JBH	60	50
	JCH	48	32
	JKH	48	32

Digits in Coil Part No.			
3rd to 4th digits	11th to 13th digits	14th digit	
Series	Core used	Coil shape	
		V: vertical type	H: horizontal type
AW	WKH	24	32
	WLH	18	18
TM	NS-	200	400
	N1-	200	256
	N2-	200	256
	NU-	200	---
	NP-	231	192
	N5-	231	256
	N6-	231	192
	N7-	100	75
	N9-	100	75
	X6-	231	192
BM	X7-	231	75
	X8-	132	75
	XR-	100	75
	AQD	200	---
DM	ARD	200	---
	AUG	231	---
	AUD	231	---
	AZD	64	---
	CQF	200	---
	CTB	132	---
	CYF	50	---
	CYB	50	---
	DUF	132	---
	DVF	80	---
	DYB	32	---
	DZB	18	---

◆Coil Design Request

Date Month Year

Customer name																															
Post name		TEL																													
		FAX																													
Person in charge name		E-mail																													
Target price		Competitor																													
Estimated usage	pcs per month(s) year(s)	Start of mass production time	/ / psc																												
New Design Investigations																															
Type: ☐ Switching mode power supplies ☐ Harmonic counter-measure (Active filter) ☐ Others ☐ Normal mode line filter ☐ Common mode choke coil																															
Equipment Classification: Equipment Classification (Option)																															
Electrical specification: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Rated output voltage</td> <td style="width: 10%; text-align: right;">[V]</td> <td style="width: 50%;">Conversion frequency</td> <td style="width: 10%; text-align: right;">[kHz]</td> </tr> <tr> <td>Output current</td> <td style="text-align: right;">[A]</td> <td>Ripple current</td> <td style="text-align: right;">[A p-p]</td> </tr> <tr> <td>Power output capacity</td> <td style="text-align: right;">[W]</td> <td>Peak current</td> <td style="text-align: right;">[A]</td> </tr> <tr> <td colspan="4">Inductance</td> </tr> <tr> <td>at Rated current</td> <td style="text-align: right;">[A]</td> <td></td> <td style="text-align: right;">[μH]</td> </tr> <tr> <td>at Peak current</td> <td style="text-align: right;">[A]</td> <td></td> <td style="text-align: right;">[μH]</td> </tr> <tr> <td>(Others)</td> <td style="text-align: right;">[A]</td> <td></td> <td style="text-align: right;">[μH]</td> </tr> </table>				Rated output voltage	[V]	Conversion frequency	[kHz]	Output current	[A]	Ripple current	[A p-p]	Power output capacity	[W]	Peak current	[A]	Inductance				at Rated current	[A]		[μH]	at Peak current	[A]		[μH]	(Others)	[A]		[μH]
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For others: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Mounting direction</td> <td style="width: 10%;">Vertical or Horizontal</td> <td style="width: 50%;">Pedestal (Stand)</td> <td style="width: 10%;">Yes or No</td> </tr> <tr> <td>Dimension limit (Yes or No)</td> <td style="text-align: center;">× [mm] or less</td> <td>Height from substage</td> <td style="text-align: right;">[mm] or less</td> </tr> <tr> <td>Ambient temperature</td> <td style="text-align: right;">[°C]</td> <td>Temperature rise</td> <td style="text-align: right;">[K] or less</td> </tr> <tr> <td>Cooling method</td> <td colspan="3">Natural or Forced or Others</td> </tr> </table>				Mounting direction	Vertical or Horizontal	Pedestal (Stand)	Yes or No	Dimension limit (Yes or No)	× [mm] or less	Height from substage	[mm] or less	Ambient temperature	[°C]	Temperature rise	[K] or less	Cooling method	Natural or Forced or Others														
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Remarks (including special instructions on lead handling)																															