English

CHEMI-CON

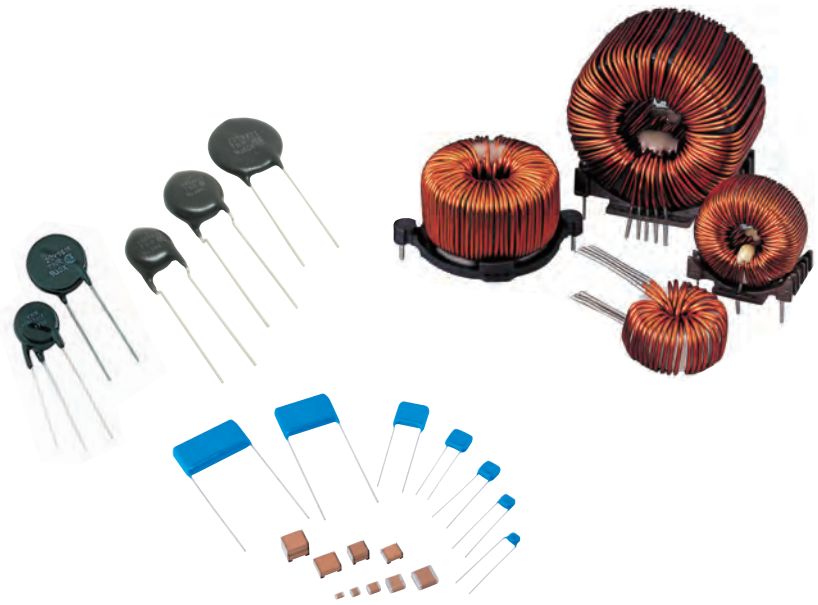
2024

CERAMIC CAPACITORS

VARISTORS

CHOKE COILS

CAT.NO.E1002D / E1006G / E1008Y



NANOCRYSTALLINE / AMORPHOUS / DUST CHOKE COILS

Series	Major uses	Miniaturization	Low loss	Large capacity	Classification	Page
FW	Common mode noise filter for AC/DC	◎	○	◎	Common mode	117
FL-V						
FL						
KA	Noise filter for power source and automotive electrical unit	◎	○	○	Package	142
SM						
CM	For Switching Mode Power Supply Normal mode noise filter	◎	○	○	Toroidal with gap	146
CMJ						
AM	For PFC Normal mode noise filter	◎	○	○		154
AW		◎	○	◎		158
TM	For Switching Mode Power Supply Normal mode noise filter	○	○		Toroidal without gap	160
BM		◎	○			166
DM	For PFC For Switching Mode Power Supply	◎	○	◎	Dust	171

GLOBAL CODE SYSTEM

Class	Code
Inductor	L

Series	Code
FW	FW

* A character "V" is in the 11th digit for the FL-V series.

Core Abbreviation	Code
YJU	YJU

Specifications	Code
Standard	0
Custom	1

Solder	Code
Pb free	E

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	D	F	W	0	2	0	5	9	2	Y	J	U	V	0	E
Production Class	Section code	Series code		Current code			Inductance code			Core Abbreviation code			Mounting code	Specifications code	Solder control code

Section	Code
With gap	A
Without gap	B
Common mode	D
Package	E
Dust	H

Rated Current	Code
0.5	0R5
1 A	001
10A	010
100A	100

Rated Inductance	Code
0.5μH	0R5
1μH	010
10μH	100
100μH	101
1mH	102
10mH	103

Mounting Direction	Code
Vertical	V
Horizontal	H
Vertical pedestal	D
Horizontal pedestal	B
Vertical pedestal with pins	Y
Horizontal pedestal with pins	W

The part numbers indicated in this catalog are of upright-type products.
If you require the part numbers for lying types, pedestals, or pedestals with pins, please contact our information counter.
Please visit our website for specification details of our various products.

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 sophisticat ed production technology and manufacturing know-how.

STANDARD SPECIFICATIONS

◆General Specification of Toroidal Coil

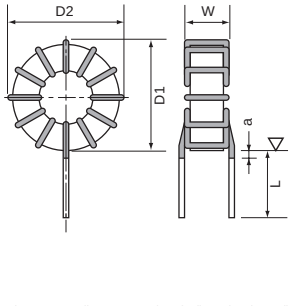
Items	Rated values of Amorphous coils and Nanocrystalline coils	Dust coils Rated value
Operating temperature range *1	-40 to 130℃	-40 to 120℃ (Coating type) -40 to 130℃ (Case type)
Storage temperature range	-40 to 130℃	-40 to 120℃ (Coating type) -40 to 130℃ (Case type)
Operating humidity range *1	20 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℃)	Type A(105℃) Coating type Type B(130℃) 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.

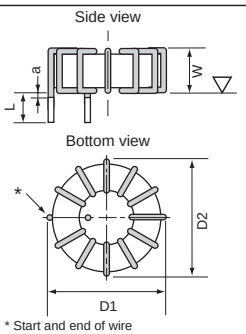
● The allowable tolerance of various rated inductance is as follows:
・AMORPHOUS CHOKE COILS：±25%
・DUST CHOKE COILS：±20%

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.

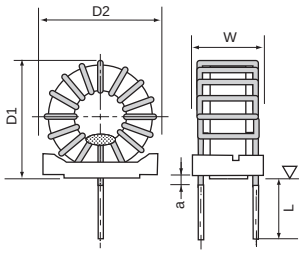
◆DIMENSIONS



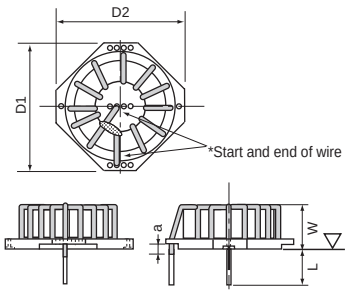
Maximum outer diameter : D1(Vertical), D2(Horizontal)
Maximum width : W
Total lead length : L=30±3mm
Soldering boundary : a=1.5mmMAX
*The bottom of the core or coil (▽) is defined as base surface.



* Start and end of wire
Maximum outer diameter : D1(Vertical), D2(Horizontal)
Maximum width : W
Total lead length *1 : L=15±3mm
Soldering boundary *1 : a=1.5mmMAX
*1 The bottom of the core or coil (▽) is defined as base surface.
Note that this does not include the size of the drawing part on the lead.



Maximum outer diameter *1 : D2
Maximum width *2 : D1
Maximum width : W
Total lead length *2 : L=13±2mm
Soldering boundary : a=0mm MAX
*1 Indicates the maximum dimension of coil or stand.
*2 The bottom of the pedestal (▽) is defined as base surface.



Maximum outer diameter *1 : D1, D2
Maximum width : W
Total lead length *2 : L=13±2mm
Soldering boundary : a=0mm MAX
*1 Indicates the maximum dimension of coil or stand.
*2 The bottom of the pedestal (▽) is defined as base surface.

Notes on Use

- ●The indicated heat-resistant temperatures are the guaranteed temperatures including coil self-generated heat.
- ●In high-temperature,-humidity environment, There is a possibility to occur hydrolyze and insulation deterioration.
- ●Common mode coils, by the unbalanced current, it may cause a magnetic saturation.
- ●We do not acquire safety standards with coil only.
- ●Ensure that you do not repeatedly apply excessive force to the lead wires or repeatedly bend them.
- ●Do not bang the coil against hard objects. Scratch on the coating, possibly impairing performance.
- ●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.
- ●The products described in this catalog have been designed and manufactured for general electronic devices, therefore, if you intend to use our products for purposes that may endanger or threaten human lives and cause damage to property if such electronic devices fail or malfunction, or have a significant impact on society, please contact our information counter in advance to consult with us before using our products.
- ●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 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 Condenser Investigation Society
Study of REACH Regulation in EU about Electrolytic Capacitor (publicized on 13 March 2008)

Inductor (Coil) AEC-Q200 Compliance

The Automotive Electronics Council (AEC) was originally established by major American automotive related manufactures. Today, it is composed of representatives from the manufacturing companies in automotive electronic devices and components. It standardizes the certification criteria and reliability tests for electronic components.

AEC-Q200 is the reliability test standard for approval of passive components in automotive applications. It specifies the test type, parameters, quantity, etc. for each component. The criteria used in reliability tests for “Inductors(Coils/Cores)” are described in this standard.

Pursuant to the customer’s specific testing requirements, Chemi-Con submits the test results according to AEC-Q200 for Inductors(Coils/Cores) used in automotive applications on request.
An electronic component manufacturer cannot simply claim that their product is ”AEC-Q200 Qualified”. Instead, the manufacturer may claim their components as ”Compliant”, “Capable”, “Available”, etc.

Each component must be tested depending on the customer’s “Qualification Test Plan” in order to claim AEC-Q200 Qualification.

The standard products listed in the catalog are designed for general electronic equipment. If you are considering using the products for automotive use, it may be necessary to change the specifications. Please contact our sales representative for more information.

RELIABILITY TEST CONDITIONS (Environmental Testing)

The reliability of products are tested under the following conditions. (Not including some cut cores)

TEST TITLE	COMPLIANT STANDARD	CONDITIONS
Vibration (Sinusoidal)	JISC 60068-2-6	Amplitude: 1.5mm Frequency Range: 10-55Hz (1 minute/sweep cycle) Test Duration: Total 6 hours (2 hours each per X・Y・Z axis)
Free Fall	JISC 60068-2-32	Three consecutive drops from 1m height onto veneer plywood (width 10mm)
Cold	JISC 60068-2-1	Temperature: -25℃ 500 hours
Dry Heat	JISC 60068-2-2	Temperature: 120℃ 500 hours
Damp Heat, Steady State	JISC 60068-2-3	Temperature: 55℃ Relative Humidity: 95% Test Duration: 500 hours
Change of Temperature	JISC 0025	Temperature / Conditioning Times: -25°C / 30 minutes Room Temperature / Less than 1 minute +120°C / 30 minutes Room Temperature / Less than 1 minute Number of cycles: 25

CUSTOM DESIGN CONDITIONS

Nippon Chemi-Con's amorphous choke coils are available in a wide variety of standard products, but we also offer custom-made products upon request. Here, we will introduce how our choke coils are designed, with reference to various data listed in the catalog.

① Required Specifications for Choke Coil

Rated Inductance	Ln	[μH]
Rated Current	In	[A]
Voltage across coil	Vo	[V]
Conversion Frequency	fsw	[kHz]

② Selection of Core

With reference to the graph of "Coil Volume and Energy Product"(Fig. 1), select a core with a similar energy product. The required energy product is calculated as below.

$$Ln \cdot In^2/1000$$

③ Determining the Number of Turns

The specifications of the selected cores are listed at the beginning of each series. Find the inductance coefficient (AL value) from the core specification table and determine the number of turns (N).

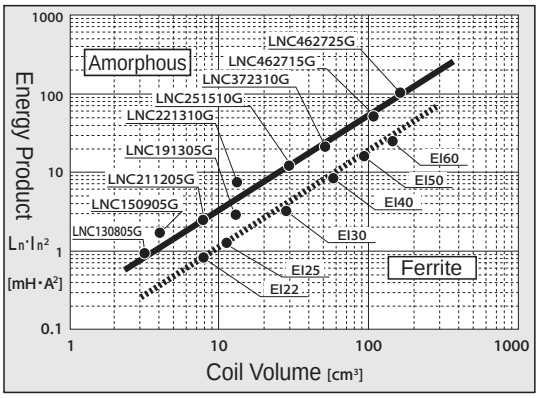
$$N = \sqrt{Ln / AL}$$

④ Determining Diameter of Winding

As a guide, the current density is around 6 [A / mm²] with respect to the effective value (Irms) of the current flowing through the choke coil.

Irms	Diameter
2 A	0.6mmφ
3 A	0.8mm
5 A	1.0mm
8 A	1.3mm
10 A	1.0mmx2P

◆ **Fig.1 Relationship between Coil Volume and Energy Product (Amount of energy that can be handled)**



⑤ Confirming the Winding

Check if the winding specifications set in ③ and ④ can be applied to the core. When winding is possible, the winding space factor is 30% or less. It is important to confirm the winding based on actual performance.

$$\text{Winding Space Factor} = \frac{(\text{Winding Diameter})^2}{(\text{Inner Diameter of Core Exterior})^2} \times \#\text{ of Turns} \times 100[\%]$$

If winding is not possible, reselect larger core size or choose from another series.

⑥ Calculation of Core Loss

Calculate the magnetic flux density (△Bp-p, [mT]) from the voltage across coil (Vo), the conversion frequency (fsw), and the maximum duty (D [%]). Please refer to the core reference table for the cross-sectional area of the core (Ae [cm²]).

$$\Delta Bp\text{-}p = Vo \cdot D / fsw / Ae / N \times 100$$

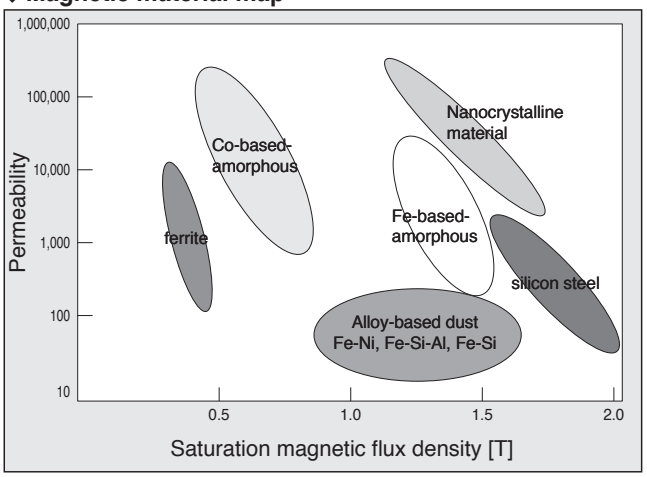
Based on the magnetic flux density, find the core loss per unit weight from the Core Loss Characteristics graph of each series. Multiply this by the core weight to calculate core loss.

CHOKE COIL CHARACTERISTICS

◆Characteristics comparison of magnetic materials

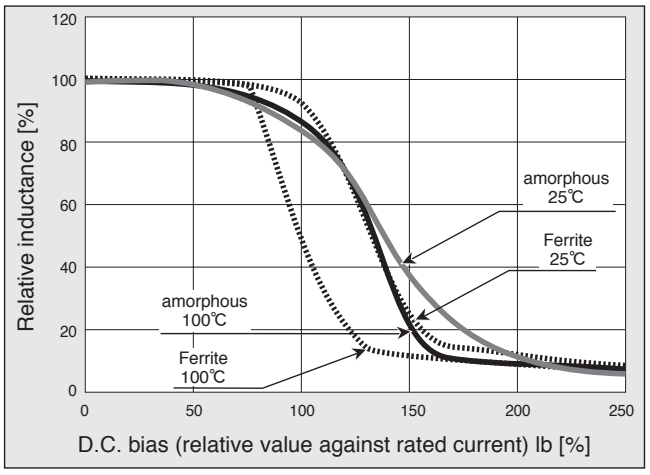
Application	Material shape	Product name	Composition	Saturation magnetic flux density Bs [mT]	Magnetic permeability μ(100[kHz])	Curie point Tc [°C]	Frequency Characteristics (Reference) [kHz]
Power system	Foil strip	Amorphous	Fe-Si-B	1.56	- 5,000	415	- 150
			Co-Fe-Ni-Si-B	0.6	- 18,000	180	-
		Silicon steel plate	Fe-Si	1.3	- 800	700	- 20
	Powder	Alloy dust	Fe-Ni (High Flux)	1.5	26 to 160	420	- 300
			Fe-Si-Al (Sendust)	1.1	26 to 125	570	- 150
			Fe-Si (Mega flax)	1.6	26 to 90	500	- 50
			Fe-Si-B (Amorphous dust)	1.56	60 to 200	415	- 300
		ferrite	Mn-Zn	0.4	- 2,400	250	- 500
			Ni-Zn	0.3	10 to 500	350	- 1,000
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

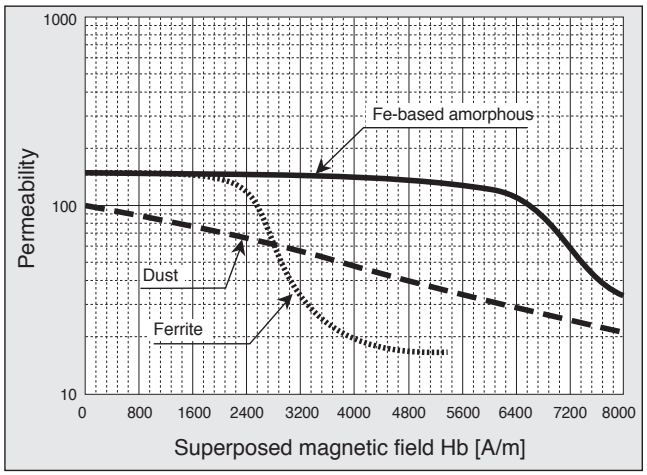


◆D.C. bias of amorphous choke coil

●Temperature dependence : Core temperature 25, 100℃



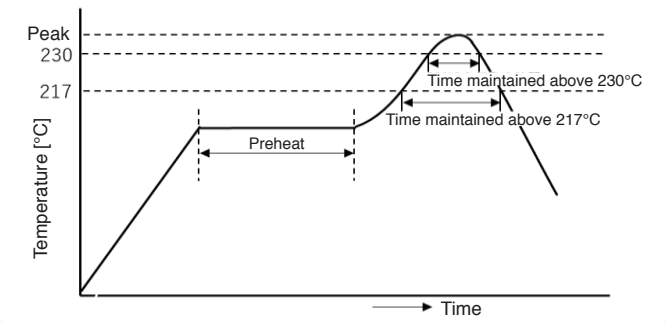
◆D.C. bias of normal mode choke coil



Recommended Soldering Conditions

◆SURFACE MOUNT TYPE

●Recommended soldering heat conditions



Preheat	Time maintained above 217°C	Time maintained above 230°C	Peak temp.	Reflow number
150 to 180°C 120 sec. max.	60 sec. max.	30 sec. max.	245°C max.	2 times or less

Reflow should be performed twice or less.
Please ensure that the coil became cold enough to the room temperature before the second reflow.

◆RADIAL LEAD TYPE

●Recommended soldering heat conditions

Preheat: 110 to 150°C 120 seconds max.
Flow soldering: 260+5°C 10+1 seconds max. (Or hand soldering: 380±10°C 10±1 seconds max.)

ACCESSORIES

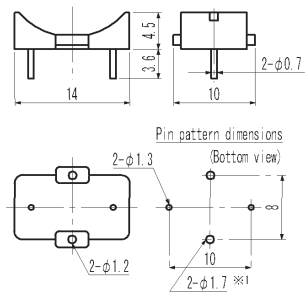
NIPPON CHEMI-CON would like to serve the customers with smaller and higher qualified products.
Please name your best suited attaching parts in installation.

◆Accessories used for choke coils of upright type

Unit : [mm]

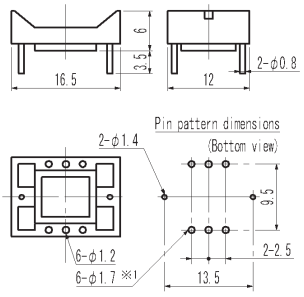
Pedestal XD1408VL (2PBF)

P/N of available core : NS



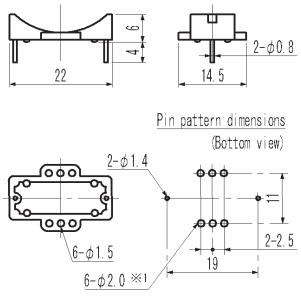
Pedestal XD1610VW (2PBF)

P/N of available core : AQD/CQF/N1/N2



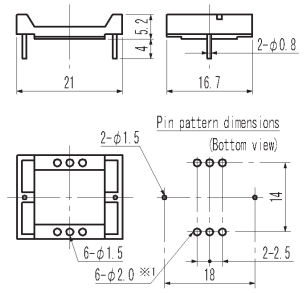
Pedestal XD2811VW (2PBF)

P/N of available core : ARD/CTB/G4/N5



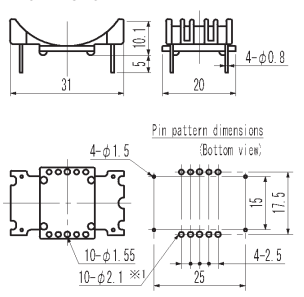
Pedestal XD2314VW (2PBF)

P/N of available core : G3/NP/NU



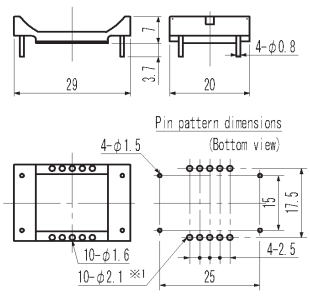
Pedestal XD3415VW (4PBF)

P/N of available core : G6/G7/G8/J7H/J8H/N6/N7 /V6/VV/X6/X7/X8/Y6/YV



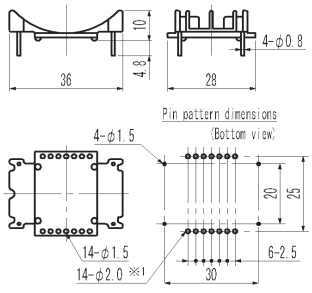
Pedestal XD3418VW (4PBF)

P/N of available core : AUD/DUF/DVF



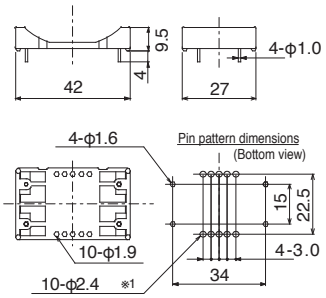
Pedestal XD4420VW (4PBF)

P/N of available core : G0/G9/GJ/JAH/JBH/JR/JRH/N9/XR



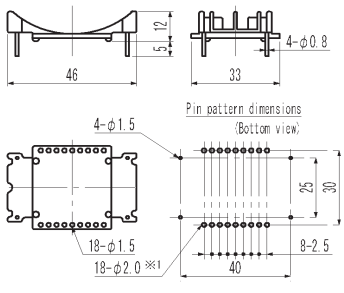
Pedestal XD4227VL (4PBF)

P/N of available core : DYB/CYF



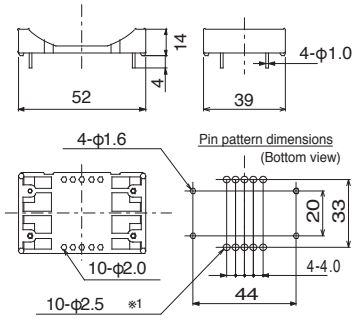
Pedestal XD5625VW (4PBF)

P/N of available core : AZD/DZB/GK/GQ/JCH/JKH



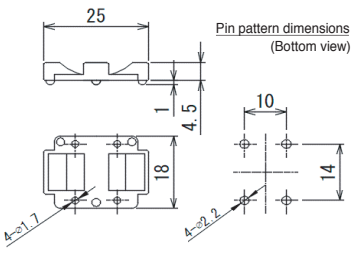
Pedestal XD5239VL (4PBF)

P/N of available core : AZD/WKH



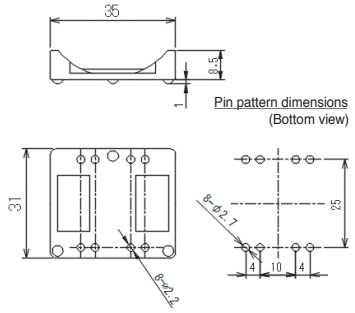
Pedestal XD2518VL

P/N of available core : VD



Pedestal XD3531VLF

P/N of available core : LBU/V22/V8/VBU/Y22/Y8/YBU



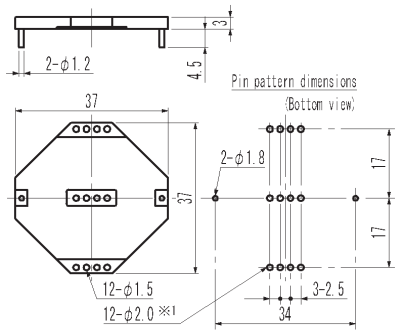
*1 In the case of a lead wire with greatest dimensions.
*2 The Specification with auxiliary pins is marked by ( ).

◆Accessories used for choke coils of lying type

Unit : [mm]

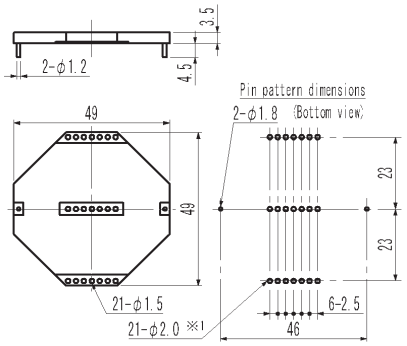
Pedestal XD3237HW (2PBF)

P/N of available core : AUG/AUD/CTB/DUF/G6/G7/G8 /J7H/J8H/N6/N7/X6/X7/X8



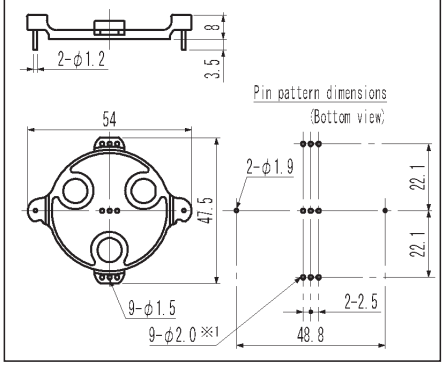
Pedestal XD4449HW (2PBF)

P/N of available core : CYF/DYB/G0/GJ/JBH



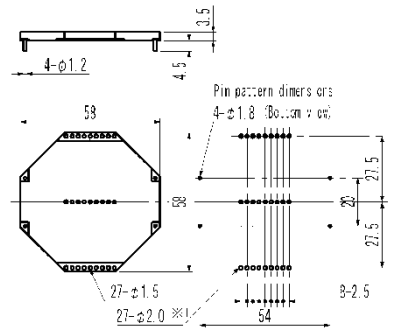
Pedestal XD4054HW (2PBF)

P/N of available core : DVF/G9/JAH/JR/JRH/N9/XR



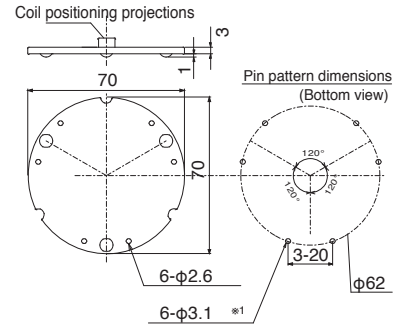
Pedestal XD5358HW (4PBF)

P/N of available core : AZD/DZB/GK/GQ/JCH/JKH/WKH



Pedestal XD7070HL

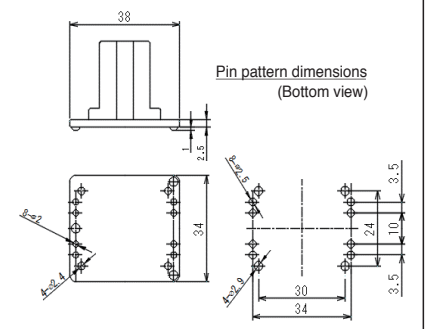
P/N of available core : LGQ/VGQ



Different terminal plates are recommended for 2P coils.

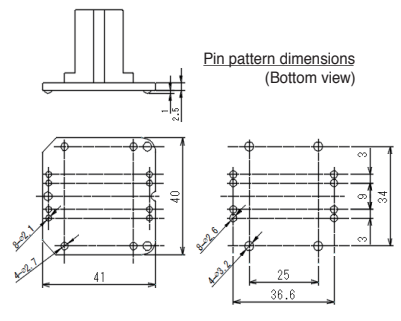
Pedestal XD3438FP

P/N of available core : V8/Y8



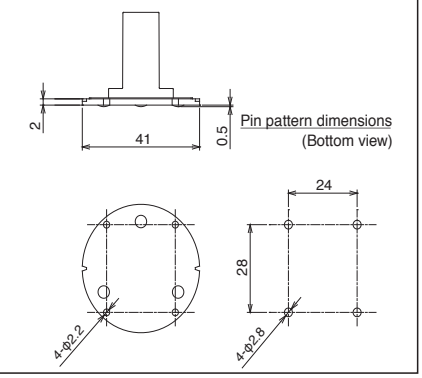
Pedestal XP4041FP

P/N of available core : Y22/V22



Pedestal XD281815DUS

P/N of available core : LBU/VBU/YBU



*1 In the case of a lead wire with greatest dimensions.
*2 The Specification with auxiliary pins is marked by ( ).

- 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.

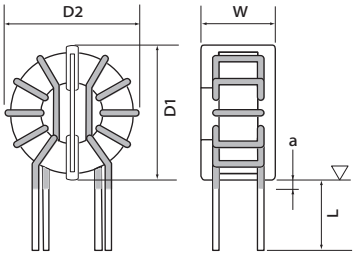
NANOCRYSTALLINE COMMON MODE COILS

FW New! Series

RoHS2 Compliant AEC-Q200

◆MAJOR USES
●AC/DC Common mode filter

◆FEATURES
●Greatly improved inductance (10kHz,100kHz).
●Improved impedance in the 150 kHz to 1 MHz frequency band when compared to the FL-V series coils.
●Deal with it by rated voltage 700V.
●Conforming to insulating type:B and incombustibility UL94V-0.



Maximum outer diameter : D1(Vertical), D2(Horizontal)
Maximum width : W
Total lead length* : L=20±3mm
Soldering boundary* : a=1.5mmMAX
*The bottom of the core or coil (▽) is defined as base surface.

Coil Part No.	Core Part No.	Rated voltage [V]	Rated Current [A]	Inductance		D.C.R. mΩ (max)	Winding mmϕ -lines	Outside Dimensions			Frequency Characteristics Graph	Temperature rise Graph
				10kHz [mH]	100kHz [mH]			D1 [mm]	D2 [mm]	W [mm]		
LDFW007652Y6-V0E	F221310MDX	250	7	21.0	6.5	22.0	1.0-1P	29.0	31.0	21.0	1	A
LDFW010302Y6-V0E			10	9.7	3.0	11.0	1.2-1P					
LDFW012202Y6-V0E			12	6.5	2.0	7.5	1.3-1P					
LDFW008123YV-V0E	F251513MDX	250	8	37.1	11.5	26.0	1.1-1P	30.5	34.0	23.5	2	B
LDFW011742YV-V0E			11	23.9	7.4	15.0	1.3-1P					
LDFW013412YV-V0E			13	13.2	4.1	10.0	1.4-1P					
LDFW016362Y8-V0E	F262115MDX	500	16	11.6	3.6	7.5	1.8-1P	34.0	37.0	27.5	3	C
LDFW023162Y8-V0E			23	5.2	1.6	3.7	2.1-1P					
LDFW028102Y8-V0E			28	3.2	1.0	2.5	1.6-2P					
LDFW015372YBUV0E	F281815MUDX	700	15	11.9	3.7	6.7	1.7-1P	36.0	39.5	29.5	4	D
LDFW021252YBUV0E			21	8.1	2.5	4.5	1.9-1P					
LDFW026152YBUV0E			26	4.8	1.5	2.9	1.5-2P					
LDFW016732Y22V0E	F312115MDX	500	16	23.5	7.3	7.9	1.9-1P	38.0	43.0	28.5	5	E
LDFW020412Y22V0E			20	13.2	4.1	4.9	2.1-1P					
LDFW025232Y22V0E			25	7.4	2.3	3.1	1.6-2P					
LDFW032142Y22V0E			32	4.5	1.4	1.9	1.8-2P					
LDFW020592YJUV0E	F372315MUDX	700	20	19.0	5.9	5.7	1.5-2P	48.0	50.0	32.5	6	F
LDFW027282YJUV0E			27	9.0	2.8	3.1	1.7-2P					
LDFW039172YJUV0E			39	5.5	1.7	1.8	2.0-2P					
LDFW030392Y28V0E	F443420MDX	600	30	12.6	3.9	3.6	2.0-2P	53.0	59.5	39.0	7	G
LDFW036262Y28V0E			36	8.4	2.6	2.5	2.2-2P					

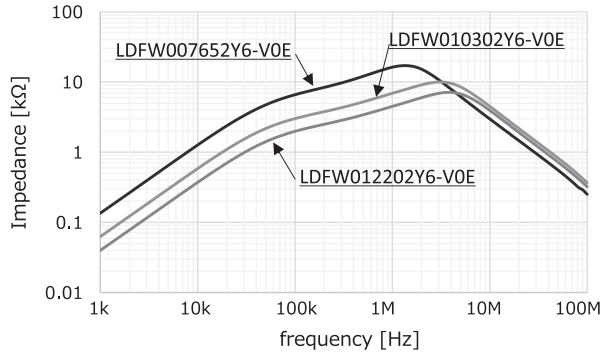
* The inductance at 10kHz indicates the reference value.

FW Series

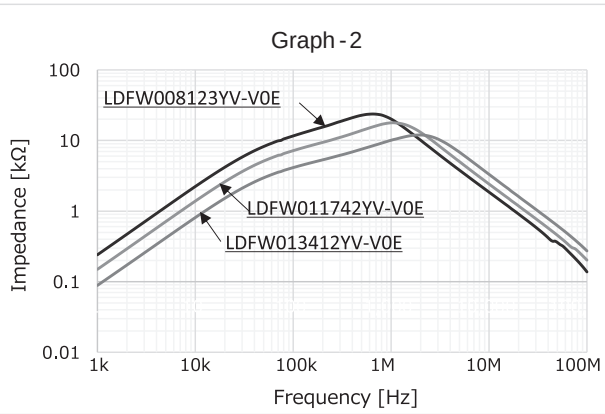
◆FREQUENCY CHARACTERISTICS AMBIENT TEMPERATURE:25°C

●Impedance

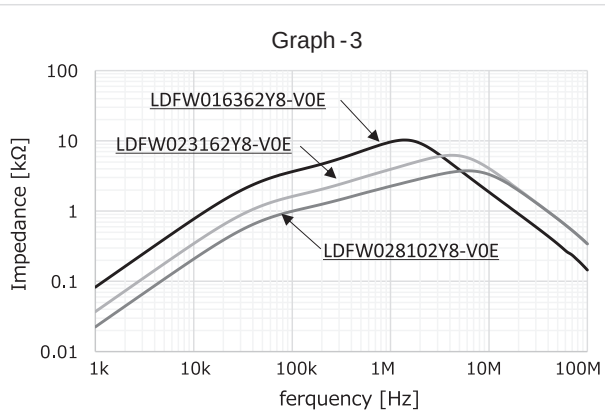
Graph - 1



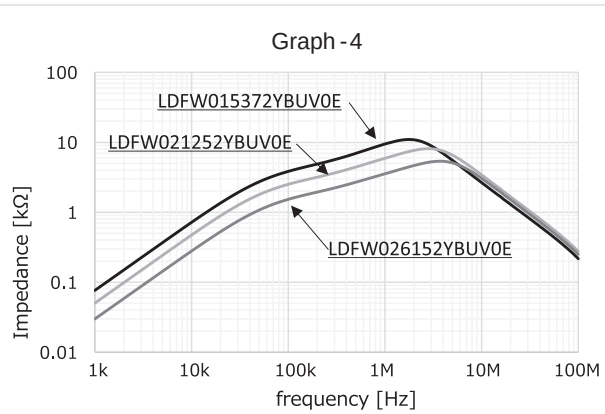
Graph - 2



Graph - 3

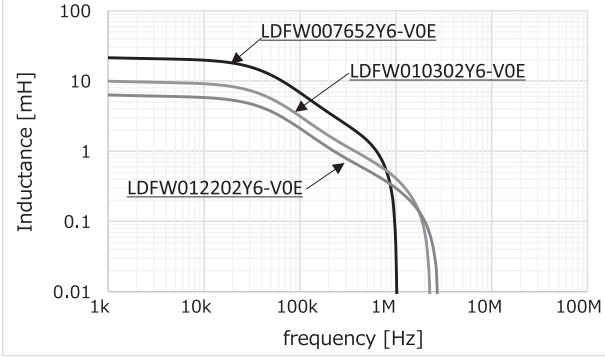


Graph - 4

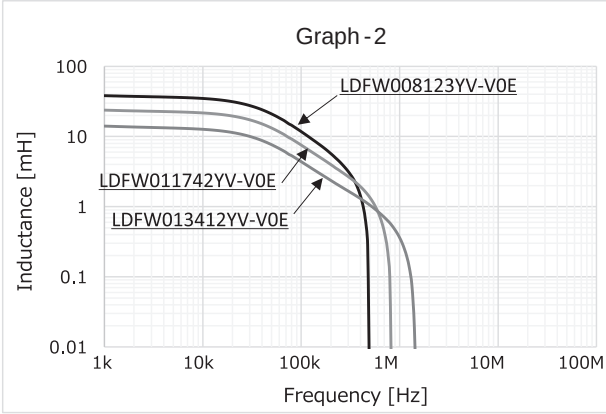


●Inductance

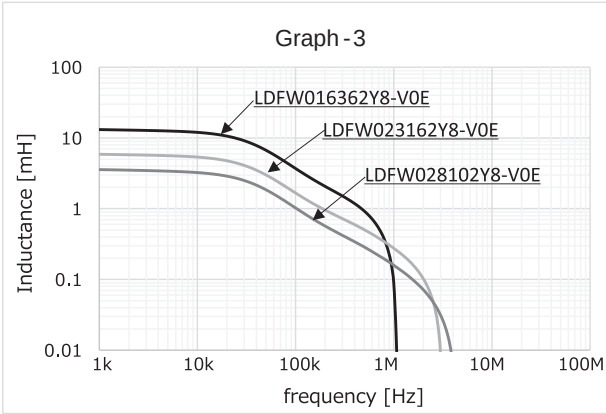
Graph - 1



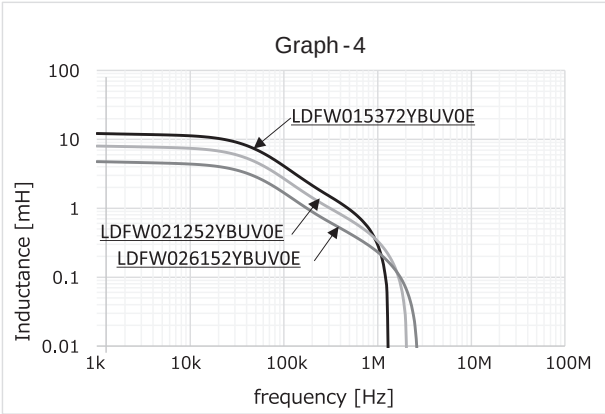
Graph - 2



Graph - 3



Graph - 4

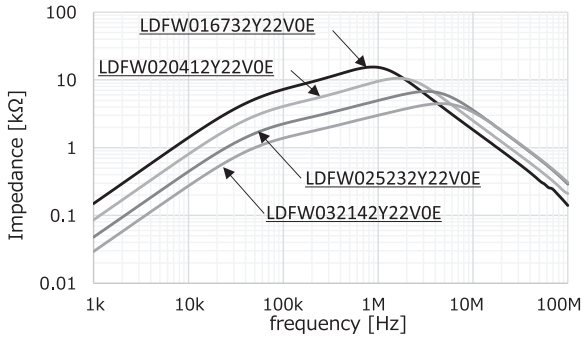


FW Series

◆FREQUENCY CHARACTERISTICS AMBIENT TEMPERATURE:25°C

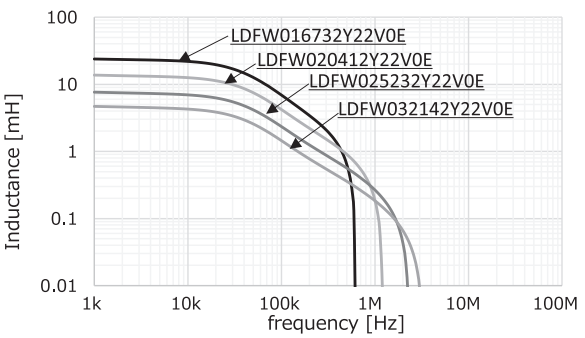
●Impedance

Graph - 5

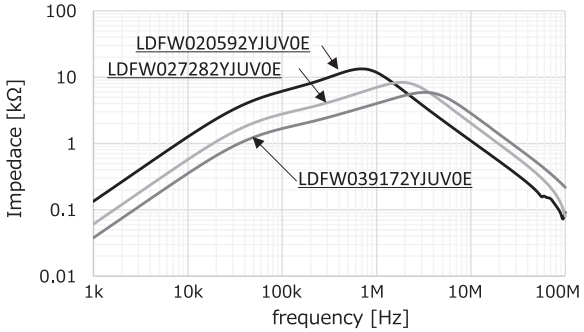


●Inductance

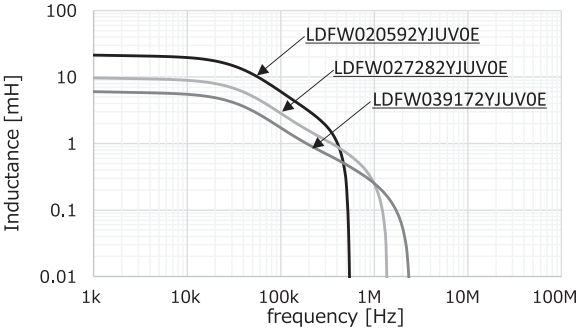
Graph - 5



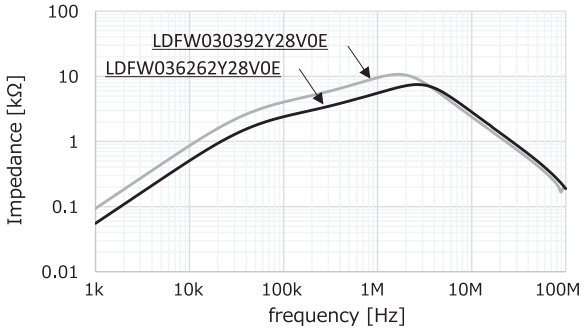
Graph - 6



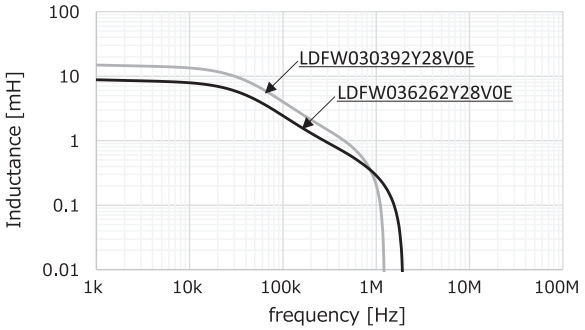
Graph - 6



Graph - 7



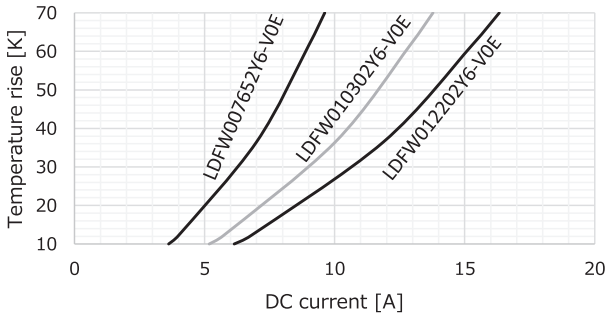
Graph - 7



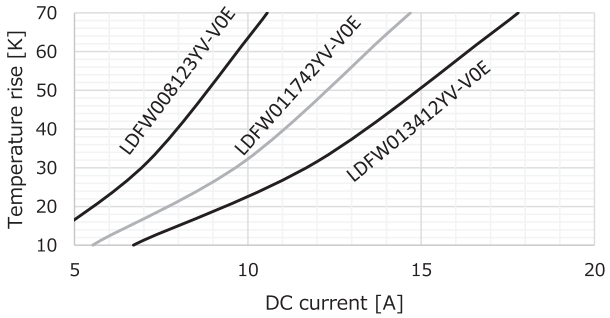
FW Series

◆RISE TEMPERATURE: AMBIENT TEMPERATURE=25°C SATURATED TEMPERATURE DUE TO DC CURRENT APPLICATION.
*This data don't consider set situation,influence of around parts.

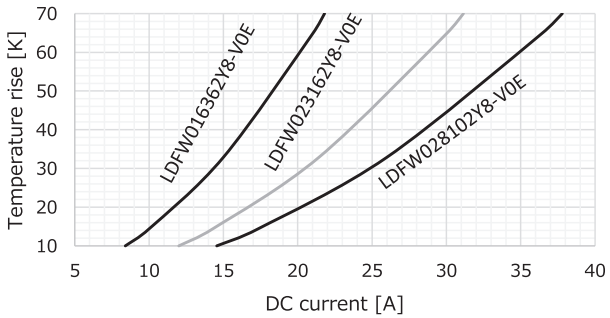
Graph - A



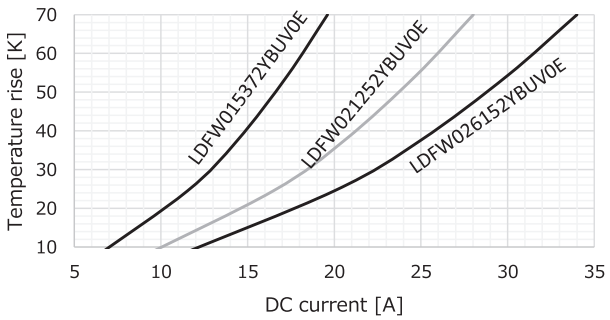
Graph - B



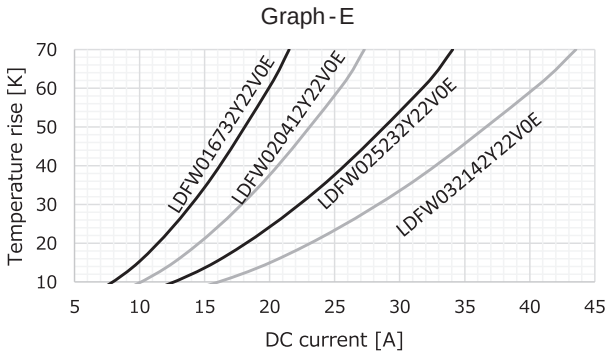
Graph - C



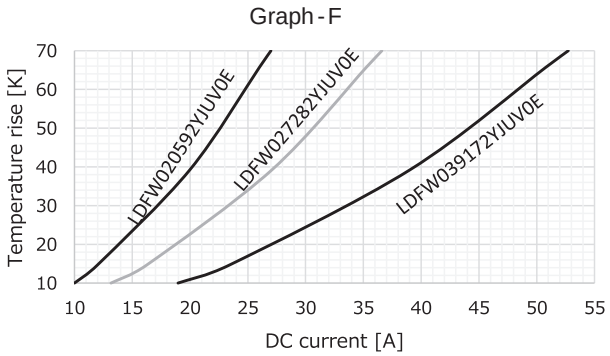
Graph - D



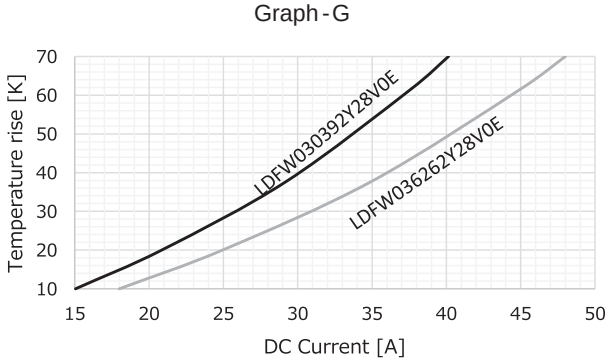
Graph - E



Graph - F



Graph - G



NANOCRYSTALLINE COMMON MODE COILS

FW New! Series

RoHS2 Compliant AEC-Q200

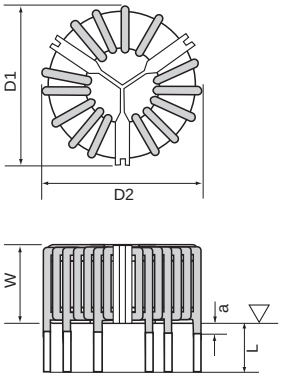
For three-phase circuit

◆MAJOR USES

●Noise filter for inverter and large-capacity power supply

◆FEATURES

●Greatly improved inductance (10kHz,100kHz).
●Improved impedance in the 150 kHz to 1 MHz frequency band when compared to the FL-V series coils.



Maximum outer diameter : D1(Vertical), D2(Horizontal)
Maximum width : W
Total lead length* : L=15±5mm
Soldering boundary* : a=1.5mmMAX
*The bottom of the core or coil (▽) is defined as base surface.

Coil Part No.	Core Part No.	Rated voltage [V]	Rated Current [A]	Inductance		D.C.R. mΩ (max)	Winding mmϕ -lines	Outside Dimensions			Frequency Characteristics	Temperature rise
				10kHz [mH]	100kHz [mH]			D1 [mm]	D2 [mm]	W [mm]	Graph	Graph
LDFW010642Y74H0E	F312115MDX	500	10	20.7	6.4	13.0	1.4-1P	42.0	42.0	27.5	1	A
LDFW015342Y74H0E			15	11.1	3.4	6.6	1.7-1P					
LDFW020142Y74H0E			20	4.5	1.4	3.1	2.0-1P					
LDFW015422YJQH0E	F372315MDX	500	15	13.5	4.2	6.4	1.8-1P	48.5	48.5	29.0	2	B
LDFW020282YJQH0E			20	9.0	2.8	4.5	2.0-1P					
LDFW025172YJQH0E			25	5.5	1.7	2.6	2.3-1P					
LDFW030132YJQH0E			30	4.0	1.3	2.0	2.3-1P					
LDFW020502Y72H0E	F422615MDX	500	20	16.2	5.0	5.6	2.1-1P	56.0	56.0	32.0	3	C
LDFW025282Y72H0E			25	9.1	2.8	3.6	2.3-1P					
LDFW030172Y72H0E			30	5.5	1.7	2.4	1.8-2P					
LDFW035132Y72H0E			35	4.0	1.3	1.7	2.0-2P					
LDFW030332Y73H0E	F503415MUDX	500	30	10.6	3.3	3.0	2.0-2P	65.0	65.0	35.0	4	D
LDFW035222Y73H0E			35	7.1	2.2	2.3	2.1-2P					
LDFW040172Y73H0E			40	5.6	1.7	1.9	2.2-2P					
LDFW050102Y73H0E			50	3.2	1.0	1.2	2.4-2P					

* The inductance at 10kHz indicates the reference value.

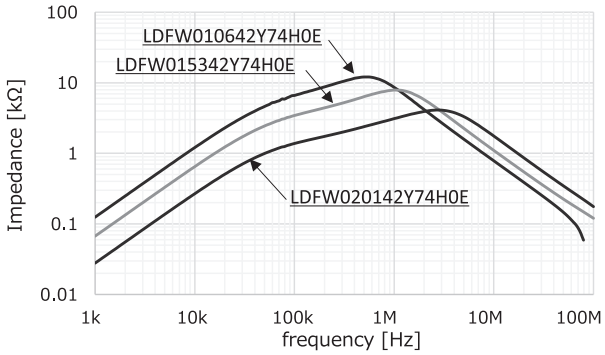
FW Series

For three-phase circuit

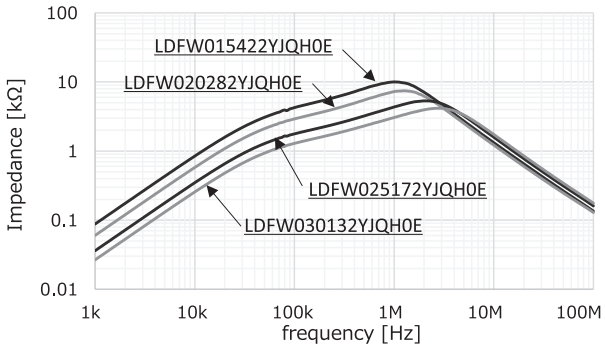
◆FREQUENCY CHARACTERISTICS AMBIENT TEMPERATURE:25°C

●Impedance

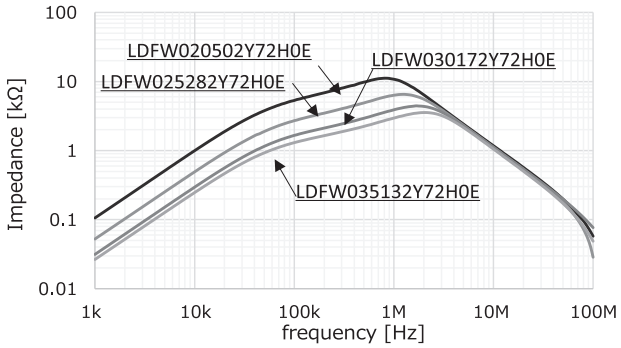
Graph - 1



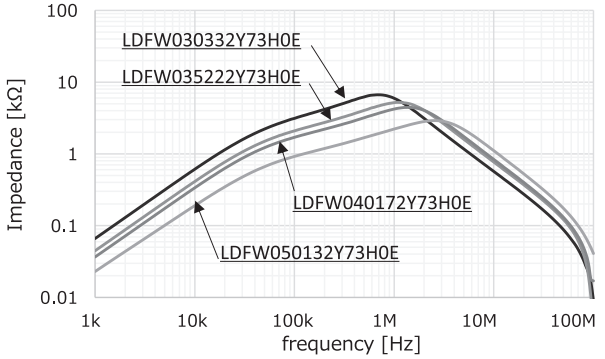
Graph - 2



Graph - 3

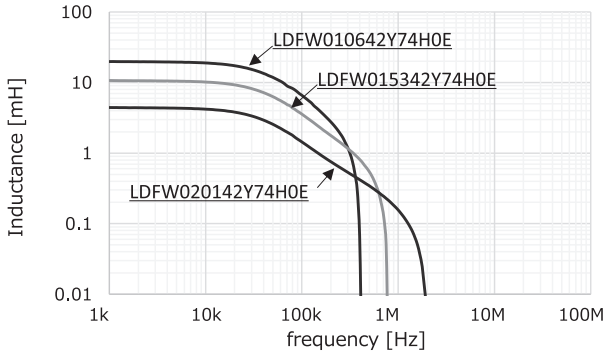


Graph - 4

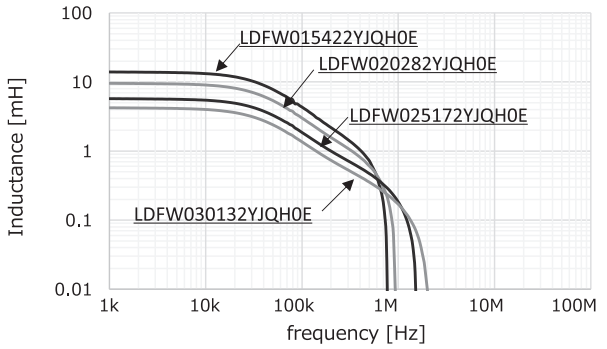


●Inductance

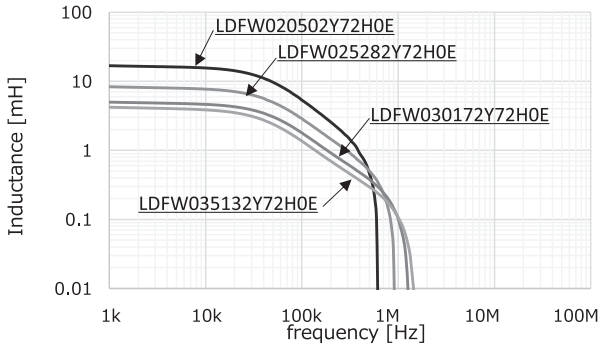
Graph - 1



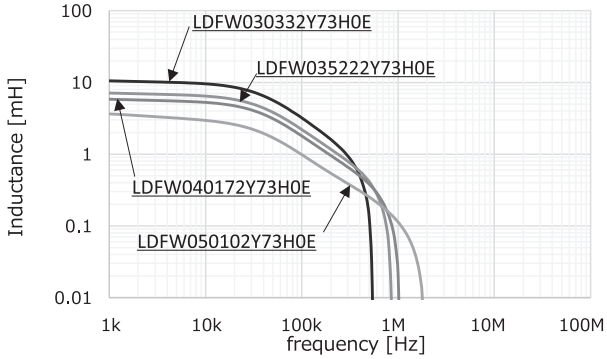
Graph - 2



Graph - 3



Graph - 4



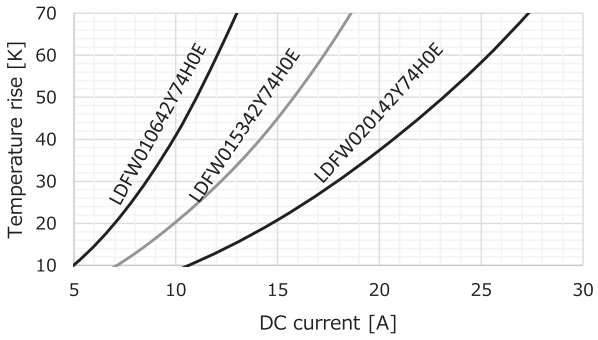
FW Series

For three-phase circuit

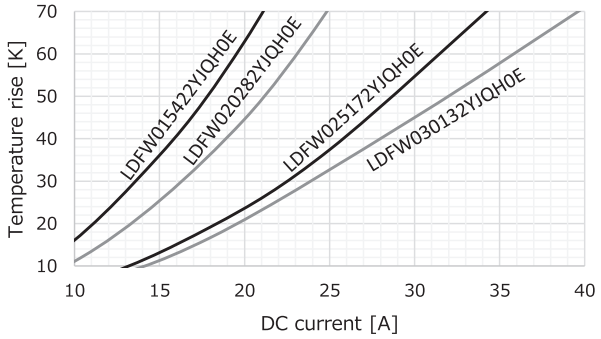
◆RISE TEMPERATURE: AMBIENT TEMPERATURE=25°C SATURATED TEMPERATURE DUE TO DC CURRENT APPLICATION.

*This data don't consider set situation,influence of around parts.

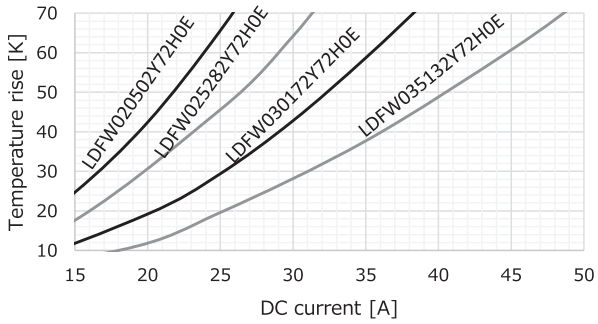
Graph - A



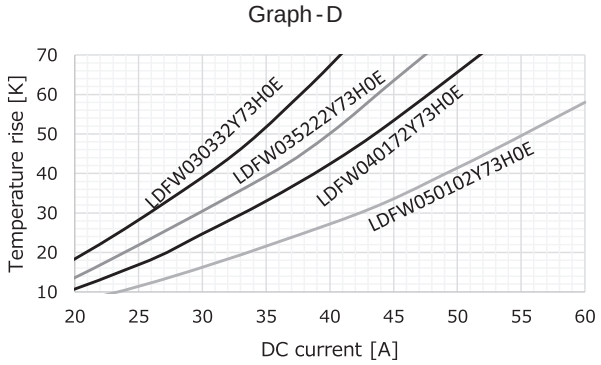
Graph - B



Graph - C



Graph - D



FW New! Series

RoHS2 Compliant AEC-Q200

◆MAJOR USES

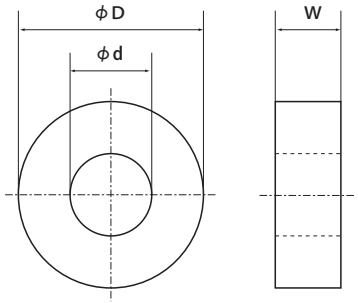
- ●Signal line noise filter
- ●Noise filter for DC power lines
- ●Noise filter for AC power lines
- ●Zero-phase reactor

◆FEATURES

- ●Achieved high impedance over a broad range of frequencies when compared to the FL Series.
- ●Improved impedance in the 150 kHz to 1 MHz frequency band when compared to the FL-V series coils.
- ●Conforming to insulating type:B and incombustibility UL94V-0.

Coil Part No.	Cross Sectional Area [cm^2]	Magnetic Path Length [cm]	Weight [g]	Outside Dimensions			Inductance Coefficient (AL Value [$\mu H/N^2$] at 0A)		Frequency Characteristics Graph
				ϕD [mm]	ϕd [mm]	W [mm]	10kHz	100kHz	
LRF251510MKDX	0.41	6.38	25	28.3	12.7	12.3	83.7	25.9	1
LRF251515MKDX	0.63	6.38	35	28.3	12.7	17.5	126.4	39.2	2
LRF322015MKDX	0.69	8.09	46	35.2	17.5	17.3	106.8	33.1	3
LRF372315MKDX	0.83	9.33	67	40.5	19.5	18.0	114.9	35.6	4
LRF462715MKDX	1.14	11.47	107	49.4	22.7	18.0	124.8	38.7	5
LRF462725MKDX	1.90	11.47	165	49.4	22.7	28.0	208.4	64.6	6
LRF624520MKDX	1.36	16.81	200	66.0	41.0	24.0	104.1	32.3	7

◆DIMENSIONS OF CORE

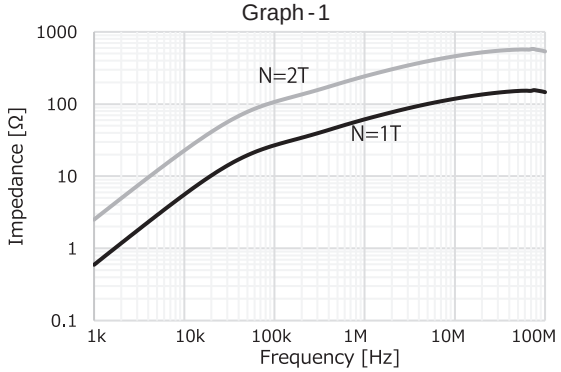


Outer diameter : ϕD
Inner diameter : ϕd
Width : W

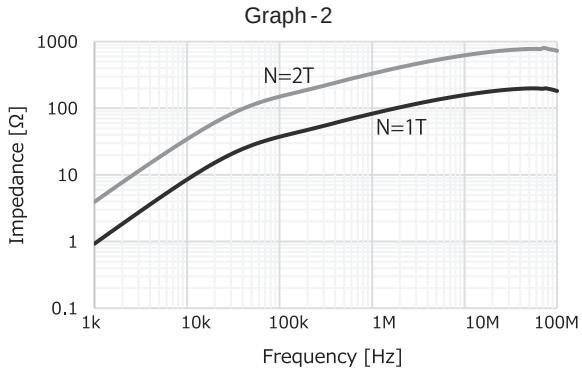
FW Series

◆FREQUENCY IMPEDANCE CHARACTERISTICS AMBIENT TEMPERATURE:25°C

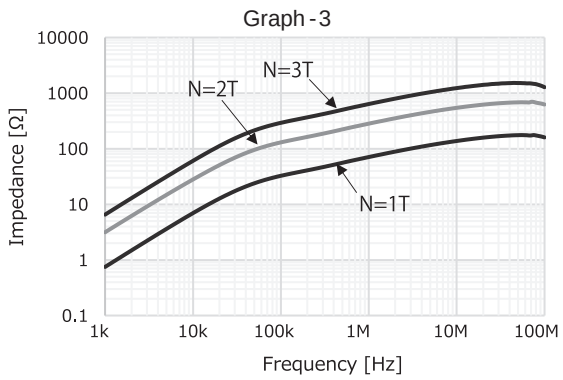
Graph - 1



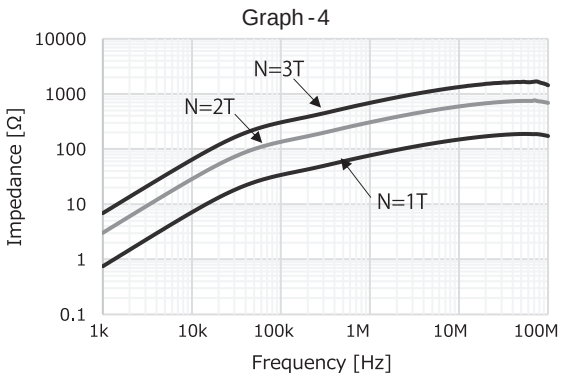
Graph - 2



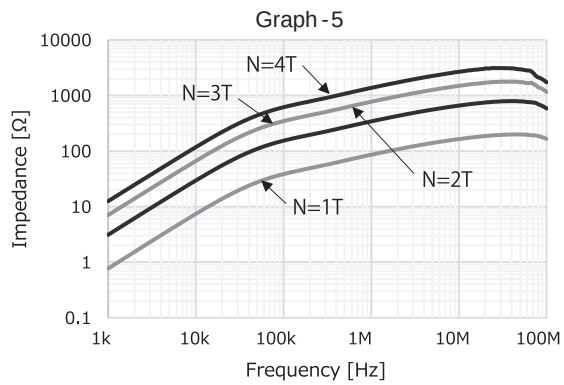
Graph - 3



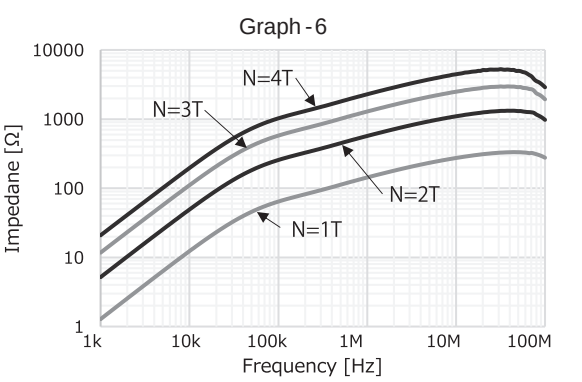
Graph - 4



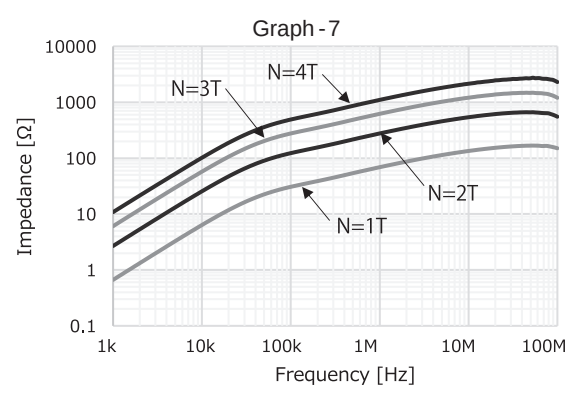
Graph - 5



Graph - 6



Graph - 7



FL-V Series

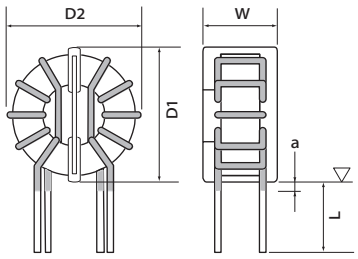
RoHS2 Compliant AEC-Q200

◆MAJOR USES

●Common mode noise filter for AC/DC

◆FEATURES

●Significantly improved inductance performance when compared to the FL Series
●Achieved high impedance over a broad range of frequencies when compared to the FL Series



Maximum outer diameter : D1(Vertical), D2(Horizontal)
Maximum width : W
Total lead length* : L=20±3mm
Soldering boundary* : a=1.5mmMAX
*The bottom of the core or coil (▽) is defined as base surface.

Coil Part No.	Core Part No.	Rated voltage [V]	Rated Current [A]	Inductance 10kHz [mH]	Inductance 100kHz [mH]	D.C.R. mΩ (max)	Winding mmϕ -lines	Outside Dimensions D1 [mm]	Outside Dimensions D2 [mm]	Outside Dimensions W [mm]	Frequency Characteristics Graph	Temperature rise Graph
LDFL004272VS-V0E	F110705MCX	250	3.5	6.0	2.7	38.0	0.55-1P	15.0	16.0	12.0	1	A
LDFL006102VS-V0E			5.5	2.3	1.0	16.0	0.70-1P					
LDFL006832VD-V0E	F221407MCX	250	5.5	18.3	8.3	26.0	0.90-1P	27.0	31.0	17.5	2	B
LDFL009412VD-V0E			9	9.1	4.1	16.0	1.1-1P					
LDFL012282VD-V0E			12	6.2	2.8	9.5	1.3-1P					
LDFL014172VD-V0E			14	3.8	1.7	7.0	1.4-1P					
LDFL007652V6-V0E	F221310MCX	250	7	16.3	6.5	22.0	1.0-1P	29.0	31.0	21.0	3	C
LDFL010302V6-V0E			10	6.7	3.0	11.0	1.2-1P					
LDFL012202V6-V0E			12	4.5	2.0	7.5	1.3-1P					
LDFL008123VV-V0E	F251513MCX	250	8	25.3	11.5	26.0	1.1-1P	30.5	34.0	23.5	4	D
LDFL011742VV-V0E			11	16.2	7.4	15.0	1.3-1P					
LDFL013412VV-V0E			13	9.1	4.1	12.0	1.4-1P					
LDFL016362V8-V0E	F262115MCX	500	16	7.8	3.6	7.5	1.8-1P	34.0	37.0	27.5	5	E
LDFL023162V8-V0E			23	3.4	1.6	3.7	2.1-1P					
LDFL028102V8-V0E			28	2.2	1.0	2.5	1.6-2P					
LDFL015372VBUV0E	F281815MUCX	700	15	8.1	3.7	6.7	1.7-1P	36.0	40.0	29.5	6	F
LDFL021252VBUV0E			21	5.4	2.5	4.5	1.9-1P					
LDFL026152VBUV0E			26	3.3	1.5	2.9	1.5-2P					
LDFL016732V22V0E	F312115MCX	500	16	16.0	7.3	7.9	1.9-1P	38.0	43.0	28.5	7	G
LDFL020412V22V0E			20	9.0	4.1	4.9	2.1-1P					
LDFL025232V22V0E			25	5.0	2.3	3.1	1.6-2P					
LDFL032142V22V0E			32	3.0	1.4	1.9	1.8-2P					
LDFL020592VJUV0E	F372315MUCX	700	20	12.9	5.9	5.7	1.5-2P	48.0	50.0	32.5	8	H
LDFL027282VJUV0E			27	6.2	2.8	3.1	1.7-2P					
LDFL039172VJUV0E			39	3.7	1.7	1.8	2.0-2P					
LDFL030392V28V0E	F443420MCX	600	30	8.5	3.9	3.6	2.0-2P	53.0	59.5	39.0	9	J
LDFL036262V28V0E			36	5.6	2.6	2.5	2.2-2P					

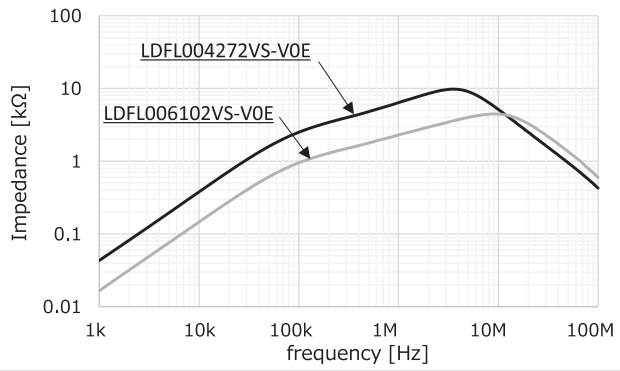
* The inductance at 10kHz indicates the reference value.

FL-V Series

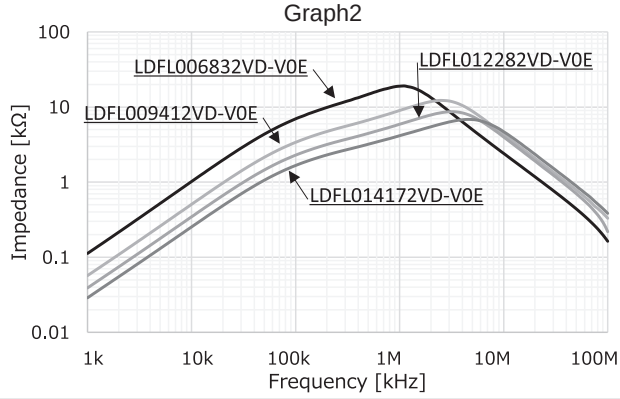
◆FREQUENCY CHARACTERISTICS AMBIENT TEMPERATURE:25°C

●Impedance

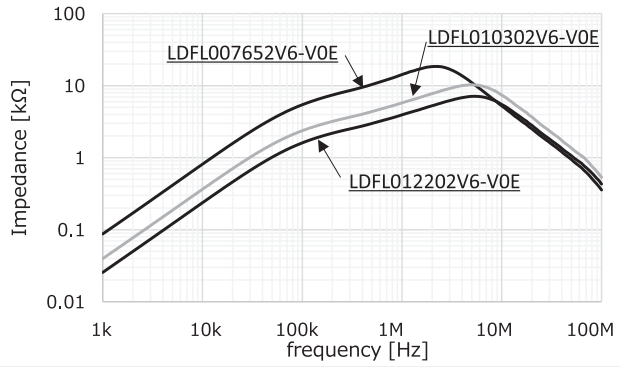
Graph-1



Graph2

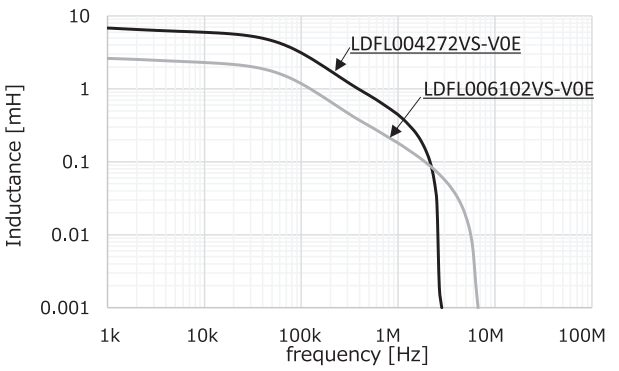


Graph-3

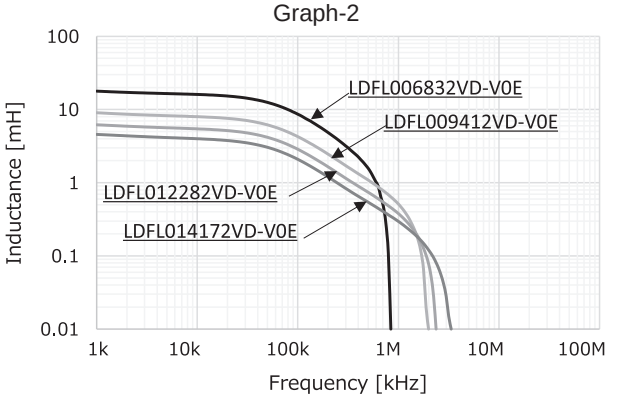


●Inductance

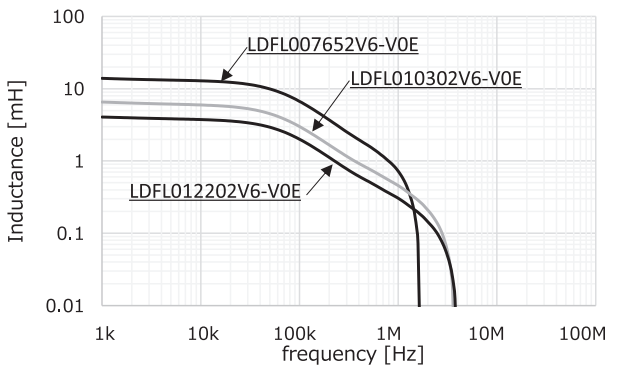
Graph-1



Graph-2



Graph-3

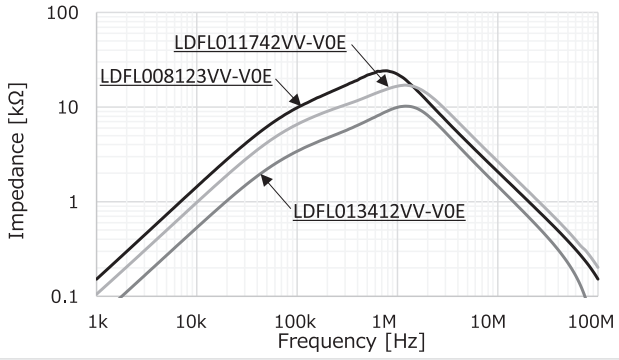


FL-V Series

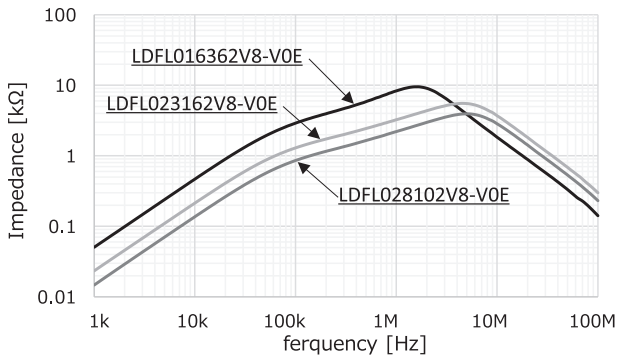
◆FREQUENCY CHARACTERISTICS AMBIENT TEMPERATURE:25°C

●Impedance

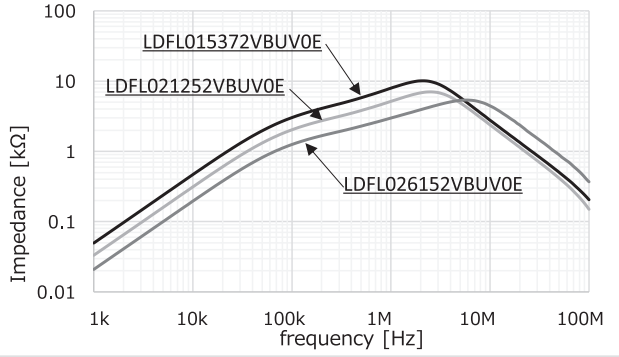
Graph-4



Graph-5

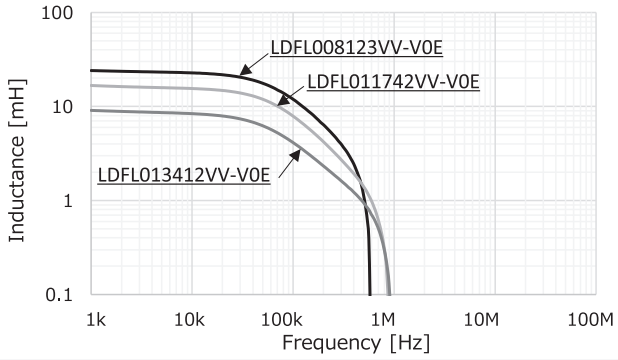


Graph-6

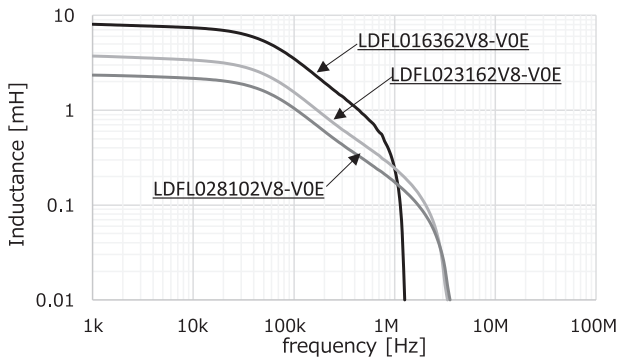


●Inductance

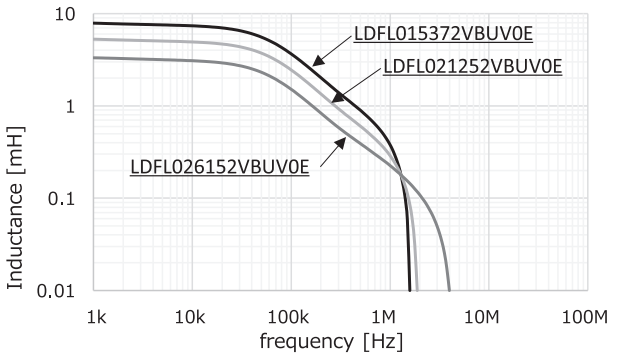
Graph-4



Graph-5



Graph-6

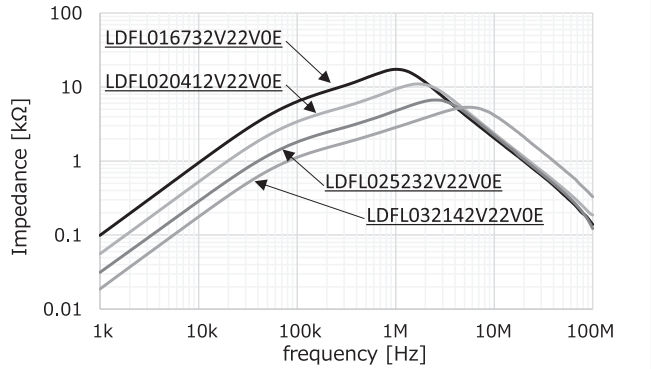


FL-V Series

◆FREQUENCY CHARACTERISTICS AMBIENT TEMPERATURE:25°C

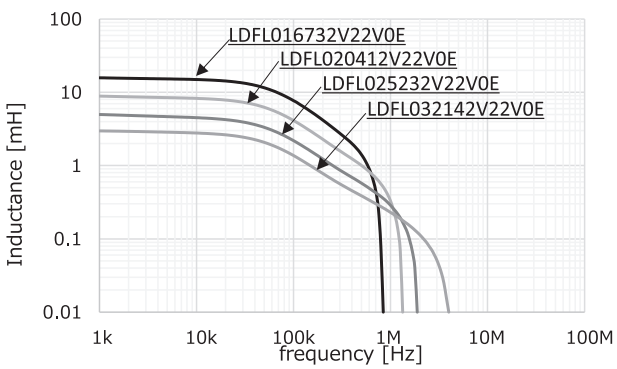
●Impedance

Graph - 7

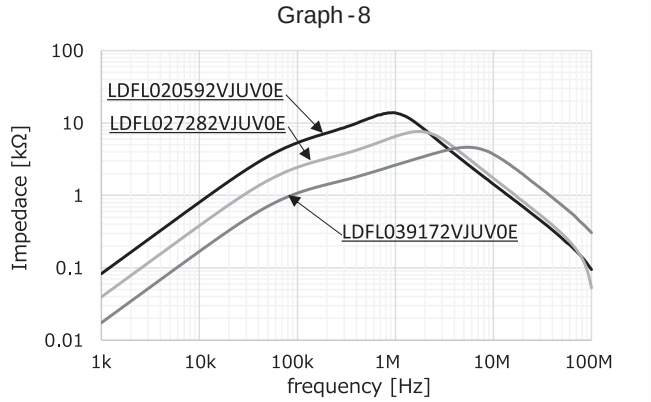


●Inductance

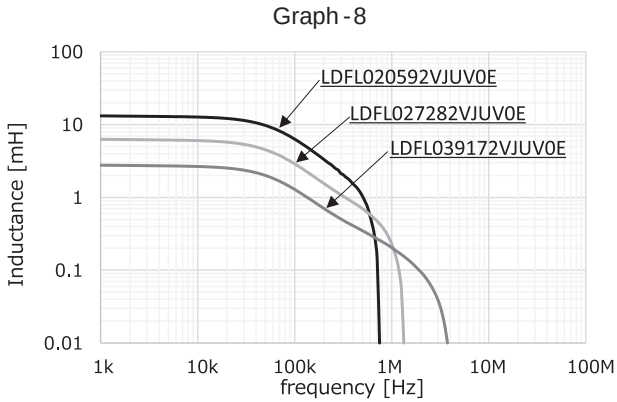
Graph - 7



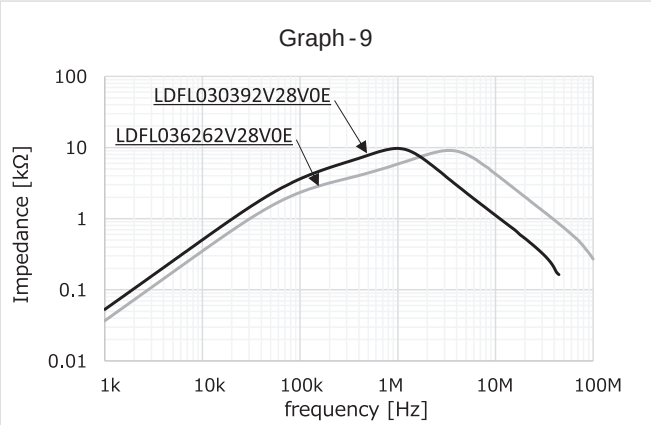
Graph - 8



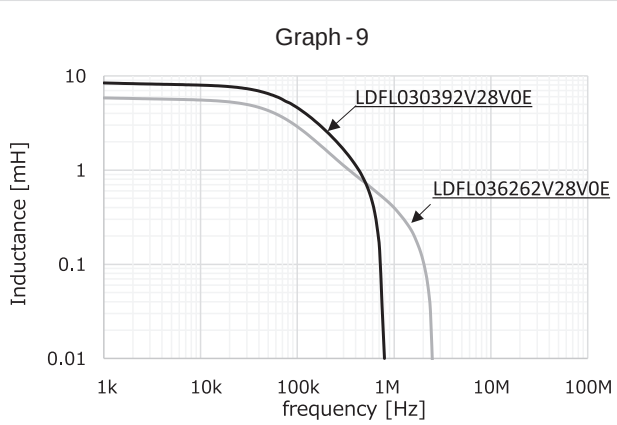
Graph - 8



Graph - 9



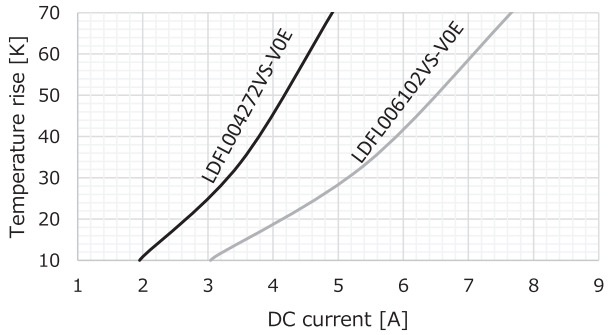
Graph - 9



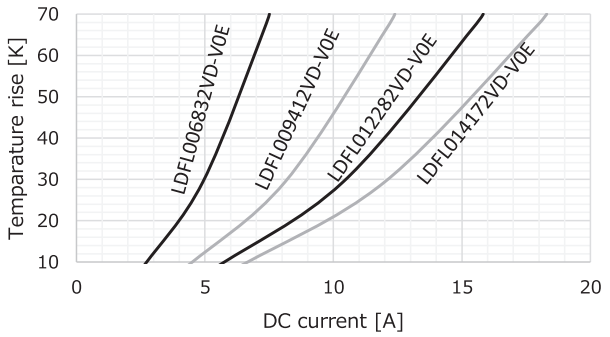
FL-V Series

◆RISE TEMPERATURE: AMBIENT TEMPERATURE=25°C SATURATED TEMPERATURE DUE TO DC CURRENT APPLICATION.
*This data don't consider set situation,influence of around parts.

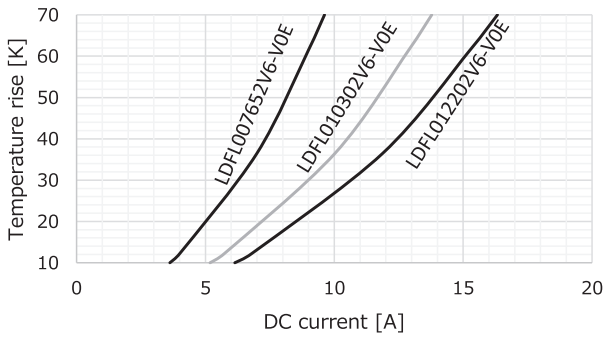
Graph - A



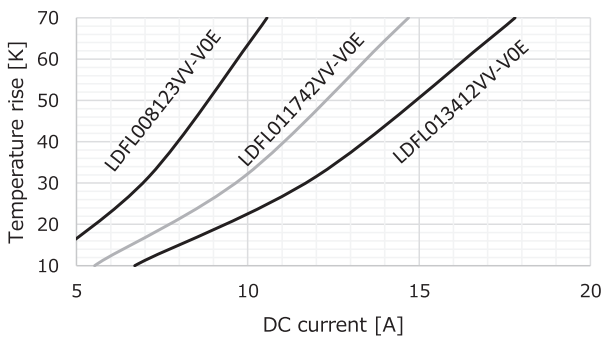
Graph - B



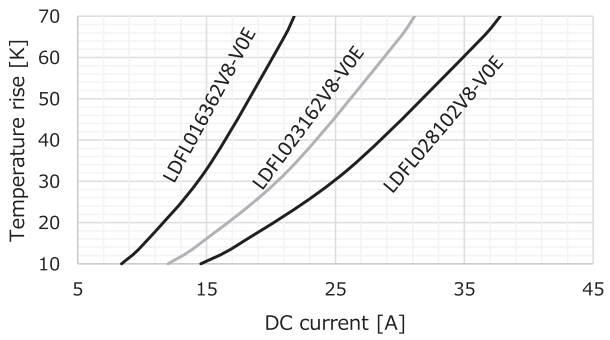
Graph - C



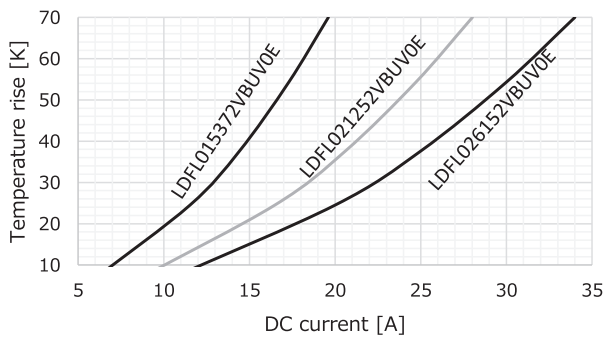
Graph - D



Graph - E



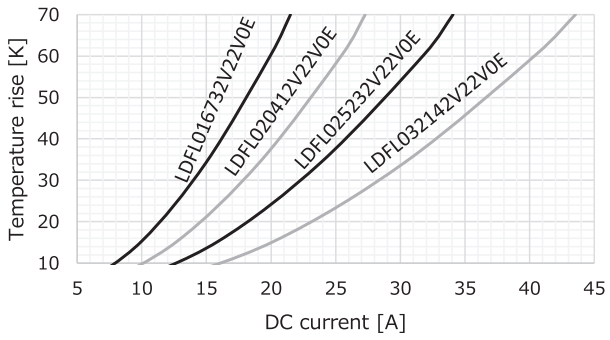
Graph - F



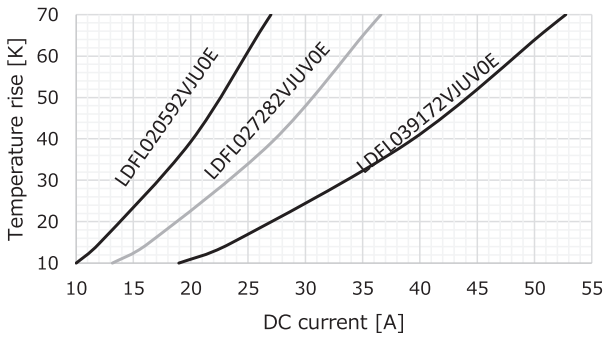
FL-V Series

◆RISE TEMPERATURE: AMBIENT TEMPERATURE=25°C SATURATED TEMPERATURE DUE TO DC CURRENT APPLICATION.
*This data don't consider set situation,influence of around parts.

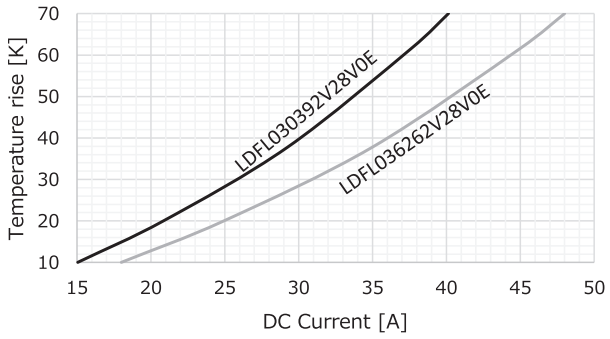
Graph - G



Graph - H



Graph - J



FL-V Series

RoHS2 Compliant AEC-Q200

For three-phase circuit

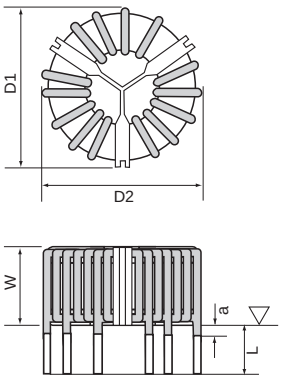
◆MAJOR USES

●Common mode noise filter for AC/DC

◆FEATURES

●Significantly improved inductance performance when compared to the FL Series

●Achieved high impedance over a broad range of frequencies when compared to the FL Series



Maximum outer diameter : D1(Vertical), D2(Horizontal)
Maximum width : W
Total lead length* : L=15±5mm
Soldering boundary* : a=1.5mmMAX
*The bottom of the core or coil (▽) is defined as base surface.

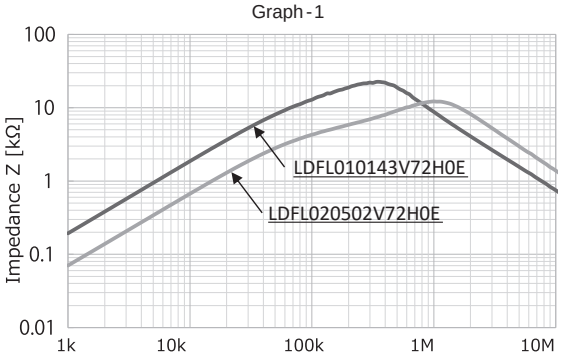
Coil Part No.	Core Part No.	Rated voltage [V]	Rated Current [A]	Inductance 10kHz [mH]	Inductance 100kHz [mH]	D.C.R. mΩ (max)	Winding mmϕ-lines	Outside Dimensions D1 [mm]	Outside Dimensions D2 [mm]	Outside Dimensions W [mm]	Frequency Characteristics Graph	Temperature rise Graph
LDFL010143V72H0E	F422615MQCX	250	10	30.7	14.0	18.0	1.5-1P	56.0	56.0	32.0	1	-
LDFL020502V72H0E			20	11.1	5.0	6.0	2.0-1P					-
LDFL015163VGQH0E	F503415MQCX	250	15	34.5	15.7	15.0	2.0-1P	65.0	65.0	35.0	2	-
LDFL020792VGQH0E			20	17.3	7.9	6.0	2.3-1P					-
LDFL025542VGQH0E			25	11.7	5.4	5.0	1.8-2P					-
LDFL030332VGQH0E			30	7.2	3.3	4.0	2.0-2P					-

* The inductance at 10kHz indicates the reference value.

◆FREQUENCY CHARACTERISTICS AMBIENT TEMPERATURE:25°C

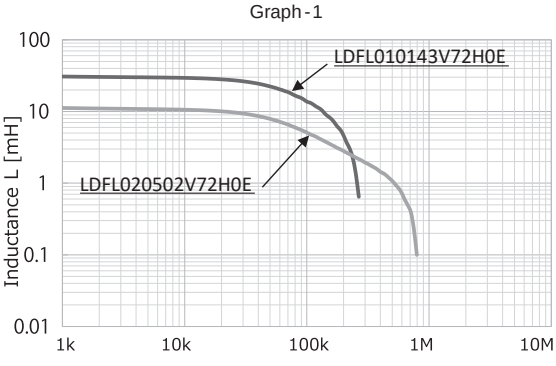
●Impedance

Graph-1

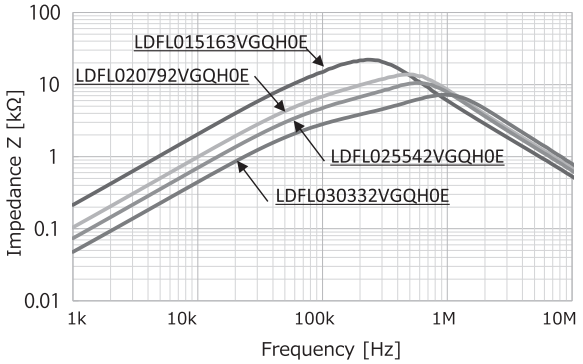


●Inductance

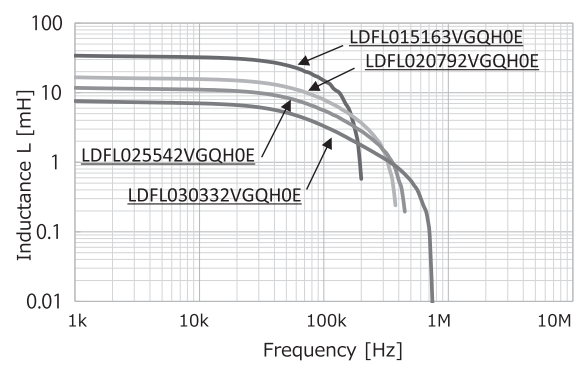
Graph-1



Graph-2



Graph-2



FL-V Series

RoHS2 Compliant AEC-Q200

◆MAJOR USES

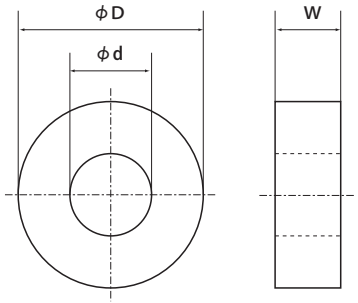
- Common mode noise filter for AC/DC
- Zero-phase reactor

◆FEATURES

- Achieved high impedance over a broad range of frequencies when compared to the FL Series

Core Part No.	Cross Sectional Area [cm²]	Magnetic Path Length [cm]	Weight [g]	Outside dimensions			Inductance Coefficient (AL Value [μH/N²] at 0A)		Frequency Characteristics Graph
				ϕD [mm]	ϕd [mm]	W [mm]	10kHz	100kHz	
LRF251510MKCX	0.41	6.38	25	28.3	12.7	12.3	-	25.2	1
LRF251515MKCX	0.63	6.38	35	28.3	12.7	17.5	-	38.1	2
LRF322015MKCX	0.69	8.09	46	35.2	17.5	17.3	-	33.1	3
LRF372315MKCX	0.83	9.33	67	40.5	19.5	18.0	-	34.7	4
LRF462715MKCX	1.14	11.47	107	49.4	22.7	18.0	-	38.7	5
LRF462725MKCX	1.90	11.47	165	49.4	22.7	28.0	-	64.6	6
LRF624520MKCX	1.36	16.81	200	66.0	41.0	24.0	-	31.5	7

◆DIMENSIONS OF CORE

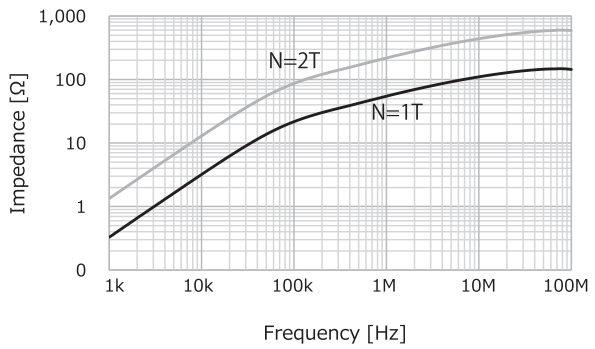


Outer diameter : ϕD
Inner diameter : ϕd
Width : W

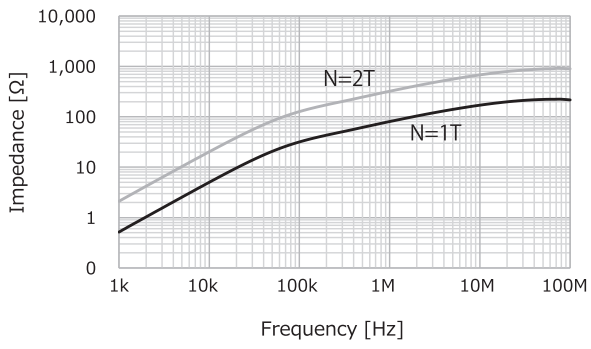
FL-V Series

◆FREQUENCY IMPEDANCE CHARACTERISTICS AMBIENT TEMPERATURE:25°C

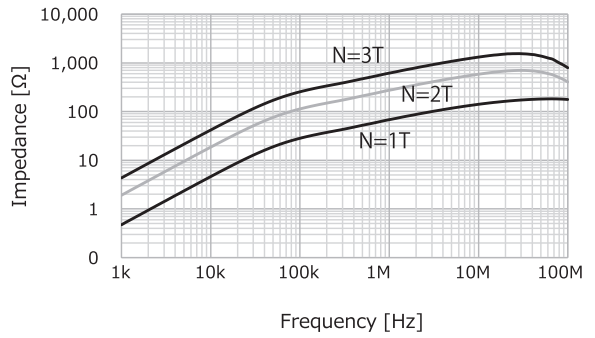
Graph - 1



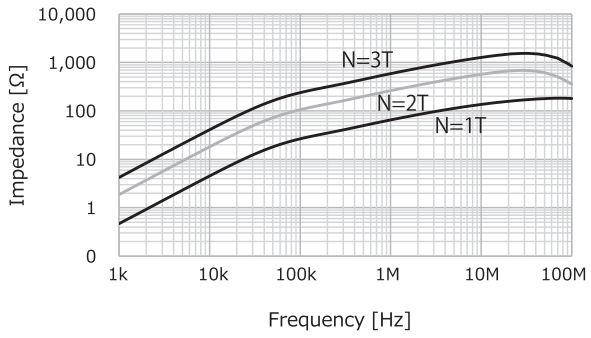
Graph - 2



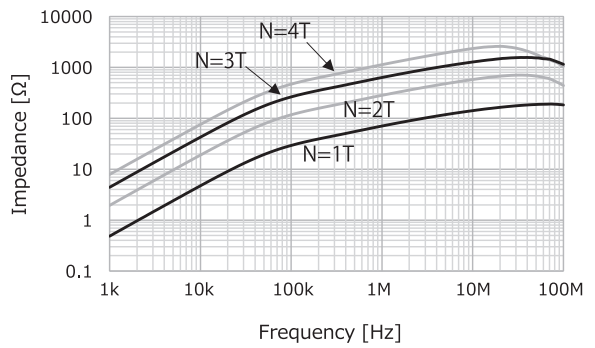
Graph - 3



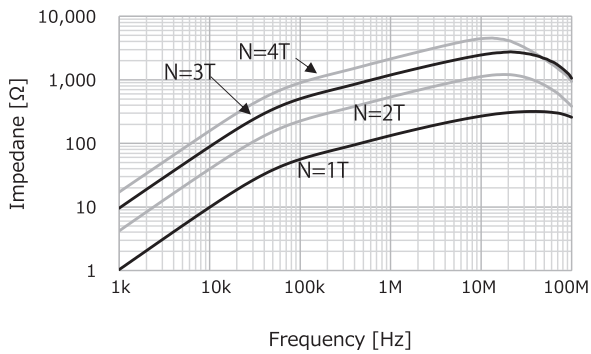
Graph - 4



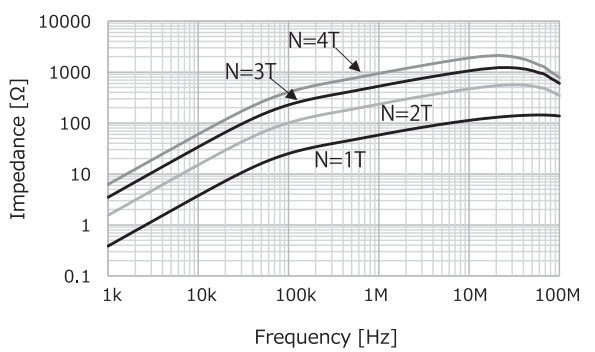
Graph - 5



Graph - 6



Graph - 7



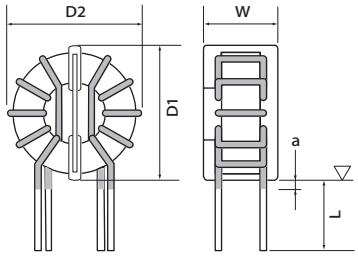
NANOCRYSTALLINE COMMON MODE COILS

FL Series

RoHS2 Compliant AEC-Q200

◆MAJOR USES
●Common mode noise filter for AC/DC

◆FEATURES
●Achieved significant miniaturization due to high permeability core
●High inductance in spite of a small number of turns
●Low temperature rise due to low D.C. resistance
●Stable frequency performance of noise suppression in wide frequency range
●Excellent temperature characteristics



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 Part No.	Core Part No.	Rated voltage [V]	Rated Current [A]	Inductance 10kHz [mH]	Inductance 100kHz [mH]	D.C.R. mΩ (max)	Winding mmϕ-lines	Outside Dimensions D1 [mm]	Outside Dimensions D2 [mm]	Outside Dimensions W [mm]	Frequency Characteristics Graph	Temperature rise Graph
●	LDFL001802LS-V0E	F110705MX	250	1	28.0	8.0	200.0	0.35-1P	15.0	16.0	11.9	1	-
●	LDFL002302LS-V0E			2	11.6	3.0	85.0	0.45-1P	15.0	16.0	11.9		-
●	LDFL003152LS-V0E			3	5.6	1.5	45.0	0.55-1P	15.0	16.0	11.9		-
	LDFL003552L5-V0E	F211205MX	250	3	22.0	5.5	56.0	0.7-1P	28.0	29.0	15.0	2	-
	LDFL005132L5-V0E			5	5.4	1.3	16.0	1.0-1P	29.0	30.0	15.0		-
	LDFL008451L5-V0E			8	1.8	0.5	6.5	1.3-1P	29.5	31.0	15.0		-
	LDFL003153L6-V0E	F221310MX	250	3	60.0	15.0	82.0	0.7-1P	29.0	30.5	20.5	3	-
	LDFL005332L6-V0E			5	13.0	3.3	21.0	1.0-1P	29.0	30.5	20.0		-
	LDFL008102L6-V0E			8	4.2	1.0	9.0	1.3-1P	29.5	31.5	20.5		-
	LDFL005302LT-V0E	F281510MX	250	5	13.0	3.0	17.0	1.1-1P	34.0	36.0	20.0	4	-
	LDFL010102LT-V0E			10	5.8	1.0	8.0	1.5-1P	34.0	38.0	22.0		-
	LDFL005502LT-V0E			5	23.0	5.0	23.0	1.1-1P	34.5	36.5	20.5		-
	LDFL015102LT-V0E			15	3.7	1.0	6.0	1.6-1P	34.5	38.0	20.5		-
	LDFL010302LT-V0E			10	13.0	3.0	11.0	1.4-1P	36.0	38.0	22.0		-
	LDFL005103LR-V0E	F322015MX	250	5	39.0	10.0	33.0	1.1-1P	39.0	41.0	25.5	5	-
	LDFL030102LR-V0E			30	4.2	1.0	5.0	1.7-2P	39.5	44.0	29.5		-
	LDFL010502LR-V0E			10	24.0	5.0	15.0	1.5-1P	40.0	43.0	27.0		-
	LDFL015302LR-V0E			15	15.0	3.0	10.0	1.8-1P	40.0	42.5	29.0		-
	LDFL020102LR-V0E			20	4.2	1.0	5.0	1.5-2P	42.5	43.0	28.0		-
	LDFL010103LJ-V0E	F372315MX	250	10	46.5	10.0	20.0	1.5-1P	46.5	47.5	27.5	6	-
	LDFL020302LJ-V0E			20	13.5	3.0	7.0	1.5-2P	46.5	48.0	30.0		-
	LDFL015502LJ-V0E			15	24.8	5.0	11.0	1.8-1P	47.0	49.0	28.0		-
	LDFL025252LJ-V0E			25	11.6	2.5	5.0	1.6-2P	47.0	49.0	31.0		-
	LDFL030202LJ-V0E			30	9.9	2.0	6.0	1.7-2P	47.0	48.5	31.0		-
	LDFL010402LBUV0E	F281815MUX	700	10	16.0	4.0	12.0	1.5-1P	42.0	42.0	32.0	7	-
	LDFL015132LBUV0E			15	5.1	1.3	6.0	1.9-1P	42.0	42.0	32.5		-
	LDFL020342LJUV0E	F372315MUX	700	20	13.5	3.4	8.0	1.4-2P	49.0	49.0	31.0	8	-
	LDFL025252LJUV0E			25	9.9	2.5	6.0	1.6-2P	50.0	50.0	32.0		-

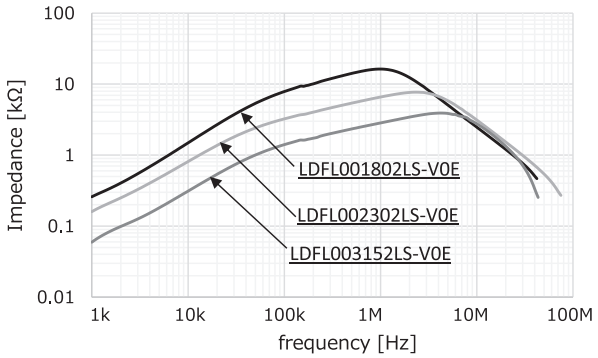
* The inductance at 10kHz indicates the reference value.
The total lead length of the items marked with ● is 15±3mm.

FL Series

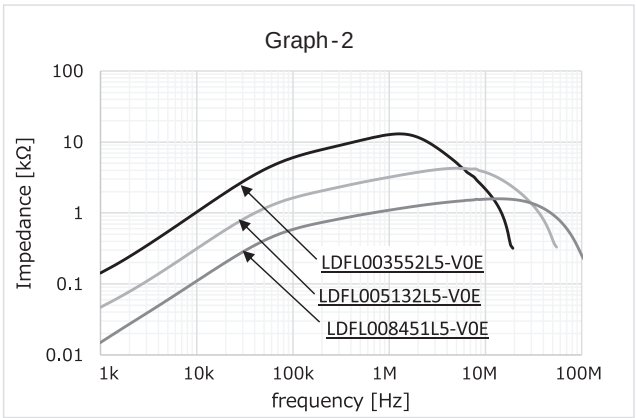
◆FREQUENCY CHARACTERISTICS AMBIENT TEMPERATURE:25°C

●Impedance

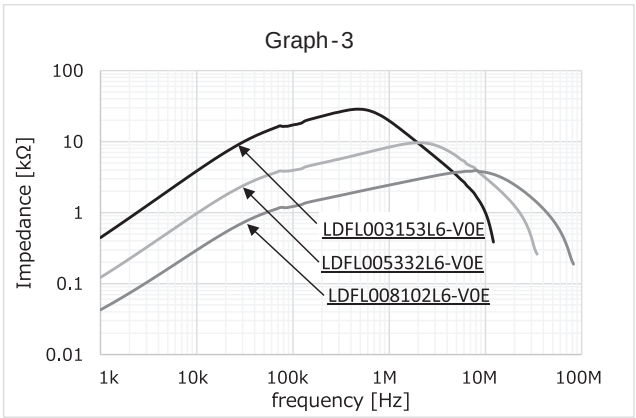
Graph-1



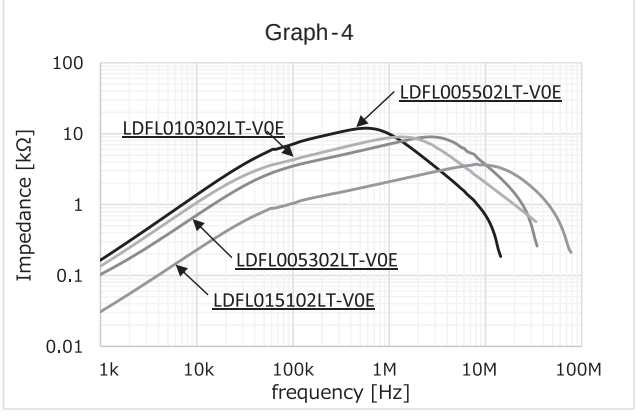
Graph-2



Graph-3

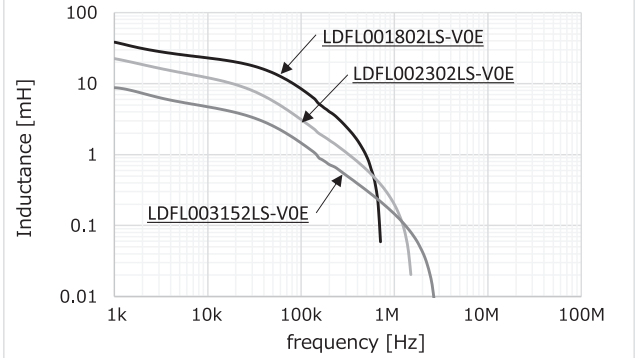


Graph-4

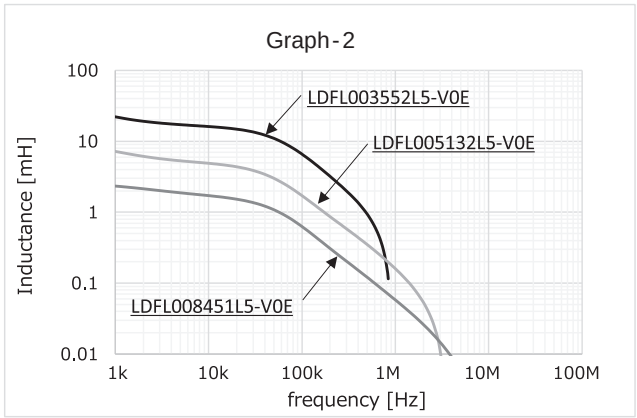


●Inductance

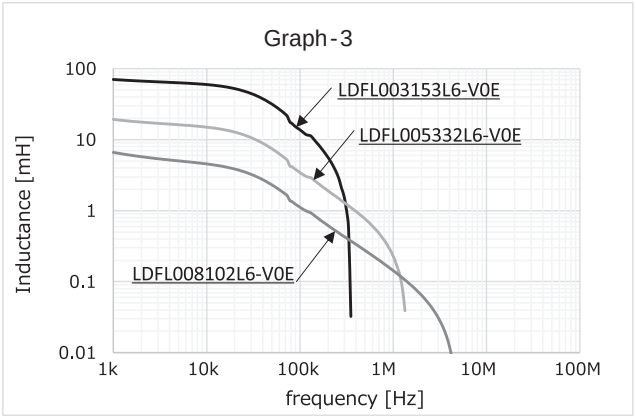
Graph-1



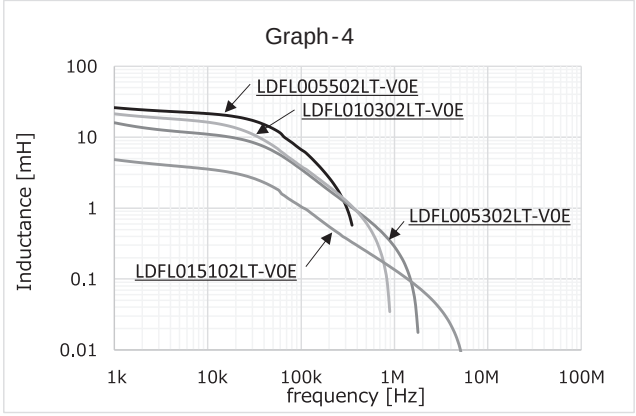
Graph-2



Graph-3



Graph-4



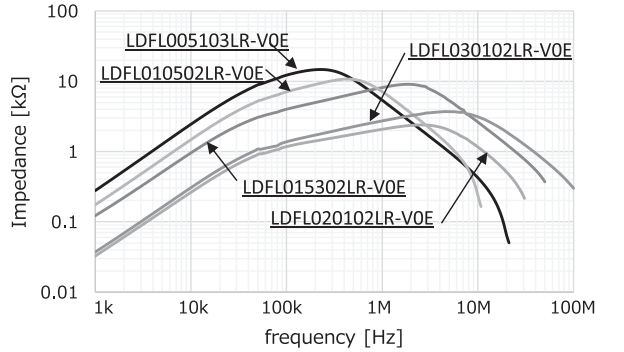
FL Series

◆FREQUENCY CHARACTERISTICS AMBIENT TEMPERATURE:25°C

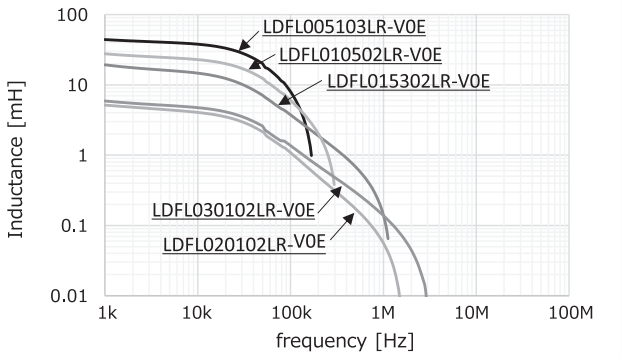
●Impedance

●Inductance

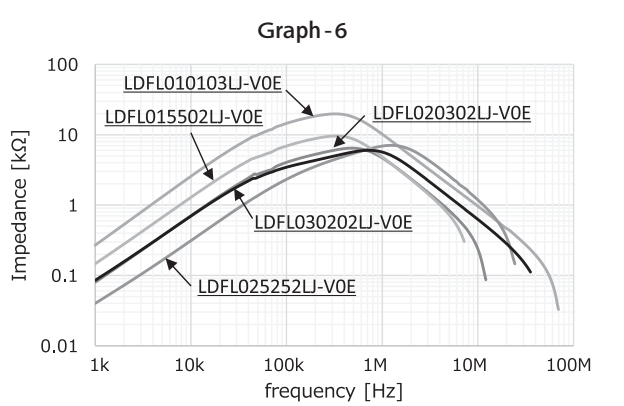
Graph - 5



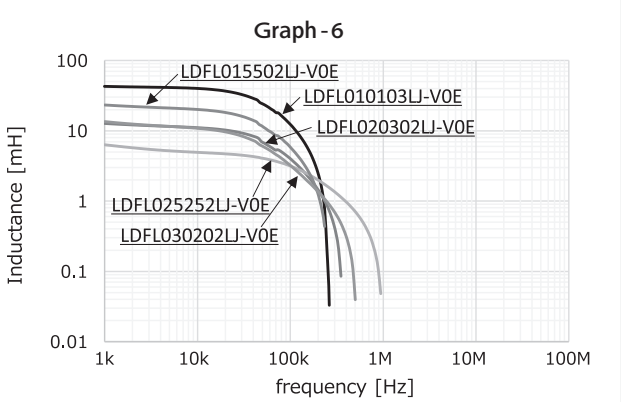
Graph - 5



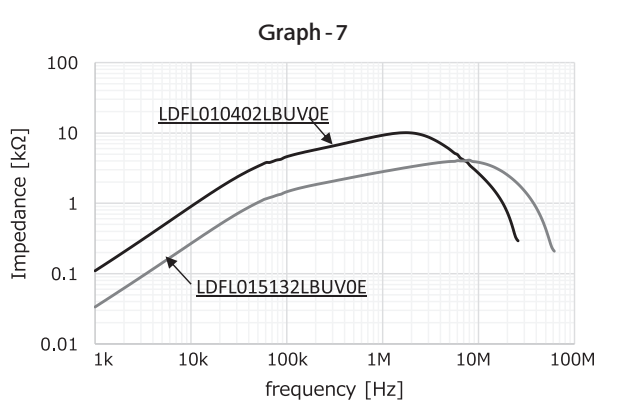
Graph - 6



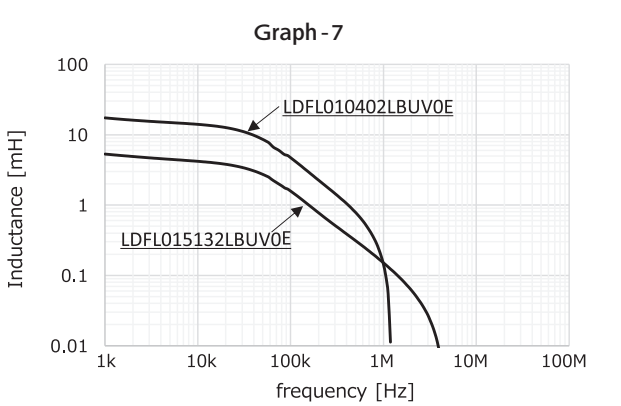
Graph - 6



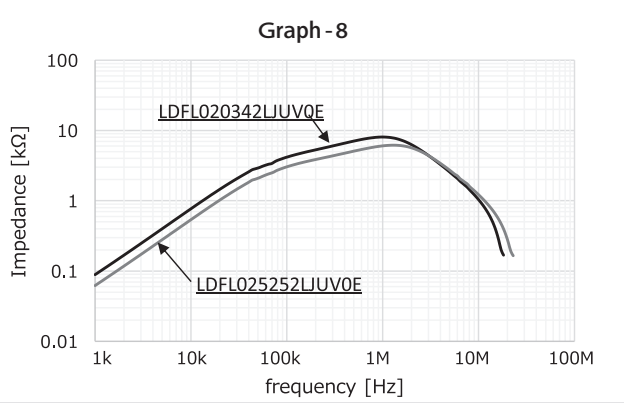
Graph - 7



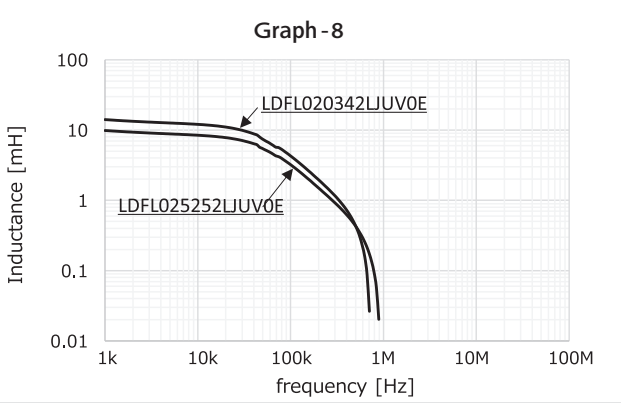
Graph - 7



Graph - 8



Graph - 8



NANOCRYSTALLINE COMMON MODE COILS

FL Series

RoHS2 Compliant AEC-Q200

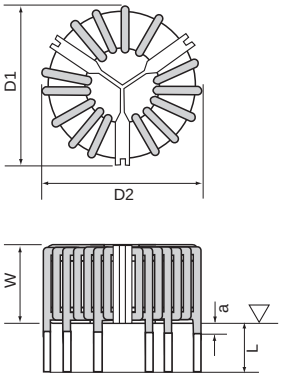
For three-phase circuit

◆MAJOR USES

●Common mode noise filter for AC/DC

◆FEATURES

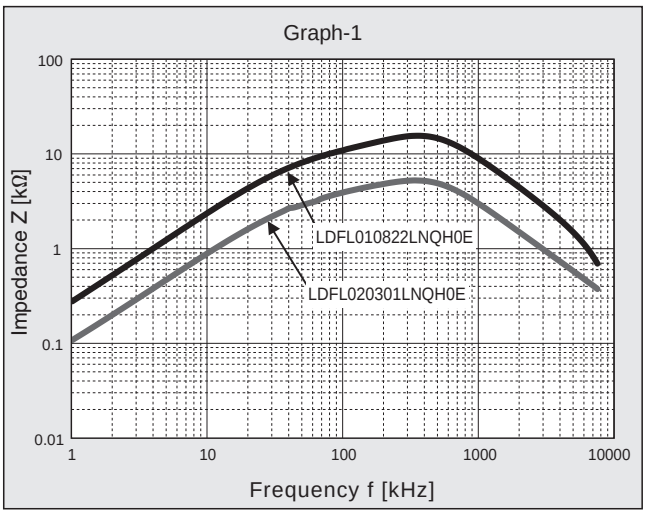
●Achieved significant miniaturization due to high permeability core
●High inductance in spite of a small number of turns
●Low temperature rise due to low D.C. resistance
●Stable frequency performance of noise suppression in wide frequency range
●Excellent temperature characteristics

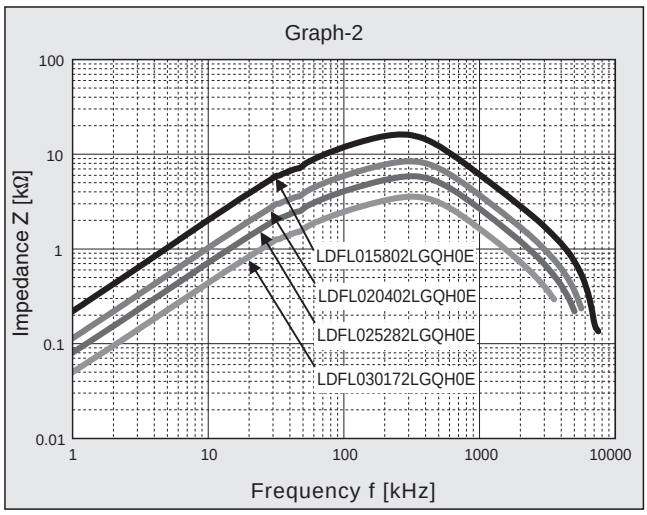


Maximum outer diameter : D1(Vertical), D2(Horizontal)
Maximum width : W
Total lead length* : L=15±5mm
Soldering boundary* : a=1.5mmMAX
*The bottom of the core or coil (▽) is defined as base surface.

Coil Part No.	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]		
LDFL010822LNQH0E	F422615MQX	250	10	27.0	8.2	18.0	1.5-1P	56.0	56.0	32.0	1	-
LDFL020302LNQH0E			20	11.0	3.0	6.0	2.0-1P					-
LDFL015802LGQH0E	F422615MQX	250	15	30.0	8.0	15.0	2.0-1P	65.0	65.0	35.0	2	-
LDFL020402LGQH0E			20	16.0	4.0	6.0	2.3-1P					-
LDFL025282LGQH0E			25	10.0	2.8	5.0	1.8-2P					-
LDFL030172LGQH0E			30	7.0	1.7	4.0	2.0-2P					-

◆FREQUENCY - IMPEDANCE CHARACTERISTICS AMBIENT TEMPERATURE:25°C

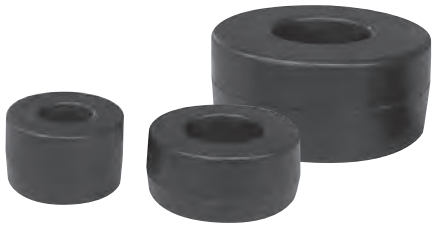




FL Series

RoHS2 Compliant AEC-Q200

The FM series coils are made of nano-crystal.



◆MAJOR USES

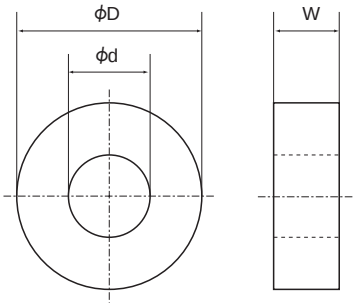
- Common mode noise filter for AC/DC
- Zero-phase reactor

◆FEATURES

- High impedance in spite of a small number of turns
- Excellent temperature characteristics

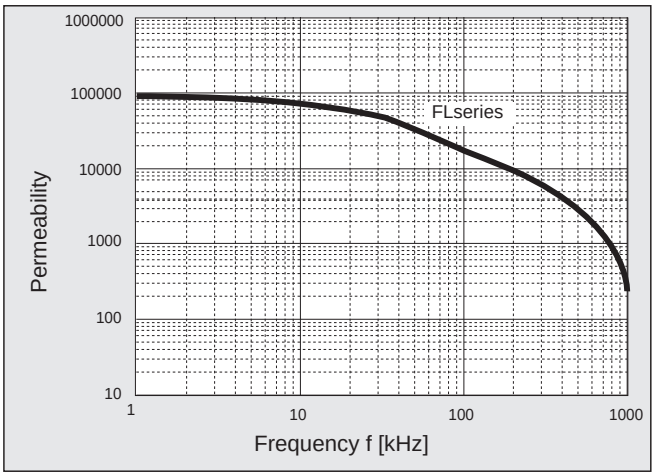
Core Part No.	Cross Sectional Area [cm²]	Magnetic Path Length [cm]	Weight [g]	Outside Dimensions			Inductance Coefficient (AL Value [μh/N²] at 0A)		Frequency Characteristics Graph
				ϕD [mm]	ϕd [mm]	W [mm]	10kHz	100kHz	
LRF251515MKX	0.63	6.40	35	28.3	12.7	17.5	-	18.3	1
LRF322015MKX	0.73	8.17	46	35.2	17.5	17.3	-	16.6	2
LRF372315MKX	0.85	9.42	67	40.5	19.5	18.0	-	17.2	3
LRF462725MKX	1.92	11.50	175	49.4	22.7	28.0	-	31.0	4
LRF603525MKX	2.53	14.90	310	66.7	29.3	29.2	-	31.6	5
LRF624520MKX	1.36	16.81	200	66.0	41.0	24.0	-	15.2	6

◆DIMENSIONS OF CORE



Outer diameter : ϕD
Inner diameter : ϕd
Width : W

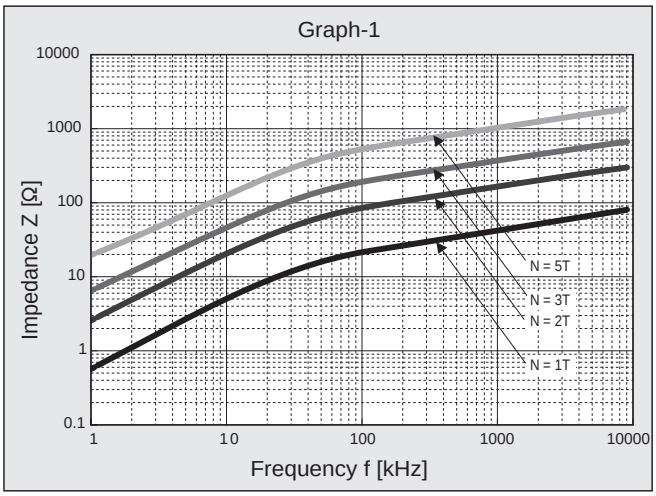
◆FREQUENCY - PERMEABILITY CHARACTERISTICS



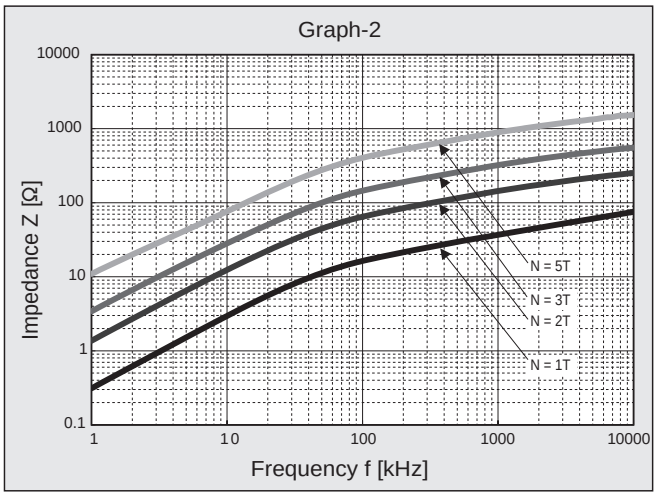
FL Series

◆FREQUENCY - IMPEDANCE CHARACTERISTICS AMBIENT TEMPERATURE:25°C

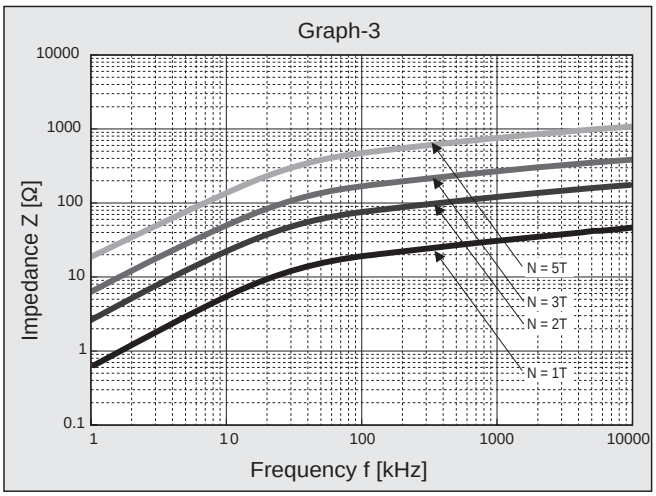
Graph-1



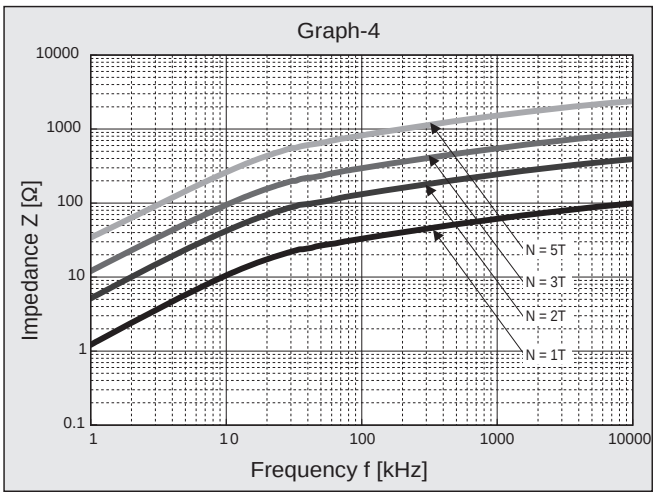
Graph-2



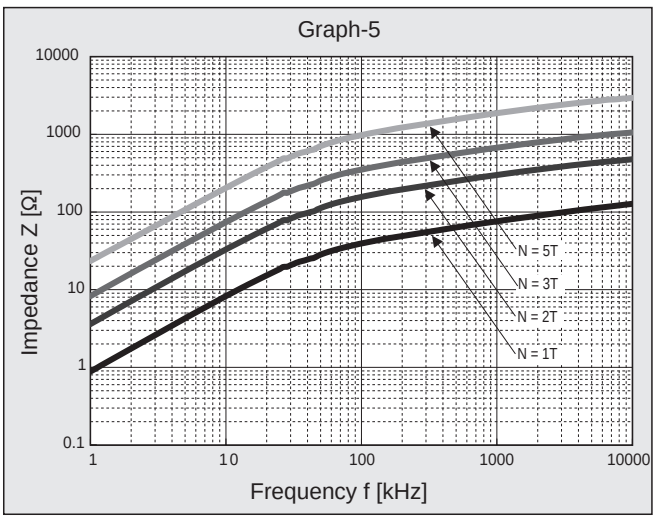
Graph-3



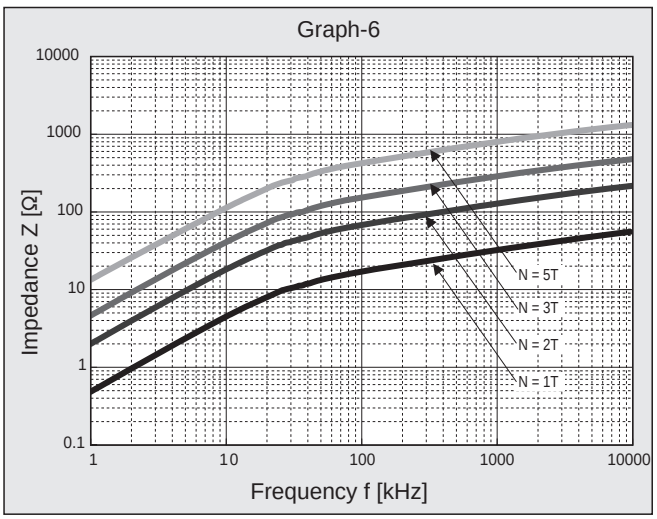
Graph-4



Graph-5



Graph-6



FL Series

RoHS2 Compliant

◆MAJOR USES

- Zero-phase reactor
- Common mode noise filter for AC/DC

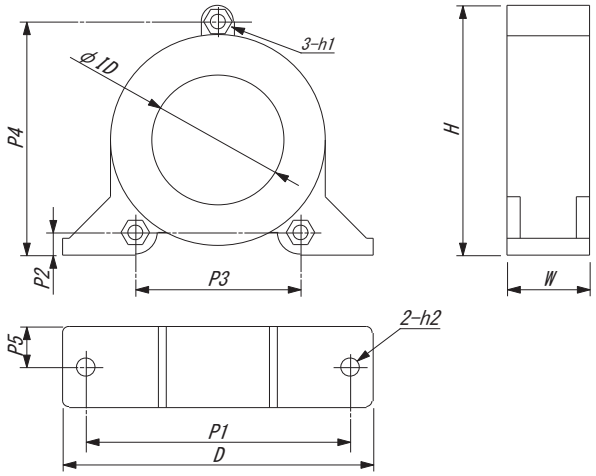
◆FEATURES

- Case with a hole to secure the chassis
- High impedance in spite of a small number of turns
- Excellent temperature characteristics

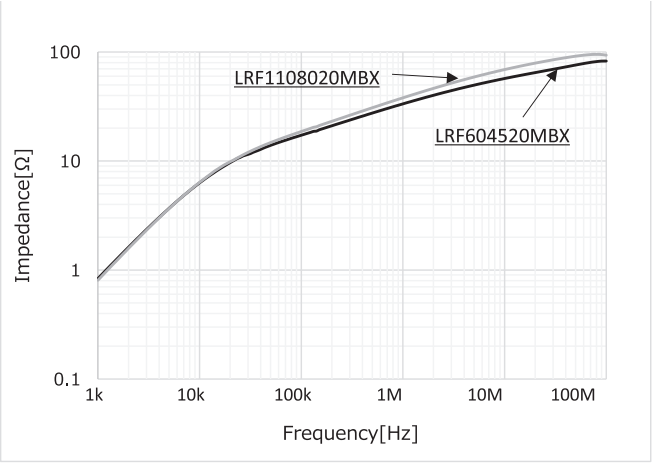
Core Part No.	Cross Sectional Area [cm²]	Magnetic Path Length [cm]	Inductance Coefficient (AL Value [μH/N²] at 0A)		Applicable screws	
			10kHz	100kHz	h1	h2
LRF604520MBX	1.2typ.	16.4typ.	77.0typ.	13.0typ.	M4	M5
LRF1108020MBX	2.2typ.	30.0typ.	85.0typ.	15.0typ.	M5	M6

Core Part No.	Outside Dimensions								
	D [mm]	ϕID [mm]	H [mm]	W [mm]	P1 [mm]	P2 [mm]	P3 [mm]	P4 [mm]	P5 [mm]
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

◆DIMENSIONS OF CORE

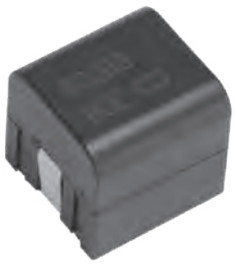


◆FREQUENCY - IMPEDANCE CHARACTERISTICS (NUMBER OF TURNS 1T) AMBIENT TEMPERATURE:25°C



KA Series

RoHS2 Compliant | AEC-Q200 | High temperature 150°C | SMD



■MAJOR USES

●Noise filter for power source and automotive electrical unit

■FEATURES

●Low D.C. resistance due to the lead wire going through the core.
●Use of a Fe-base amorphous core for excellent operational stability at high temperatures.
●Surface-mount product for automotive.
●Significantly improved safety and reliability because layer short circuits will not occur and because the leakage magnetic flux is extremely small.

◆GENERAL SPECIFICATIONS

Items	KA Series
Operating temperature range *1	-40 to 150°C

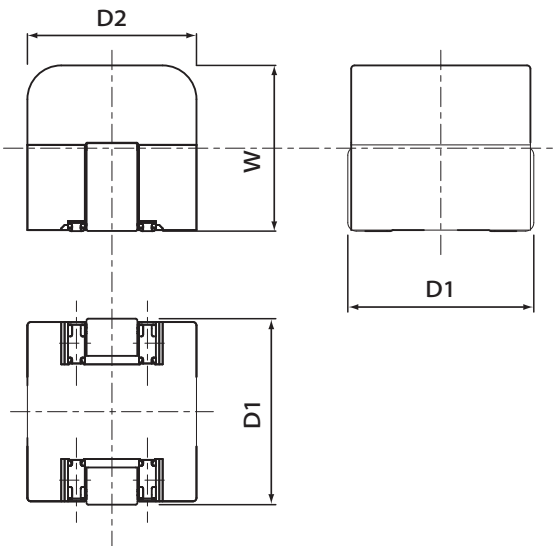
*1 Temperature on the coil surface including the temperature rise during installation.
Never use the coil at a temperature exceeding the rated temperature range.

◆COIL STANDARD SPECIFICATIONS

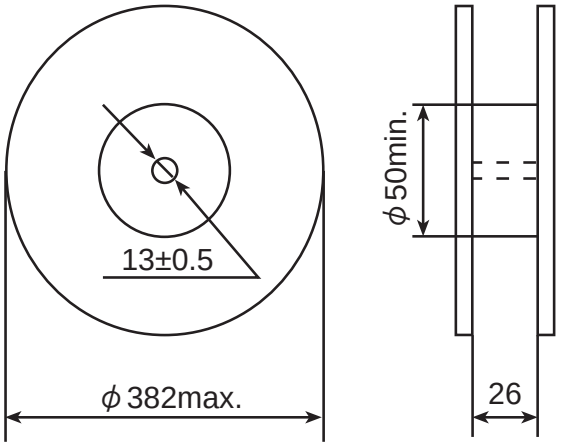
Coil Part No.	Rated Current [A]	Inductance (20kHz)		D.C.R. mΩ (max)	Winding mmϕ-lines	Outside Dimensions			D.C. BIAS CHARACTERISTICS Graph
		0A [μH]	Rating [μH]			D1 [mm]	D2 [mm]	W [mm]	
LKKA0200R5K1FF0E	20	0.7	0.5	0.78	-	11.0	10.5	10.3	1
LKKA0200R4K1DF0E	20	0.5	0.4	0.78	-	11.0	10.5	10.3	
LKKA0300R3K1CF0E	30	0.4	0.3	0.78	-	11.0	10.5	10.3	

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

◆ STANDARD DIMENSION DIAGRAM (mm)



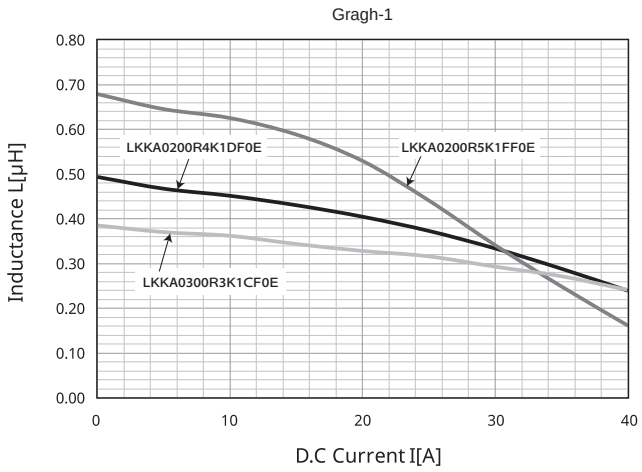
◆ REEL DIMENSIONS [mm]



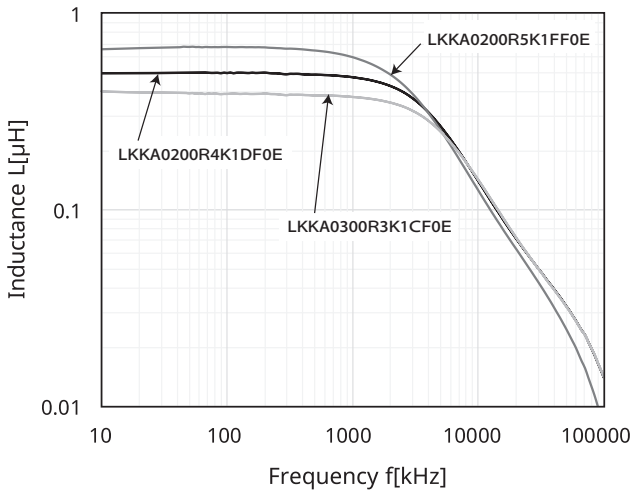
KA Series

◆ D.C. BIAS CHARACTERISTICS

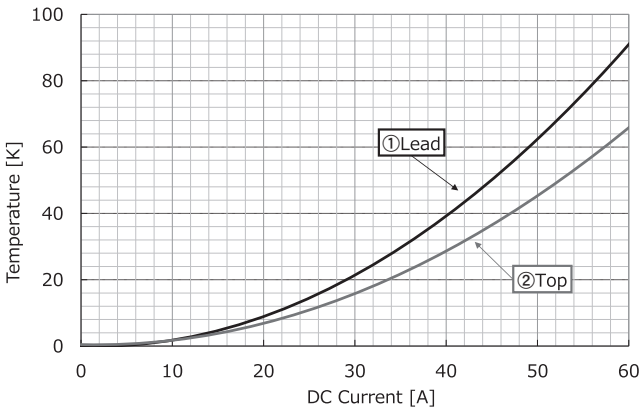
● **Frequency : 20[kHz]**



◆ FREQUENCY - INDUCTANCE CHARACTERISTICS



◆ SELF-HEATING TEMPERATURE CHARACTERISTICS



◆ PRODUCT OUTLINE DRAWING HEAT GENERATION MEASUREMENT POINTS

* These temperature characteristics are based on our measurement conditions. (Our measurement conditions: Room temperature approx. 23°C, windless, single unit without board.)
Common to the following three-part numbers: LKKA0200R5K1FF0E, LKKA0200R4K1DF0E, and LKKA0300R3K1CF0E.

SM Series

RoHS2 Compliant | AEC-Q200 | High temperature 150°C

◆MAJOR USES

●Noise filter for power source and automotive electrical unit

◆FEATURES

●Low D.C. resistance due to the lead wire going through the core
●Use of a Fe-base amorphous core for excellent operational stability at high temperatures
●Automotive grade models
●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 150°C
Storage temperature range	-40 to 150°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.

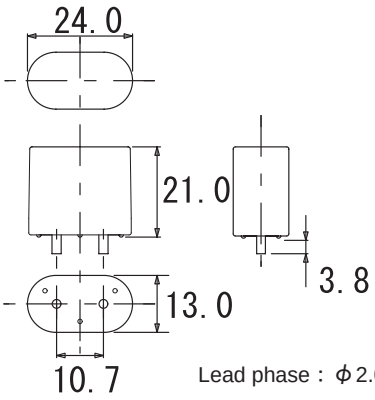
*2 Recommended range. When infra-acoustic frequency component is impressed, a beat sound sometimes occurs.

Coil Part No.	Rated Current [A]	Inductance (20kHz)		D.C.R. mΩ (max)	Winding mmϕ-lines	Outside Dimensions			D.C. BIAS CHARACTERISTICS Graph
		0A [μH]	Rating [μH]			D1 [mm]	D2 [mm]	W [mm]	
LESM030020P7DV0E	30	2.2	1.9	0.40	2.0-1P	24.0	13.0	21.0	1
LESM0103R5P1FV0E	10	3.7	3.5			24.0	13.0	26.0	
LESM050010P1BV0E	50	2.4	1.2						
LESM0301R5P2DV0E	30	2.3	1.3	0.36	2.0-1P	20.0	11.3	21.0	2
LESM0400R9P5DV0E	40	1.5	0.9						

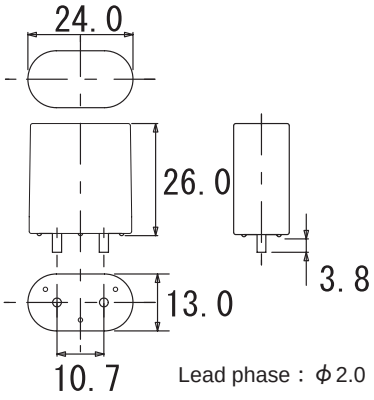
* The inductance at current 0[A] indicates the reference value.

◆STANDARD DIMENSION DIAGRAM (mm)

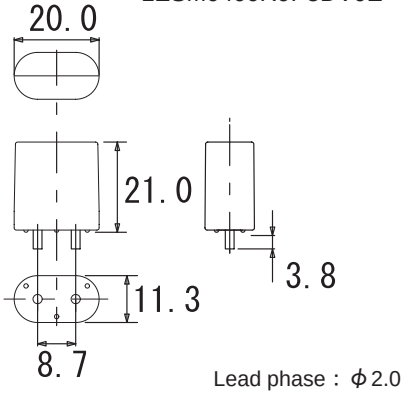
SIP type：LESM030020P7DV0E



SIP type：LESM0103R5P1FV0E
LESM050010P1BV0E



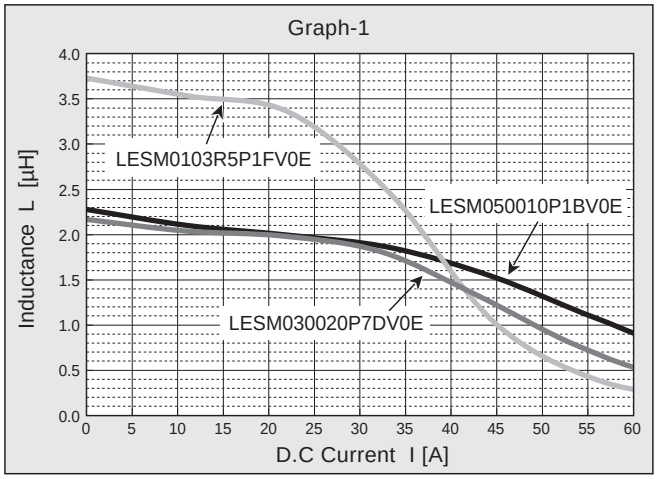
SIP type：LESM0301R5P2DV0E
LESM0400R9P5DV0E

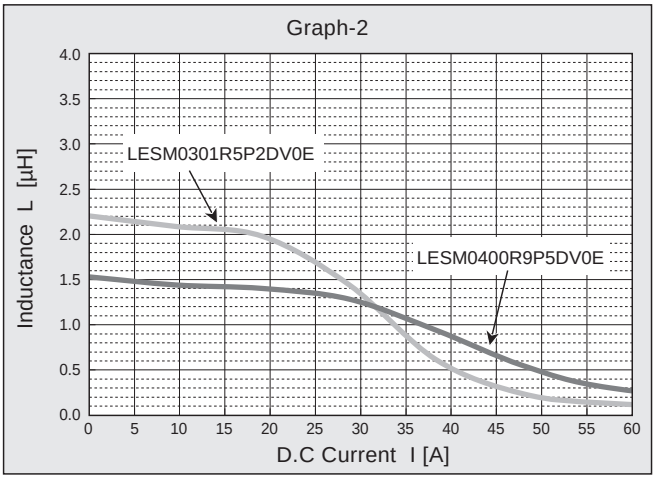


SM Series

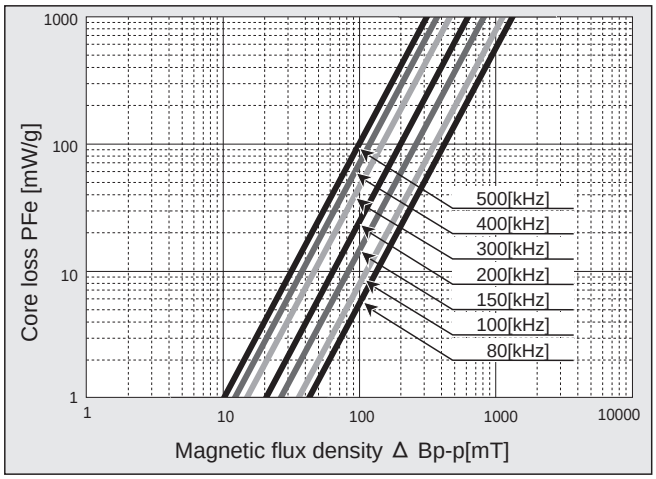
◆D.C. BIAS CHARACTERISTICS

●**Frequency : 10[kHz]**

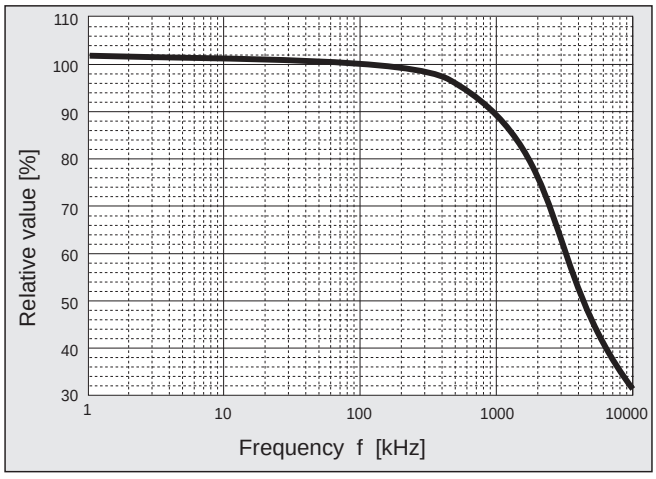




◆CORE LOSS CHARACTERISTICS



◆FREQUENCY - INDUCTANCE CHARACTERISTICS



CM Series

RoHS2 Compliant

◆MAJOR USES

●For Switching Mode Power Supply Normal mode noise filter

◆FEATURES

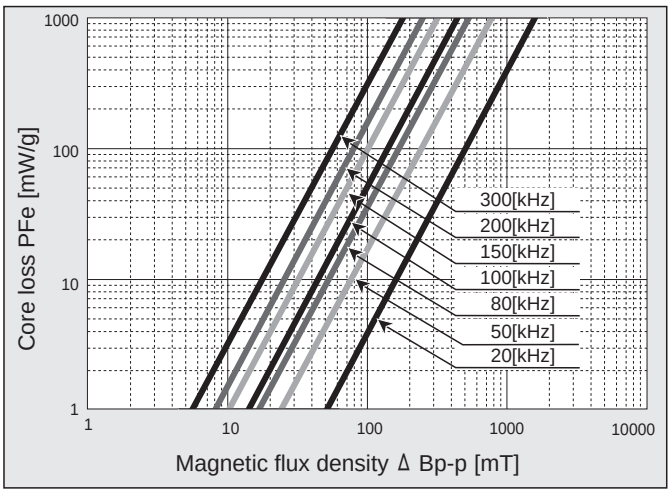
●Achieved significant miniaturization when compared to a ferrite choke
●Reduced high frequency iron loss when compared to a silicon steel choke
●Excellent DC superimposition characteristics and temperature characteristics when compared to a dust choke
●Unidirectional leakage flux enables parts to be mounted adjacently adjacent mounting parts.

Core Part No.	Cross Sectional Area [cm²]	Magnetic Path Length [cm]	Weight [g]	Outside Dimensions			Inductance Coefficient AL Value			BIAS CHARACTERISTICS Graph
				ϕD [mm]	ϕd [mm]	W [mm]	0A [μH]	Rating* [μH]	Rated Current Ampere Turn [AT]	
LNC181210G	0.26	4.71	11	20.2	8.8	11.8	0.122	0.116	150	1
LNC191305G	0.13	5.03	6	22.0	10.0	8.0	0.050	0.045	200	
LNC221310G	0.40	5.50	17	24.7	10.5	12.0	0.164	0.147	190	
LNC251510G	0.44	6.28	23	28.3	12.7	12.3	0.133	0.120	300	
LNC251515G	0.66	6.28	35	28.3	12.7	17.5	0.185	0.170	330	
LNC322010G	0.53	8.17	36	35.2	17.5	12.3	0.137	0.125	330	2
LNC372310G	0.62	9.42	47	40.5	19.5	13.0	0.154	0.140	350	
LNC372315G	0.92	9.42	69	40.5	19.5	18.0	0.210	0.190	400	
LNC462715G	1.25	11.50	113	49.4	22.7	18.0	0.235	0.207	450	
LNC462725G	2.09	11.50	185	49.4	22.7	28.0	0.360	0.320	550	

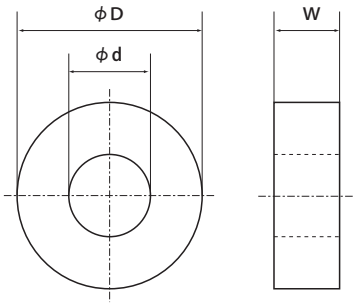
*10kHz, ±25%

◆CORE LOSS CHARACTERISTICS

●CM choke



◆DIMENSIONS OF CORE

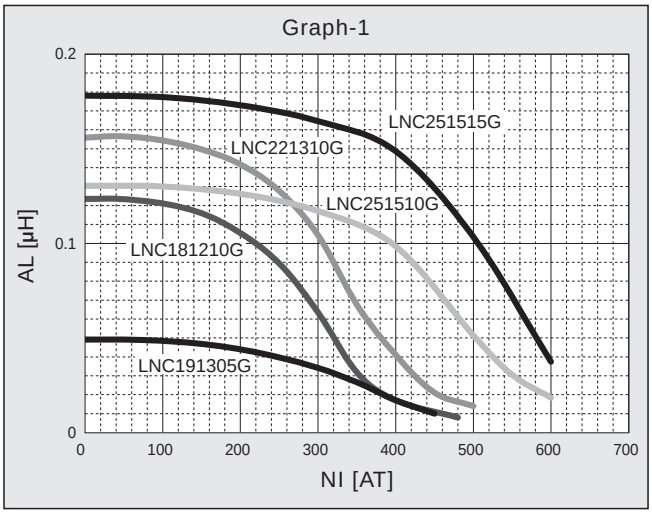


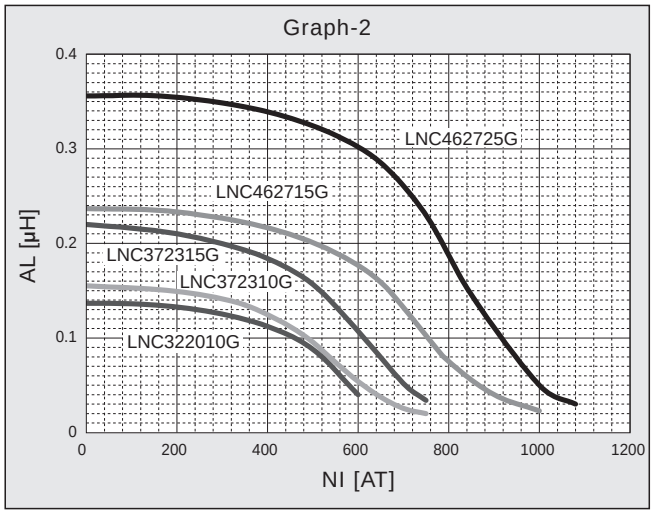
Outer diameter : ϕD
Inner diameter : ϕd
Width : W

CM Series

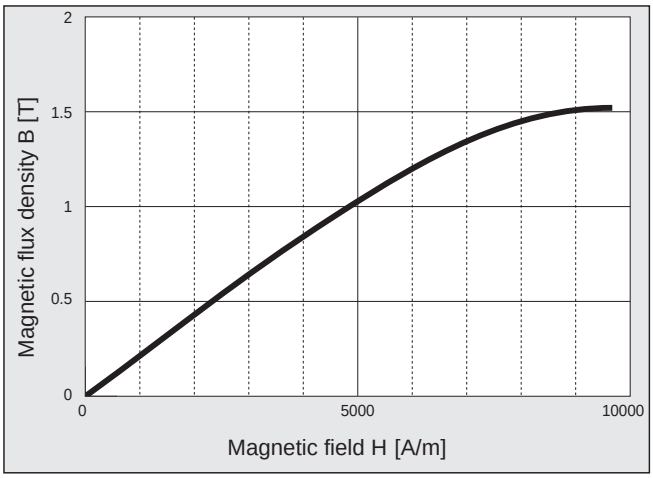
◆D.C. BIAS CHARACTERISTICS AL-AT

●**Frequency : 10[kHz]**



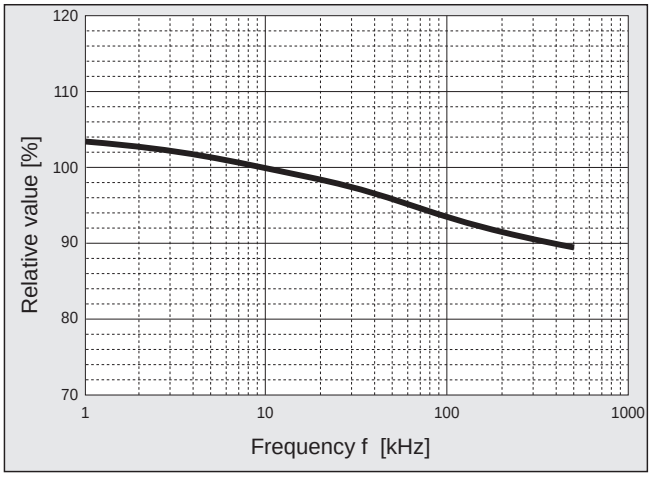


◆MAGNETIC FIELD - MAGNETIC DENSITY



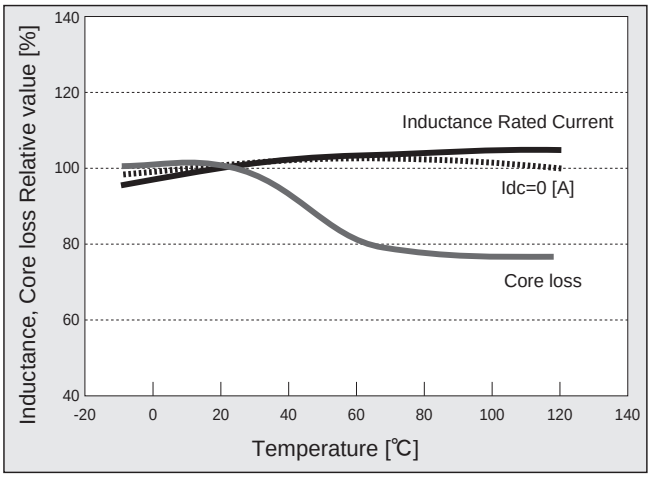
◆FREQUENCY - INDUCTANCE CHARACTERISTICS

●**CM Core**

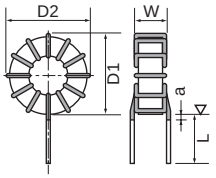


◆TEMPERATURE DEPENDENCE - INDUCTANCE AND CORE LOSS

●**Frequency : 100[kHz]**



CM Series



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.

◆MAJOR USES

- For Switching Mode Power Supply
- Normal mode noise filter

◆FEATURES

- Achieved significant miniaturization when compared to a ferrite choke
- Reduced high frequency iron loss when compared to a silicon steel choke
- Excellent DC superimposition characteristics and temperature characteristics when compared to a dust choke
- Unidirectional leakage flux enables parts to be mounted adjacently adjacent mounting parts.

Coil Part No.	Core Part No.	Rated Current [A]	Peak Current [A]	Inductance (10kHz)		D.C.R. mΩ (max)	Winding mmϕ-lines	Outside Dimensions			D.C. BIAS CHARACTERISTICS Graph
				0A [μH]	Rating [μH]			D1 [mm]	D2 [mm]	W [mm]	
LACM002601G3-V0E	LNC181210G	2	2.8	645	600	190	0.6-1P	23.5	24.0	16.0	1
LACM003401G3-V0E		3	4.2	420	400	92	0.8-1P	24.5	25.0	17.5	
LACM004201G3-V0E		4	5.7	209	200	51	0.9-1P	24.5	25.0	16.5	
LACM006101G3-V0E		6	8.5	110	100	24	0.8-2P	24.5	25.0	17.5	
LACM008700G3-V0E		8	11.3	85	70	17	0.9-2P	25.0	25.5	19.0	
LACM002401G4-V0E	LNC191305G	2	2.8	425	400	190	0.6-1P	24.5	25.0	12.5	2
LACM003251G4-V0E		3	4.2	265	250	87	0.8-1P	25.5	26.0	13.5	
LACM004101G4-V0E		4	5.7	110	100	43	0.9-1P	25.5	26.0	13.0	
LACM006500G4-V0E		6	8.5	55	50	20	0.8-2P	25.5	26.0	14.0	
LACM008300G4-V0E		8	11.3	33	30	13	0.9-2P	26.0	26.5	14.0	
LACM010150G4-V0E		10	14.1	18	15	8	1.0-2P	26.5	27.0	13.5	
LACM001152G6-V0E	LNC221310G	1	1.4	1530	1500	390	0.5-1P	27.0	27.5	15.5	3
LACM002102G6-V0E		2	2.8	1050	1000	230	0.6-1P	27.5	28.0	16.0	
LACM003601G6-V0E		3	4.2	690	600	110	0.8-1P	28.0	28.5	18.0	
LACM004301G6-V0E		4	5.7	339	300	59	0.9-1P	28.5	29.0	17.0	
LACM005151G6-V0E		5	7.1	165	150	34	1.0-1P	28.5	29.0	17.5	
LACM006151G6-V0E	LNC221310G	6	8.5	171	150	27	0.8-2P	28.0	28.5	17.5	4
LACM010500G6-V0E		10	14.1	60	50	11	1.0-2P	28.5	29.0	18.0	
LACM015150G6-V0E		15	21.2	17	15	5	1.0-3P	28.5	29.0	17.5	
LACM020150G6-V0E		20	28.3	17	15	4	1.0-4P	29.0	29.5	18.5	
LACM010700G6-V0E		10	14.1	85	70	13	1.0-2P	29.5	30.0	18.5	

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

CM Series

Coil Part No.	Core Part No.	Rated Current [A]	Peak Current [A]	Inductance (10kHz)		D.C.R. mΩ (max)	Winding mm ϕ-lines	Outside Dimensions			D.C. BIAS CHARACTERISTICS Graph
				0A [μH]	Rating [μH]			D1 [mm]	D2 [mm]	W [mm]	
LACM004401G7-V0E	LNC251510G	4	5.7	420	400	77	0.9-1P	32.0	32.5	18.0	5
LACM006201G7-V0E		6	8.5	207	200	35	0.8-2P	32.0	32.5	18.0	
LACM006261G7-V0E		6	8.5	270	260	41	0.8-2P	32.0	32.5	18.5	
LACM008151G7-V0E		8	11.3	160	150	24	0.9-2P	32.5	33.0	18.5	
LACM010121G7-V0E		10	14.1	140	120	19	1.0-2P	33.0	33.5	19.5	
LACM010101G7-V0E		10	14.1	110	100	16	1.0-2P	32.5	33.0	18.5	
LACM008191G7-V0E	LNC251510G	8	11.3	215	190	33	0.9-2P	32.5	33.0	19.5	6
LACM015300G7-V0E		15	21.2	35	30	7	1.0-3P	32.5	33.0	19.0	
LACM015500G7-V0E		15	21.2	55	50	9	1.0-3P	33.0	33.5	19.5	
LACM020300G7-V0E		20	28.3	35	30	6	1.0-4P	33.0	33.5	20.0	
LACM025200G7-V0E		25	35.4	26	20	4	1.0-5P	33.5	34.0	20.0	
LACM030130G7-V0E		30	42.4	16	13	3	1.0-6P	34.0	34.5	20.0	
LACM002192G8-V0E	LNC251515G	2	2.8	1940	1900	390	0.6-1P	31.0	31.5	22.5	7
LACM005301G8-V0E		5	7.1	306	300	58	1.0-1P	33.0	33.5	24.5	
LACM010151G8-V0E		10	14.1	170	150	22	1.0-2P	33.0	33.5	25.5	
LACM015700G8-V0E		15	21.2	75	70	11	1.0-3P	33.5	34.0	26.0	
LACM020400G8-V0E		20	28.3	45	40	7	1.0-4P	33.5	34.0	26.0	
LACM025250G8-V0E		25	35.4	27	25	5	1.0-5P	33.5	34.0	26.5	
LACM003102G9-V0E	LNC322010G	3	4.2	1070	1000	170	0.8-1P	39.0	39.5	19.0	8
LACM006301G9-V0E		6	8.5	335	300	48	0.8-2P	39.5	40.0	19.0	
LACM008251G9-V0E		8	11.3	289	250	37	0.9-2P	39.5	40.0	19.0	
LACM010191G9-V0E		10	14.1	220	190	21	1.1-2P	41.0	41.5	21.0	
LACM015850G9-V0E		15	21.2	100	85	10	1.3-2P	41.0	41.5	21.5	
LACM020450G9-V0E		20	28.3	55	45	7	1.2-3P	41.0	41.5	21.5	
LACM030200G9-V0E		30	42.4	23	20	3	1.3-4P	42.0	42.5	22.0	

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

CM Series

Coil Part No.	Core Part No.	Rated Current [A]	Peak Current [A]	Inductance (10kHz)		D.C.R. mΩ (max)	Winding mm ϕ-lines	Outside Dimensions			D.C. BIAS CHARACTERISTICS Graph
				0A [μH]	Rating [μH]			D1 [mm]	D2 [mm]	W [mm]	
LACM006501G0-V0E	LNC372310G	6	8.5	569	500	61	0.8-2P	44.0	44.5	19.5	9
LACM010201G0-V0E		10	14.1	255	200	27	1.0-2P	45.0	45.5	20.0	
LACM015900G0-V0E		15	21.2	135	90	13	1.0-3P	45.0	45.5	20.0	
LACM020500G0-V0E		20	28.3	70	50	8	1.0-4P	45.0	45.5	20.5	
LACM025300G0-V0E		25	35.4	38	30	6	1.0-5P	45.0	45.5	20.0	
LACM030250G0-V0E		30	42.4	35	25	5	1.0-6P	45.5	46.0	20.5	
LACM035150G0-V0E		35	49.5	18	15	4	1.0-7P	45.5	46.0	20.5	
LACM004102GJ-V0E	LNC372315G	4	5.7	1080	1000	140	0.9-1P	44.0	44.5	23.0	10
LACM010301GJ-V0E		10	14.1	380	300	31	1.0-2P	45.0	45.5	25.0	
LACM015121GJ-V0E		15	21.2	137	120	14	1.0-3P	45.5	46.0	25.5	
LACM020700GJ-V0E		20	28.3	83	70	12	1.0-4P	45.5	46.0	25.5	
LACM030300GJ-V0E		30	42.4	38	30	4	1.0-6P	45.5	46.0	26.0	
LACM025500GJ-V0E		25	35.4	60	50	7	1.0-5P	46.0	46.5	26.0	
LACM040150GJ-V0E		40	56.6	18	15	3	1.3-5P	46.0	46.5	26.5	
LACM015201GQ-V0E	LNC462715G	15	21.2	255	200	20	1.0-3P	54.0	54.5	26.0	11
LACM020101GQ-V0E		20	28.3	125	100	12	1.0-4P	54.5	55.0	25.5	
LACM035300GQ-V0E		35	49.5	35	30	5	1.0-7P	55.0	55.5	26.0	
LACM040200GQ-V0E		40	56.6	24	20	3	1.3-5P	55.5	56.0	26.0	
LACM010501GK-V0E	LNC462725G	10	14.1	530	500	44	1.0-2P	54.5	55.0	34.5	12
LACM015301GK-V0E		15	21.2	350	300	24	1.0-3P	55.0	55.5	36.0	
LACM020201GK-V0E		20	28.3	250	200	15	1.0-4P	55.0	55.5	36.0	
LACM015451GK-V0E		15	21.2	516	450	30	1.0-3P	55.5	56.0	36.5	
LACM025101GK-V0E		25	35.4	115	100	9	1.0-5P	55.5	56.0	35.5	
LACM030101GK-V0E		30	42.4	115	100	8	1.0-6P	55.5	56.0	36.5	
LACM035500GK-V0E		35	49.5	60	50	6	1.0-7P	56.0	56.5	36.5	

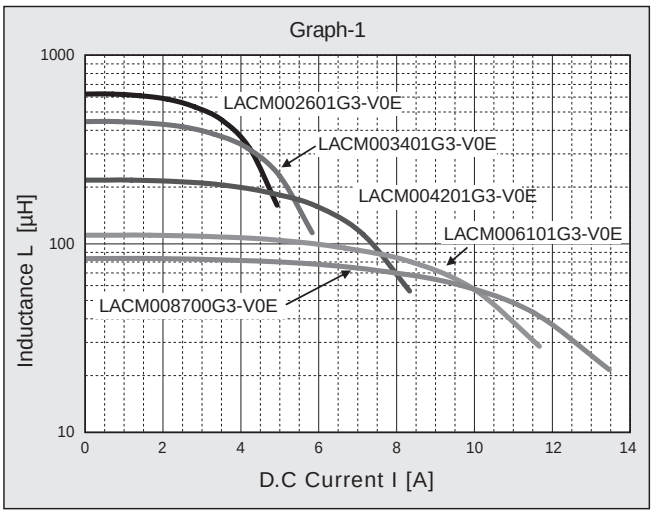
* The inductance at current 0[A] indicates the reference value.

CM Series

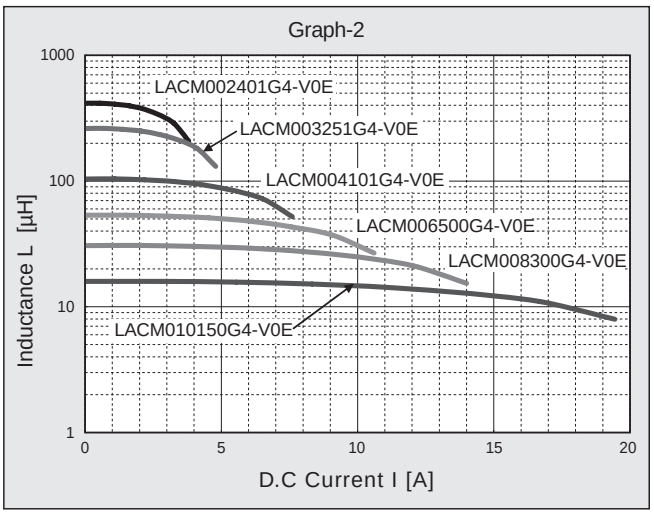
◆D.C. BIAS CHARACTERISTICS

●**Frequency : 10[kHz]**

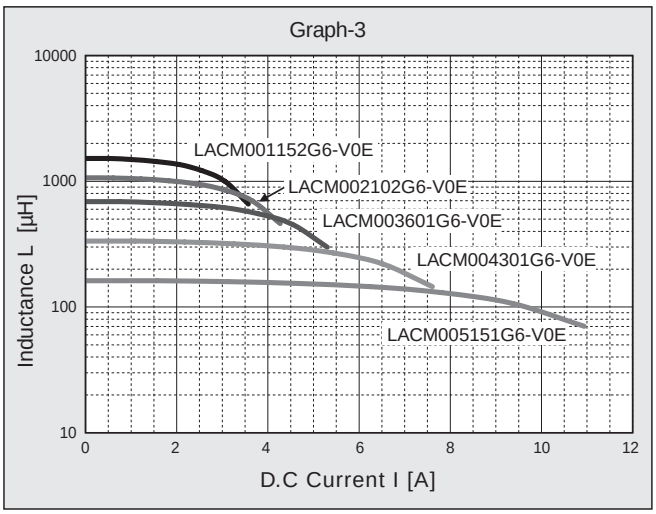
Graph-1



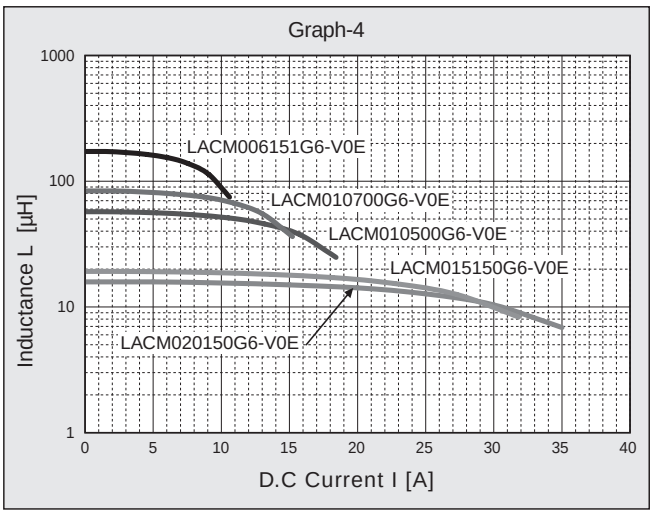
Graph-2



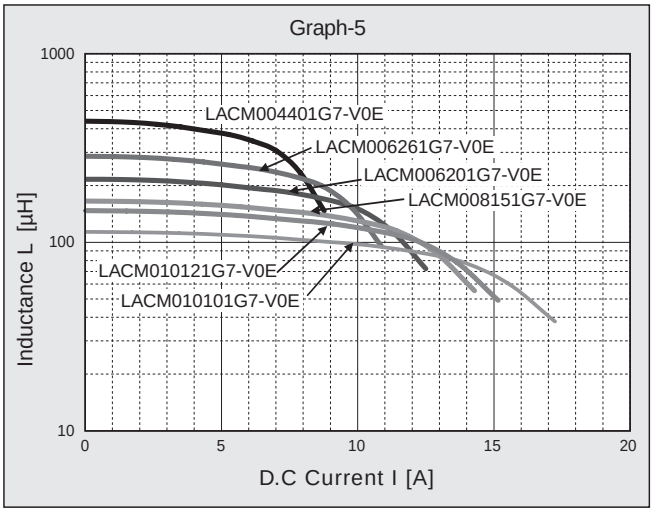
Graph-3



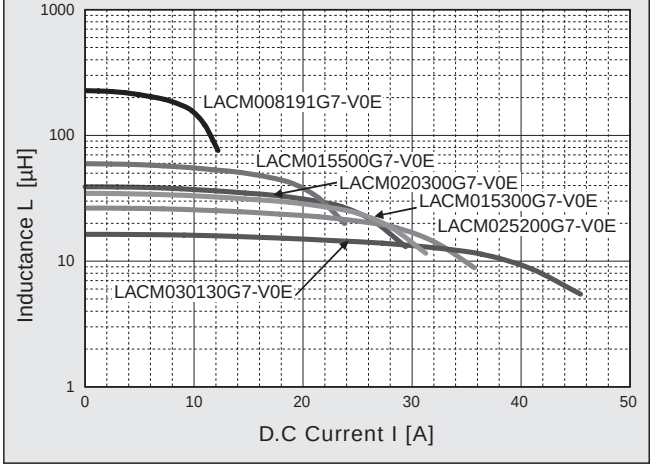
Graph-4



Graph-5



Graph-6

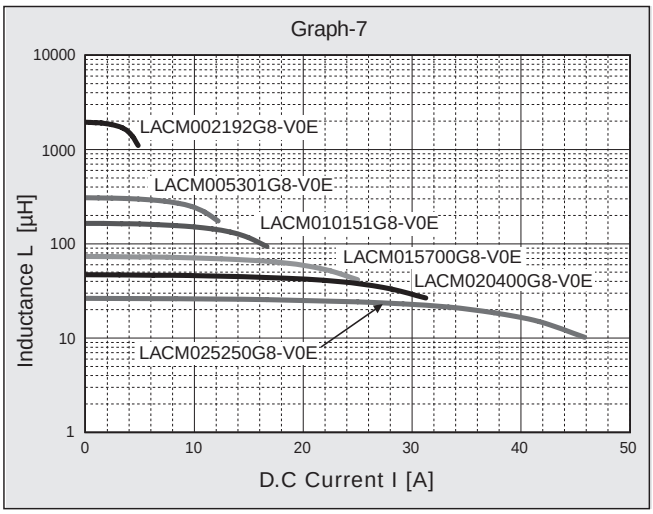


CM Series

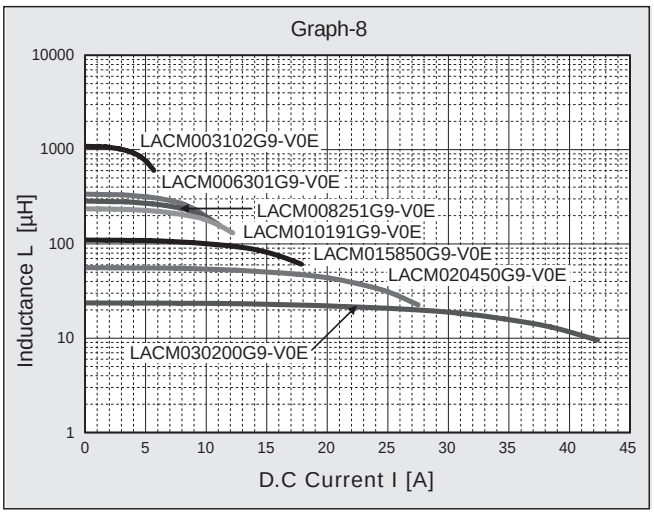
◆D.C. BIAS CHARACTERISTICS

●**Frequency : 10[kHz]**

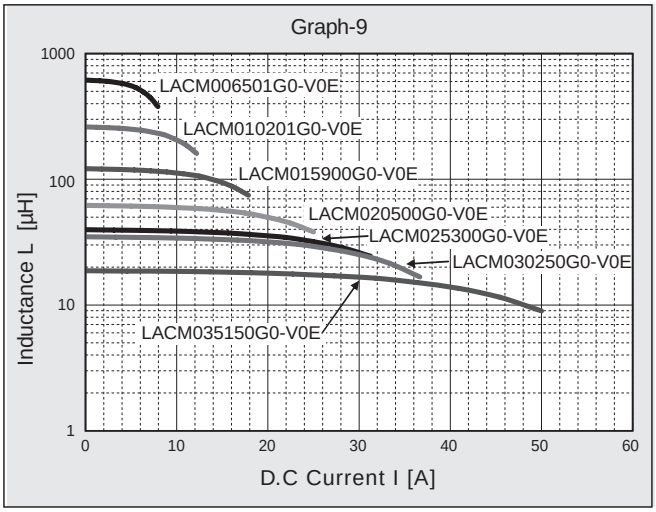
Graph-7



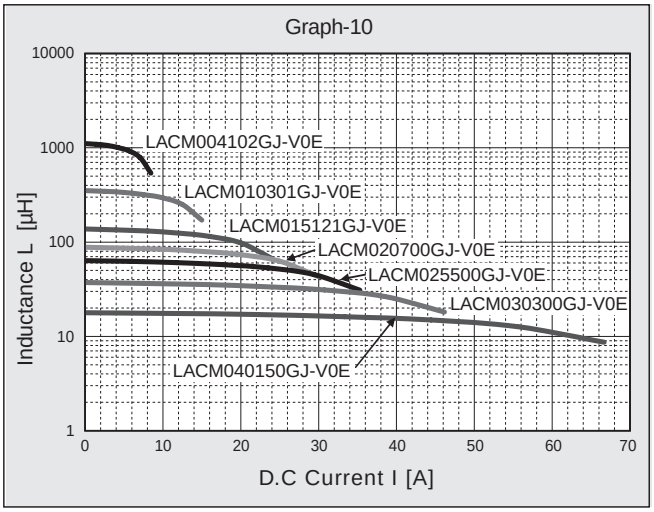
Graph-8



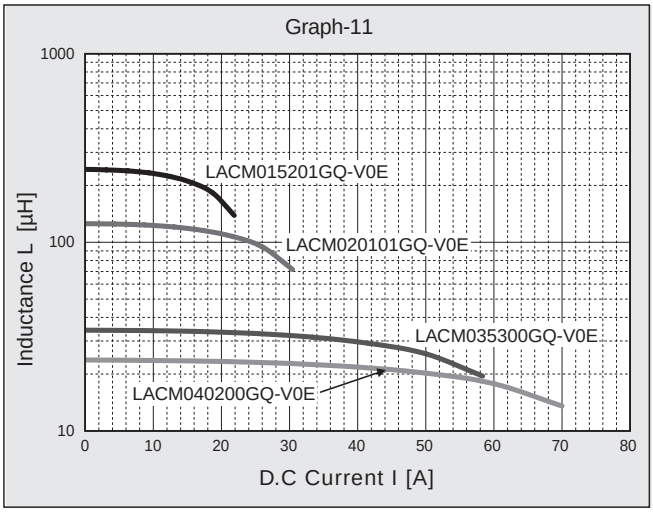
Graph-9



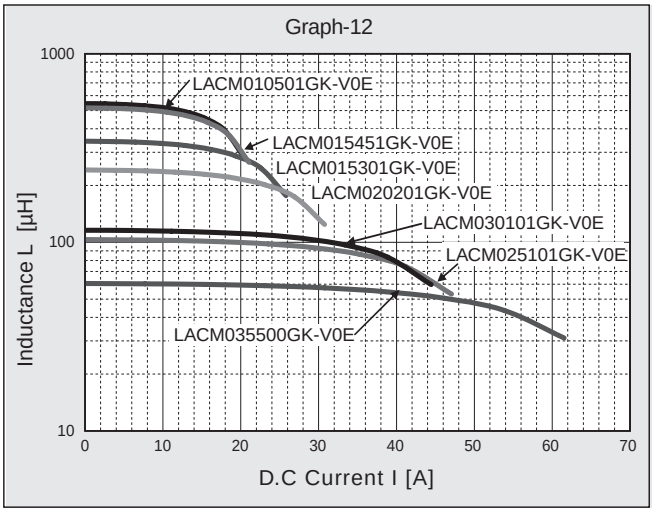
Graph-10



Graph-11

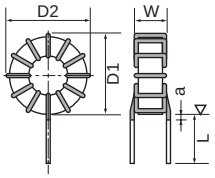


Graph-12



CMJ Series

RoHS2 Compliant



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.

◆MAJOR USES

●For Switching Mode Power Supply Normal mode noise filter

◆FEATURES

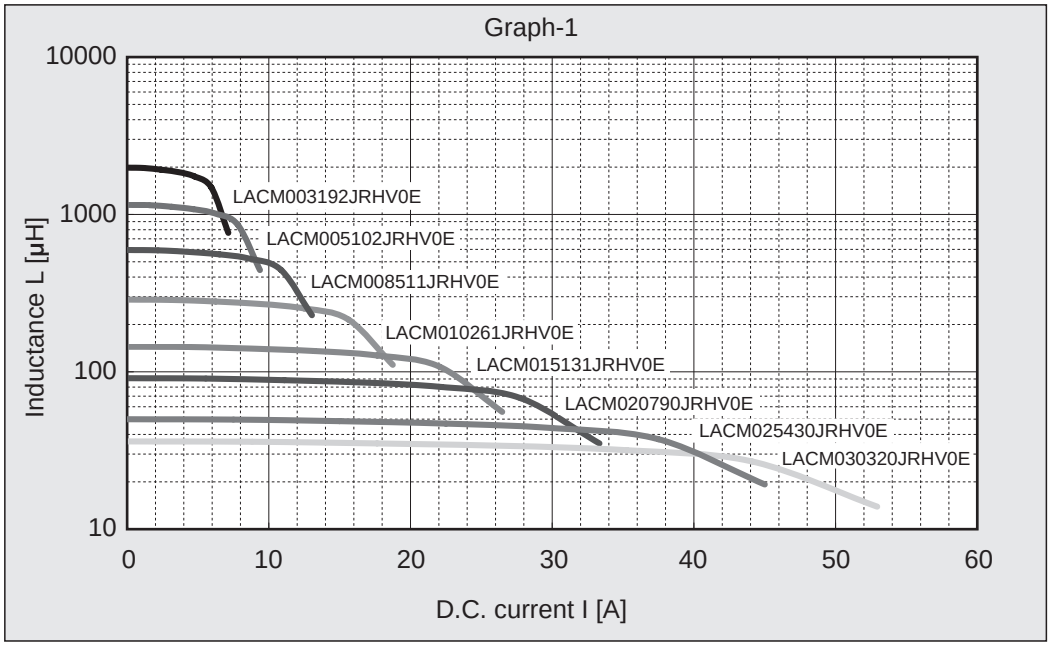
●Achieved significant miniaturization when compared to the CM Series
●Little inductance fall when overload

Coil Part No.	Core Part No.	Rated Current [A]	Peak Current [A]	Inductance (10kHz) 0A [μH]	Inductance (10kHz) Rating [μH]	D.C.R. mΩ (max)	Winding mmϕ-lines	Outside Dimensions D1 [mm]	Outside Dimensions D2 [mm]	Outside Dimensions W [mm]	D.C. BIAS CHARACTERISTICS Graph
LACM003192JRHV0E	LNC322015J2	3	4.2	2000	1900	290	0.9-1P	41.5	41.5	27.0	1
LACM005102JRHV0E		5	7.1	1200	1000	150	1.1-1P	42.0	42.0	28.0	
LACM008511JRHV0E		8	11.3	600	510	77	1.3-1P	42.0	42.0	29.5	
LACM010261JRHV0E		10	14.1	290	260	38	1.1-2P	42.0	42.0	28.0	
LACM015131JRHV0E		15	21.2	150	130	20	1.3-2P	42.0	42.0	29.5	
LACM020790JRHV0E		20	28.3	92	79	13	1.2-3P	42.5	42.5	28.5	
LACM025430JRHV0E		25	35.4	50	43	7	1.2-4P	42.5	42.5	28.5	
LACM030320JRHV0E		30	42.4	36	32	6	1.3-4P	42.5	42.5	29.5	

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

◆D.C. BIAS CHARACTERISTICS

●**Frequency : 10 [kHz]**



AM Series

RoHS2 Compliant

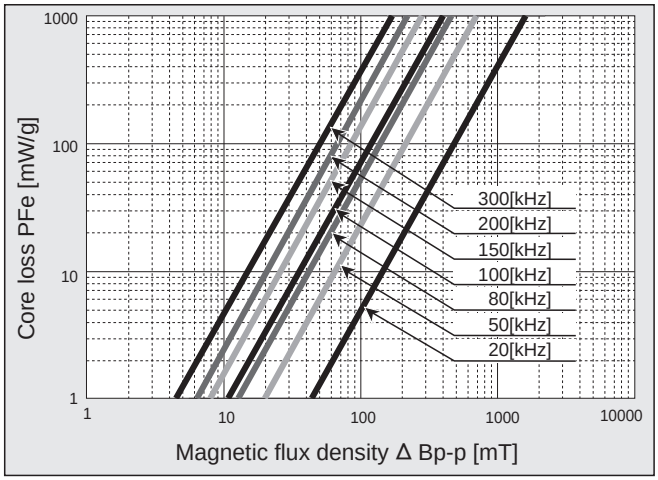
◆MAJOR USES
●Normal mode noise filter

◆FEATURES
●Exhibits excellent DC superimposition characteristics of inductance and achieved significant miniaturization
●Reduced iron loss when compared to the CM Series
●Low temperature rise even when using 100V or higher
●Excellent temperature stability

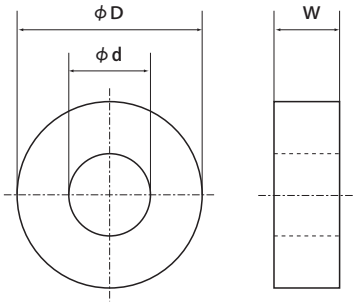
Core Part No.	Cross Sectional Area [cm²]	Magnetic Path Length [cm]	Weight [g]	Outside Dimensions			Inductance Coefficient AL Value			BIAS CHARACTERISTICS Graph
				ϕD [mm]	ϕd [mm]	W [mm]	0A [μH]	Rating* [μH]	Rated Current Ampere Turn [AT]	
LNC251510J3	0.43	6.28	23	28.3	12.7	12.3	0.100	0.075	430	1
LNC251515J2	0.65	6.28	34	28.3	12.7	17.5	0.140	0.113	460	
LNC322015J2	0.77	8.17	52	35.2	17.5	17.3	0.122	0.102	600	
LNC322020J2	1.03	8.17	69	35.5	17.0	23.8	0.156	0.125	660	
LNC372320J2	1.20	9.42	90	40.5	19.5	23.0	0.173	0.140	700	2
LNC462720J2	1.63	11.50	147	49.4	22.7	23.0	0.191	0.156	840	
LNC462725J2	2.04	11.50	182	49.4	22.7	28.0	0.230	0.183	900	
LNC603525J2	2.69	14.90	323	66.7	29.3	29.2	0.230	0.166	1300	

*100kHz, ±25%

◆CORE LOSS CHARACTERISTICS
●AM choke



◆DIMENSIONS OF CORE

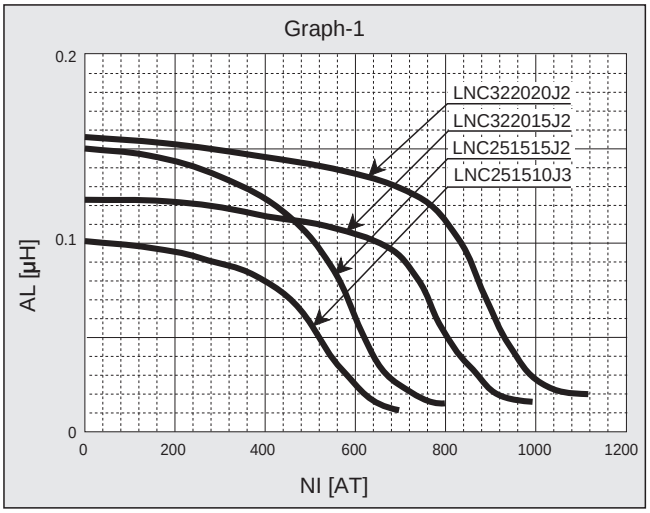


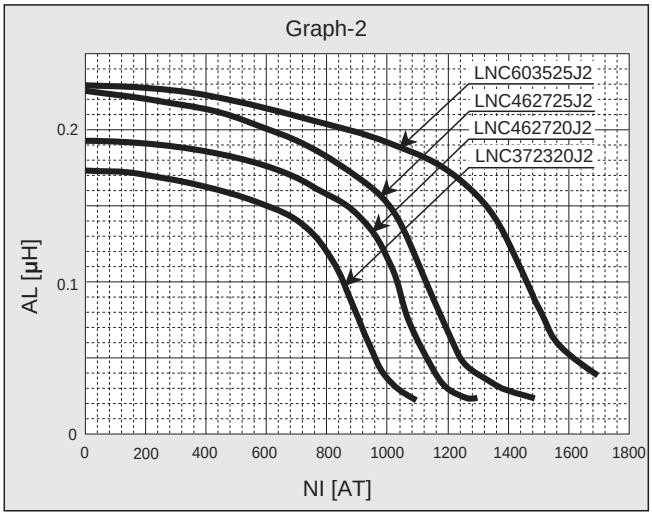
Outer diameter : ϕD
Inner diameter : ϕd
Width : W

AM Series

◆D.C. BIAS CHARACTERISTICS AL-AT

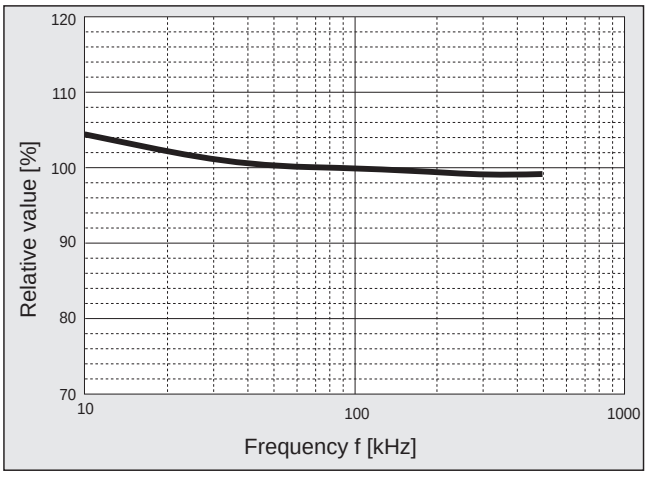
●**Frequency : 100[kHz]**





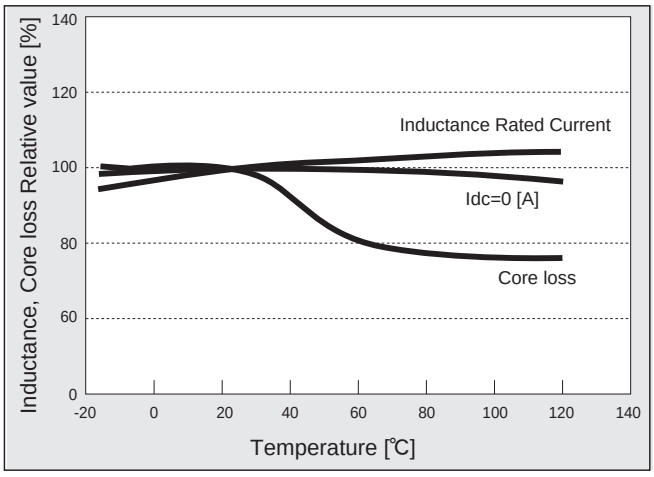
◆FREQUENCY - INDUCTANCE CHARACTERISTICS

●**AM choke**



◆TEMPERATURE DEPENDENCE - INDUCTANCE AND CORE LOSS

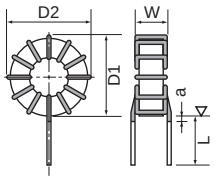
●**Frequency : 100[kHz]**



AM Series

■MAJOR USES
●Normal mode noise filter

■FEATURES
●Exhibits excellent DC superimposition characteristics of inductance and achieved significant miniaturization
●Reduced iron loss when compared to the CM Series
●Low temperature rise even when using 100V or higher
●Excellent temperature stability



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 Part No.	Core Part No.	Rated Current [A]	Peak Current [A]	Inductance (100kHz) 0A [μH]	Inductance (100kHz) Rating [μH]	D.C.R. mΩ (max)	Winding mmϕ-lines	Outside Dimensions D1 [mm]	Outside Dimensions D2 [mm]	Outside Dimensions W [mm]	D.C. BIAS CHARACTERISTICS Graph
LAAM002202J7HV0E	LNC251510J3	2	2.8	2400	2000	350	0.7-1P	33.0	34.5	19.0	1
LAAM003901J7HV0E		3	4.2	1100	900	170	0.9-1P	33.0	34.5	19.5	
LAAM004801J8HV0E	LNC251515J2	4	5.7	1100	800	150	0.9-1P	34.0	34.0	25.5	
LAAM005501J8HV0E		5	7.1	600	500	80	1.1-1P	34.5	34.5	28.0	
LAAM003152J8HV0E		3	4.2	2000	1500	230	0.85-1P	35.5	35.5	26.0	
LAAM004102JRHV0E	LNC322015J2	4	5.7	1200	1000	160	1.0-1P	40.5	42.0	26.5	2
LAAM005751JRHV0E		5	7.1	890	750	110	1.1-1P	40.5	42.0	27.0	
LAAM005901JAHV0E	LNC322020J2	5	7.1	1000	900	115	1.1-1P	40.5	42.0	32.0	3
LAAM006651JAHV0E		6	8.5	740	650	87	1.2-1P	41.0	42.5	32.5	
LAAM006801JBHV0E		6	8.5	970	800	94	1.2-1P	45.0	46.5	30.5	
LAAM005122JBHV0E		5	7.1	1500	1200	140	1.1-1P	45.5	47.0	31.5	
LAAM008501JBHV0E		8	11.3	600	500	53	1.0-2P	46.5	48.0	32.0	
LAAM008801JCHV0E	LNC462720J2	8	11.3	1000	800	73	1.0-2P	56.0	57.5	33.5	4
LAAM010501JCHV0E		10	14.1	600	500	45	1.1-2P	54.5	56.0	32.5	
LAAM012351JCHV0E		12	17	420	350	33	1.2-2P	55.0	56.5	32.0	
LAAM010651JKHV0E	LNC462725J2	10	14.1	840	650	53	1.1-2P	56.0	57.5	38.0	5
LAAM012451JKHV0E		12	17	590	450	41	1.2-2P	55.5	57.0	38.0	
LAAM015301JKHV0E		15	21.2	380	300	26	1.1-3P	55.5	57.0	38.0	
LAAM012701JLHV0E	LNC603525J2	12	17	860	700	53	1.2-2P	72.5	74.0	39.0	6
LAAM015451JLHV0E		15	21.2	550	450	35	1.1-3P	72.0	73.5	40.0	
LAAM020251JLHV0E		20	28.3	310	250	20	1.1-4P	72.5	74.0	39.0	

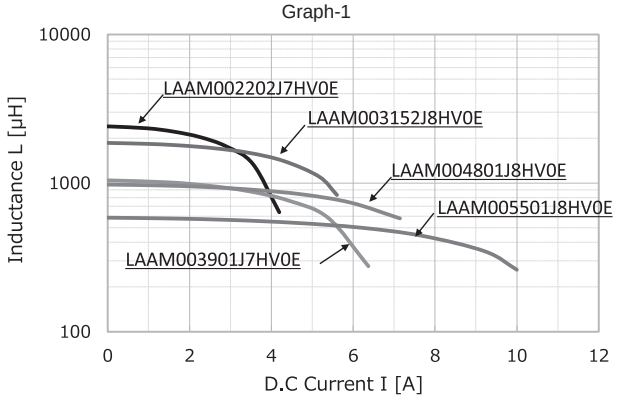
* The inductance at current 0[A] indicates the reference value.
* LAAM002202J7HV0E : 10kHz.

AM Series

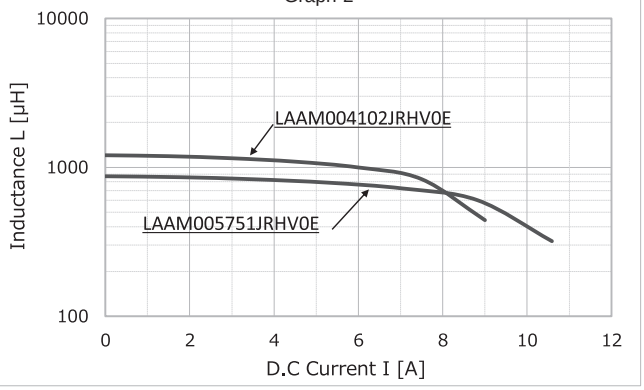
◆D.C. BIAS CHARACTERISTICS

●**Frequency : 100[kHz]**

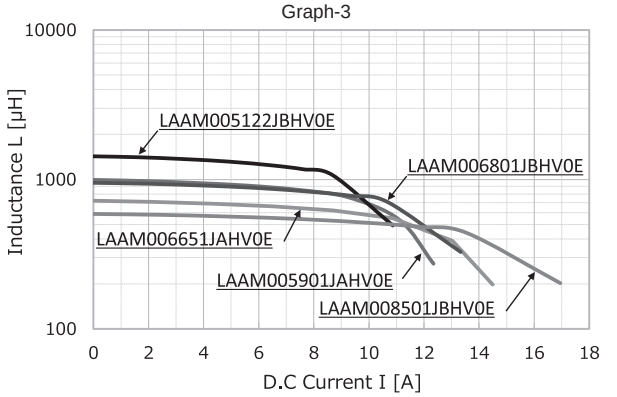
Graph-1



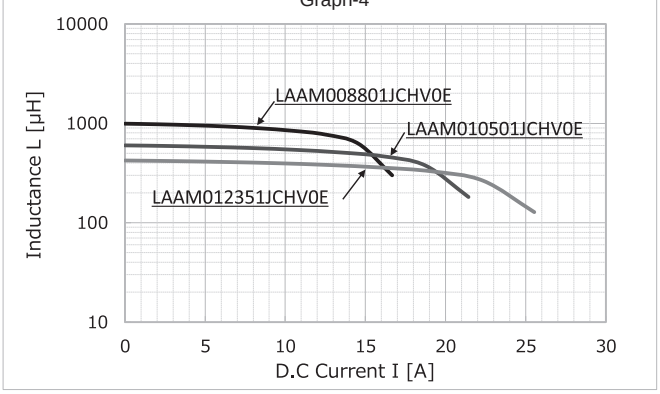
Graph-2



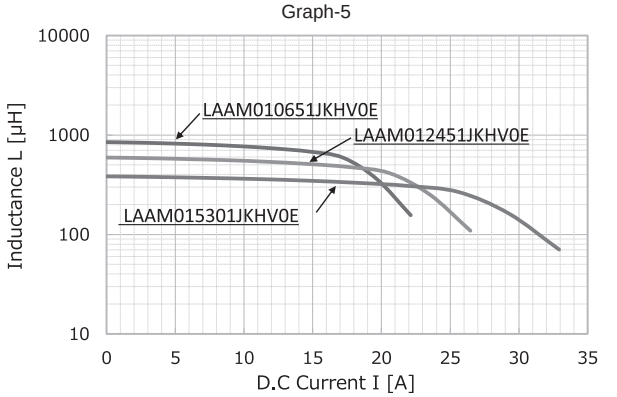
Graph-3



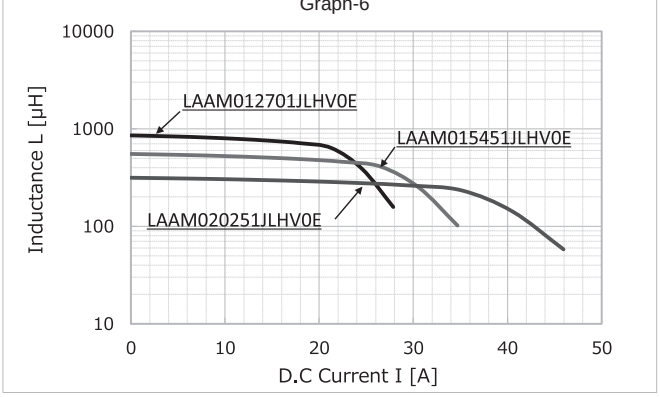
Graph-4



Graph-5



Graph-6



AW Series

RoHS2 Compliant

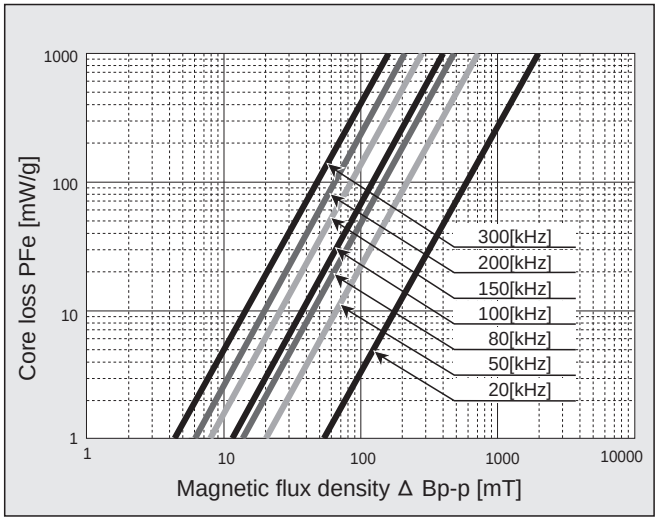
◆MAJOR USES
●For PFC (for high current) Normal mode noise filter

◆FEATURES
●Exhibits excellent DC superimposition characteristics of inductance.
●Reduced iron loss when compared to the AM Series

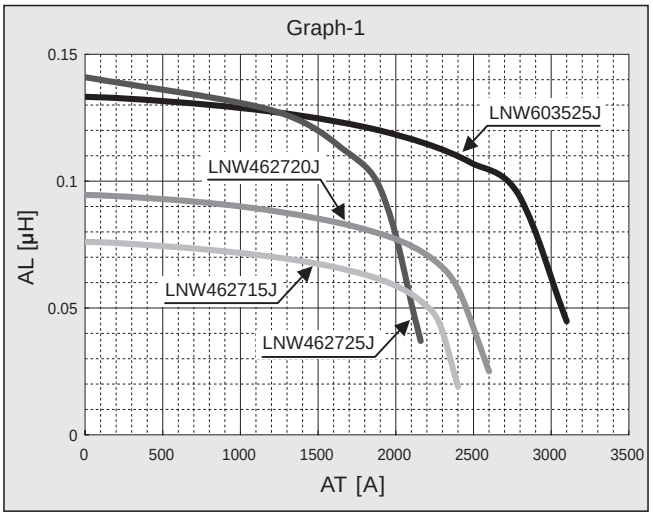
Core Part No.	Cross Sectional Area [cm²]	Magnetic Path Length [cm]	Weight [g]	Outside Dimensions			Inductance Coefficient AL Value			BIAS CHARACTERISTICS Graph
				ϕD [mm]	ϕd [mm]	W [mm]	0A [μH]	Rating* [μH]	Rated Current Ampere Turn [AT]	
LNW462715J2	1.25	11.50	113	49.40	22.70	18.00	0.076	0.061	1760	1
LNW462720J2	1.63	11.50	147	49.40	22.70	23.00	0.094	0.080	1800	
LNW462725J2	2.04	11.50	182	49.40	22.70	28.00	0.133	0.106	1900	
LNW603525J2	2.69	14.90	323	66.70	29.30	29.20	0.135	0.109	2500	

*100kHz, ±25%

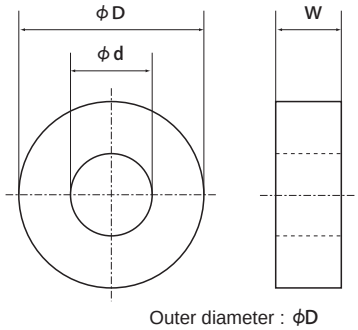
◆CORE LOSS CHARACTERISTICS (Magnetic Flux Density Dependency)
●AW choke



◆D.C. BIAS CHARACTERISTICS AL-AT
●Frequency : 100[kHz]

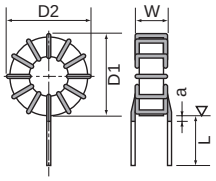


◆DIMENSIONS OF CORE



Outer diameter : ϕD
Inner diameter : ϕd
Width : W

AW Series



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.

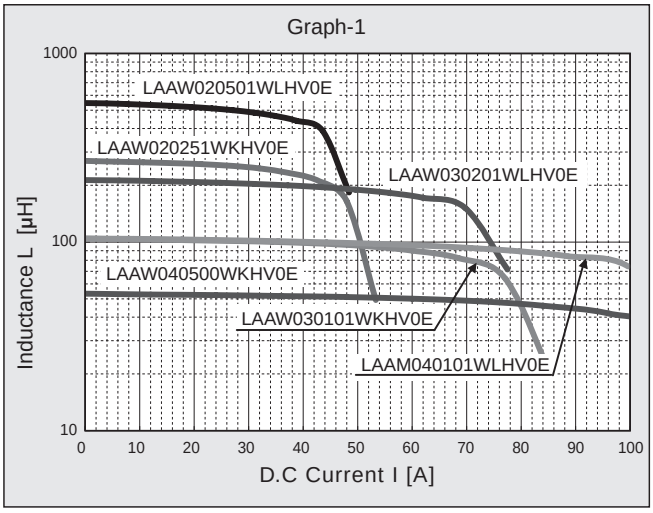
◆MAJOR USES
●For PFC (for high current) Normal mode noise filter

◆FEATURES
●Exhibits excellent DC superimposition characteristics of inductance.
●Reduced iron loss when compared to the AM Series

Coil Part No.	Core Part No.	Rated Current [A]	Peak Current [A]	Inductance (100kHz) 0A [μH]	Inductance (100kHz) Rating* [μH]	D.C.R. mΩ (max)	Winding mm ϕ-lines	Outside Dimensions D1 [mm]	Outside Dimensions D2 [mm]	Outside Dimensions W [mm]	D.C. BIAS CHARACTERISTICS Graph
LAAW030101WKHV0E	LNW462725J2	30	42.4	105	100	10	1.3-4P	57.0	57.0	41.5	1
LAAW040500WKHV0E		40	56.6	53	50	6	1.5-4P	57.0	57.0	41.5	
LAAW020251WKHV0E		20	28.3	270	250	20	1.0-5P	59.0	59.0	41.5	
LAAW020501WLHV0E	LNW603525J2	20	28.3	546	500	35	1.0-5P	78.5	78.5	46.0	
LAAW030201WLHV0E		30	42.4	213	200	15	1.3-4P	78.5	78.5	46.0	
LAAW040101WLHV0E		40	56.6	105	100	10	1.5-4P	78.5	78.5	46.0	

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

◆D.C. BIAS CHARACTERISTICS
●**Frequency : 100[kHz]**



TM Series

RoHS2 Compliant

◆MAJOR USES

●For Switching Mode Power Supply Normal mode noise filter

◆FEATURES

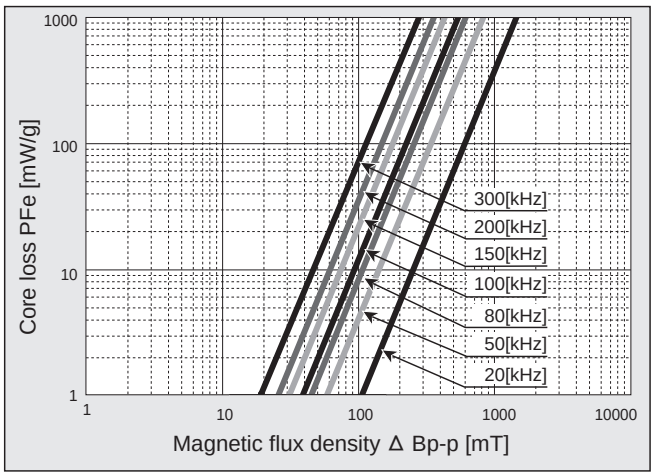
●Great reduction of core loss enabling low temperature rise at high frequency
●Achieved significant miniaturization and low D.C. resistance
●Low leakage flux due to gap-less structure
●Excellent frequency and temperature characteristics

Core Part No.	Cross Sectional Area [cm²]	Magnetic Path Length [cm]	Weight [g]	Outside Dimensions			Inductance Coefficient AL Value			BIAS CHARACTERISTICS Graph
				ϕD [mm]	ϕd [mm]	W [mm]	0A [μH]	Rating* [μH]	Rated Current Ampere Turn [AT]	
LPT100805N	0.08	2.84	2	13.0	6.0	6.5	0.100	0.063	70	1
LPT130805N	0.13	3.44	4	16.0	5.8	7.4	0.120	0.070	75	
LPT150905N	0.14	3.85	5	17.2	7.3	6.4	0.118	0.063	100	
LPT160910N	0.29	3.92	10	18.0	7.3	11.9	0.260	0.115	120	
LPT211205N	0.21	5.26	9	23.2	10.2	6.9	0.126	0.060	155	
LPT191210N	0.33	4.95	13	21.9	9.8	11.8	0.212	0.095	160	2
LPT221310N	0.40	5.50	18	24.7	10.5	12.0	0.229	0.112	160	
LPT271510N	0.53	6.60	28	29.7	12.5	12.3	0.253	0.120	200	
LPT322010N	0.56	8.25	37	35.2	17.5	12.3	0.211	0.090	280	

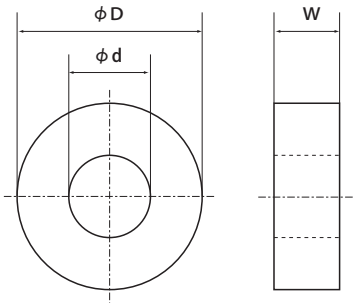
*200kHz, ±25% (LPT100805N: 100kHz, ±25%)

◆CORE LOSS CHARACTERISTICS

●TM choke



◆DIMENSIONS OF CORE

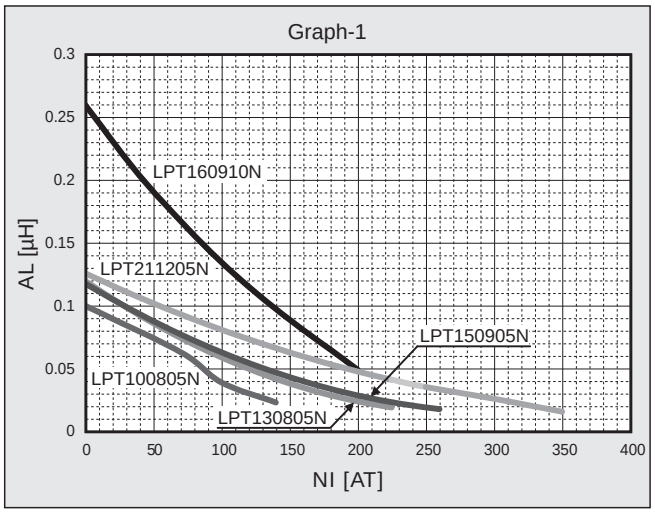


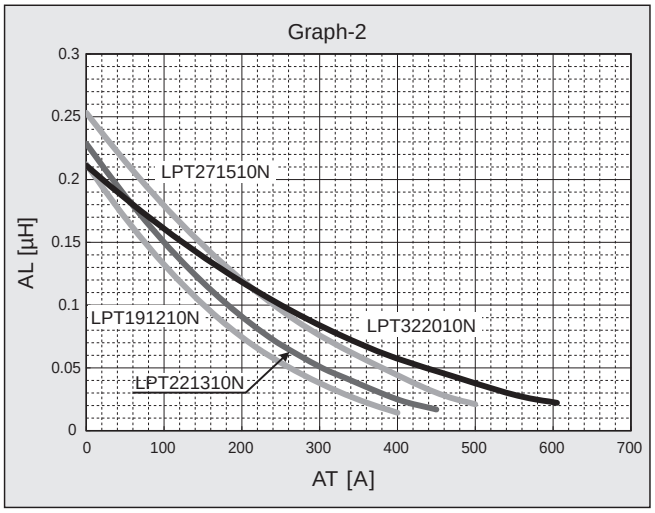
Outer diameter : ϕD
Inner diameter : ϕd
Width : W

TM Series

◆D.C. BIAS CHARACTERISTICS AL-AT

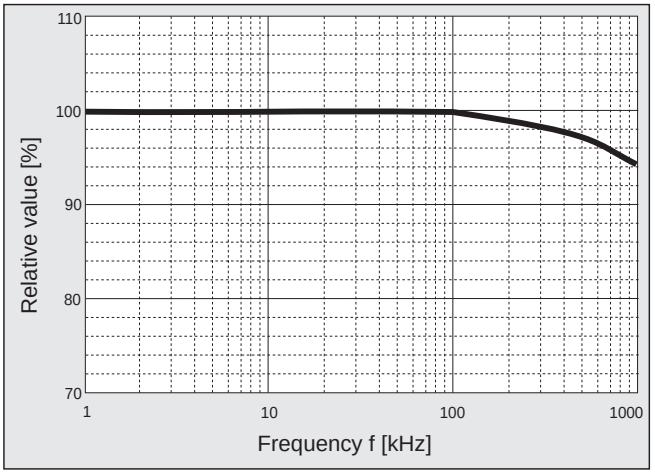
●Frequency : 200[kHz] (LPT100805N : 100[kHz])





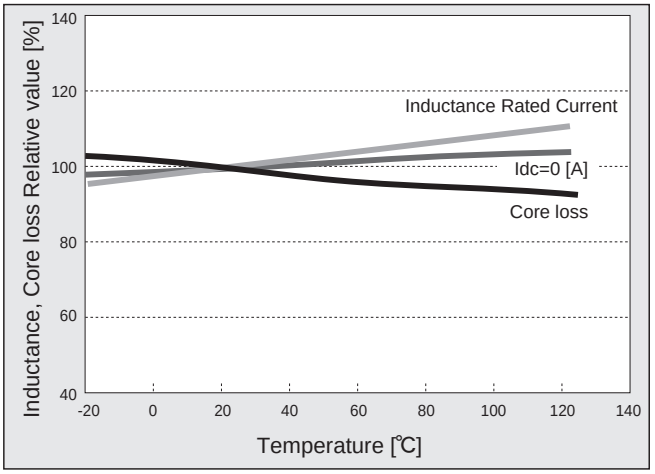
◆FREQUENCY - INDUCTANCE CHARACTERISTICS

●TM choke

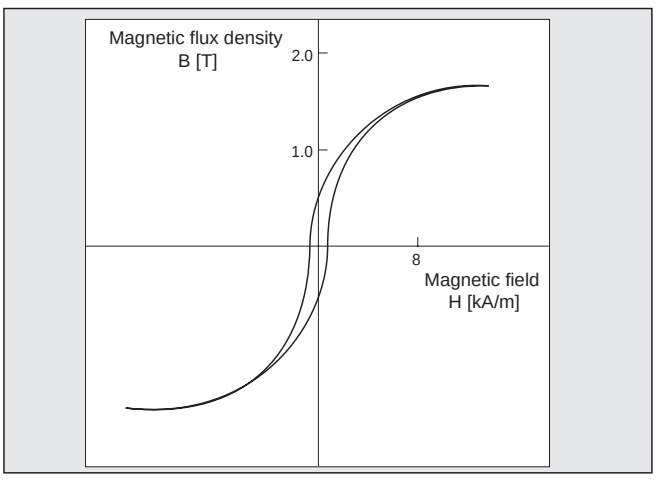


◆TEMPERATURE DEPENDENCE - INDUCTANCE AND CORE LOSS

●Frequency : 200[kHz]



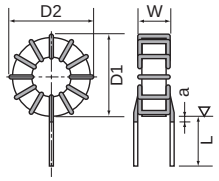
◆B-H CURVE



TM Series

◆MAJOR USES
●For Switching Mode Power Supply Normal mode noise filter

◆FEATURES
●Great reduction of core loss enabling low temperature rise at high frequency
●Achieved significant miniaturization and low D.C. resistance
●Low leakage flux due to gap-less structure
●Excellent frequency and temperature characteristics



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 Part No.	Core Part No.	Rated Current [A]	Inductance (200kHz)		D.C.R. mΩ (max)	Winding mm ϕ-lines	Outside Dimensions			D.C. BIAS CHARACTERISTICS Graph
			0A [μH]	Rating [μH]			D1 [mm]	D2 [mm]	W [mm]	
LBTM001201NS-V0E	LPT100805N	1	260	200 **	120	0.5-1P	16.0	16.0	11.0	
LBTM002800NS-V0E		2	120	80 **	60	0.6-1P	16.5	16.5	11.0	
LBTM003270NS-V0E		3	40	27 **	20	0.8-1P	16.5	17.0	11.5	
LBTM005100NS-V0E		5	14	10 **	9	1.0-1P	17.0	17.5	11.5	
LBTM001201N1-V0E	LPT130805N	1	290	200	150	0.5-1P	18.5	19.0	10.5	
LBTM001251N1-V0E		1	400	250	170	0.5-1P	18.5	19.0	11.0	1
LBTM001301N1-V0E		1	430	300	170	0.5-1P	19.5	19.5	11.5	
LBTM002101N1-V0E		2	160	100	70	0.6-1P	19.5	19.5	11.5	
LBTM003400N1-V0E		3	69	40	27	0.8-1P	19.5	19.5	11.5	
LBTM004250N1-V0E		4	43	25	18	0.9-1P	19.5	19.5	11.5	
LBTM005150N1-V0E		5	23	15	11	1.0-1P	19.5	20.0	11.5	
LBTM001401N2-V0E	LPT150905N	1	580	400	210	0.5-1P	19.5	20.0	11.0	
LBTM001501N2-V0E		1	770	500	230	0.5-1P	20.0	20.5	11.0	
LBTM002151N2-V0E		2	240	150	89	0.6-1P	20.0	20.5	10.5	
LBTM002201N2-V0E		2	360	200	110	0.6-1P	20.0	20.5	11.0	
LBTM002211N2-V0E		2	400	210	110	0.6-1P	20.5	21.0	11.5	
LBTM003700N2-V0E		3	110	70	36	0.8-1P	20.5	21.0	11.5	2
LBTM004450N2-V0E		4	74	45	24	0.9-1P	21.0	21.5	11.5	
LBTM004500N2-V0E		4	92	50	24	0.9-1P	21.0	21.5	11.5	
LBTM005300N2-V0E		5	52	30	17	1.0-1P	21.0	21.5	12.0	
LBTM006200N2-V0E		6	34	20	11	0.8-2P	21.0	21.5	12.0	

* The inductance at current 0[A] indicates the reference value.
** This is the inductance at 100kHz.

TM Series

Coil Part No.	Core Part No.	Rated Current [A]	Inductance (200kHz)		D.C.R. mΩ (max)	Winding mm ϕ-lines	Outside Dimensions			D.C. BIAS CHARACTERISTICS Graph
			0A [μH]	Rating [μH]			D1 [mm]	D2 [mm]	W [mm]	
LBTM001132N5-V0E	LPT211205N	1	2000	1300 **	400	0.5-1P	26.0	27.0	12.0	3
LBTM003800N5-V0E		3	120	80	41	0.8-1P	26.5	27.5	11.0	
LBTM003171N5-V0E		3	290	170	59	0.8-1P	26.5	27.5	12.0	
LBTM005750N5-V0E		5	150	75	27	1.0-1P	27.0	28.0	13.5	
LBTM006450N5-V0E		6	85	45	18	0.8-2P	27.0	28.0	13.0	
LBTM008250N5-V0E		8	45	25	11	0.9-2P	27.0	28.0	13.5	
LBTM010160N5-V0E		10	28	16	7	1.1-2P	28.0	29.0	14.0	
LBTM015080N5-V0E		15	15	8	4	1.1-3P	28.5	29.5	14.5	
LBTM002351NU-V0E	LPT160910N	2	700	350	135	0.6-1P	22.0	22.0	16.5	4
LBTM003131NU-V0E		3	230	130	44	0.8-1P	22.5	22.5	17.0	
LBTM005500NU-V0E		5	94	50	19	1.0-1P	22.5	22.5	16.5	
LBTM008170NU-V0E		8	31	17	7	0.9-2P	22.5	22.5	16.5	
LBTM002621NP-V0E	LPT191210N	2	1200	620	150	0.7-1P	25.0	25.5	16.5	
LBTM003291NP-V0E		3	550	290	76	0.8-1P	25.0	25.5	16.0	
LBTM004161NP-V0E		4	320	160	46	0.9-1P	25.0	25.0	16.5	
LBTM006700NP-V0E		6	130	70	19	0.8-2P	25.0	25.5	16.0	
LBTM008400NP-V0E		8	77	40	12	0.9-2P	25.0	25.0	16.5	
LBTM005101NP-V0E		5	190	100	29	1.0-1P	25.5	26.0	16.5	
LBTM010270NP-V0E		10	54	27	7	1.1-2P	26.0	26.0	17.0	
LBTM015120NP-V0E		15	26	12	4	1.1-3P	26.0	26.0	17.5	

* The inductance at current 0[A] indicates the reference value.
** This is the inductance at 100kHz.

TM Series

Coil Part No.	Core Part No.	Rated Current [A]	Inductance (200kHz)		D.C.R. mΩ (max)	Winding mm ϕ-lines	Outside Dimensions			D.C. BIAS CHARACTERISTICS Graph
			0A [μH]	Rating [μH]			D1 [mm]	D2 [mm]	W [mm]	
LBTM002701N6-V0E	LPT221310N	2	1200	700	150	0.7-1P	27.5	28.0	16.5	5
LBTM003181N6-V0E		3	260	180	50	0.8-1P	27.5	28.0	15.0	
LBTM003351N6-V0E		3	640	350	82	0.8-1P	27.5	28.0	16.5	
LBTM004101N6-V0E		4	140	100	33	0.9-1P	27.5	28.0	16.0	
LBTM004201N6-V0E		4	370	200	48	0.9-1P	28.0	28.5	16.5	
LBTM006850N6-V0E		6	170	85	22	0.8-2P	28.0	28.5	17.0	
LBTM008450N6-V0E		8	83	45	13	0.9-2P	28.0	28.5	17.0	
LBTM005131N6-V0E		5	250	130	34	1.0-1P	28.5	29.0	17.0	
LBTM015160N6-V0E		15	33	16	5	1.1-3P	28.5	29.0	18.5	
LBTM010300N6-V0E		10	51	30	7	1.1-2P	29.0	29.5	17.5	
LBTM020100N6-V0E		20	23	10	4	1.3-3P	29.5	30.0	19.0	
LBTM002901N7-V0E	LPT271510N	2	1500	900	240	0.6-1P	32.0	32.5	15.5	6
LBTM002112N7-V0E		2	1800	1100	190	0.7-1P	32.5	33.0	16.5	
LBTM003481N7-V0E		3	820	480	94	0.8-1P	32.5	33.0	16.5	
LBTM005141N7-V0E		5	240	140	34	1.0-1P	33.0	33.5	16.0	
LBTM005211N7-V0E		5	390	210	42	1.0-1P	33.0	33.5	17.5	
LBTM015260N7-V0E		15	65	26	6	1.1-3P	33.5	34.0	18.0	
LBTM010500N7-V0E		10	100	50	11	1.1-2P	34.0	34.5	18.0	
LBTM010300N7-V0E		10	45	30	7	1.6-1P	35.5	36.0	18.5	
LBTM025100N7-V0E		25	25	10	3	1.6-2P	35.5	36.0	19.0	
LBTM003501N9-V0E	LPT322010N	3	840	500	120	0.8-1P	38.5	39.0	18.5	-
LBTM005281N9-V0E		5	530	280	61	1.0-1P	39.5	40.0	19.0	
LBTM005301N9-V0E		5	550	300	62	1.0-1P	39.5	40.0	19.0	
LBTM015400N9-V0E		15	93	40	8	1.1-3P	39.5	40.0	20.0	
LBTM020200N9-V0E		20	41	20	5	1.3-3P	40.5	41.0	20.5	
LBTM010800N9-V0E		10	170	80	15	1.1-2P	41.0	41.5	20.5	
LBTM020130N9-V0E		20	21	13	4	1.3-3P	41.0	41.5	19.5	
LBTM010600N9-V0E		10	110	60	12	1.6-1P	41.5	42.0	20.0	

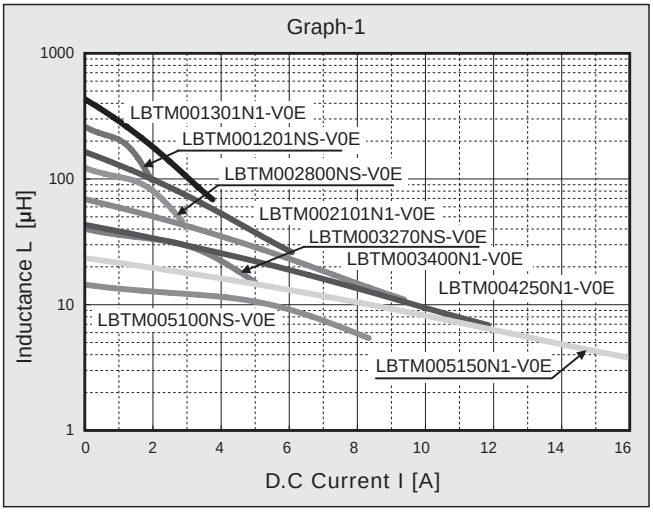
* The inductance at current 0[A] indicates the reference value.

TM Series

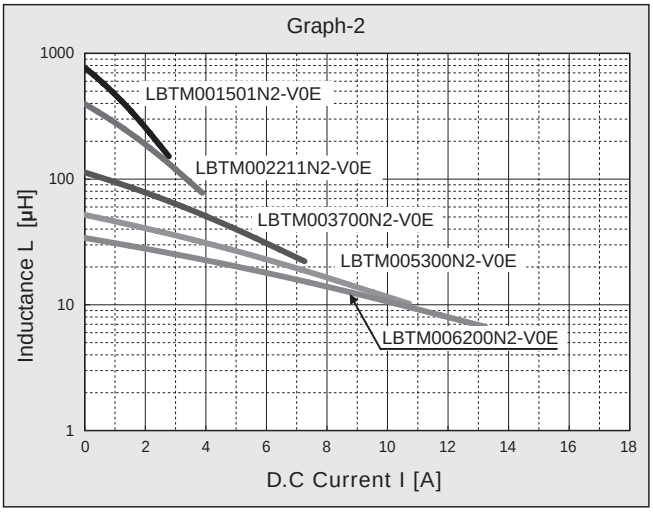
◆D.C. BIAS CHARACTERISTICS

●**Frequency : 200[kHz]**

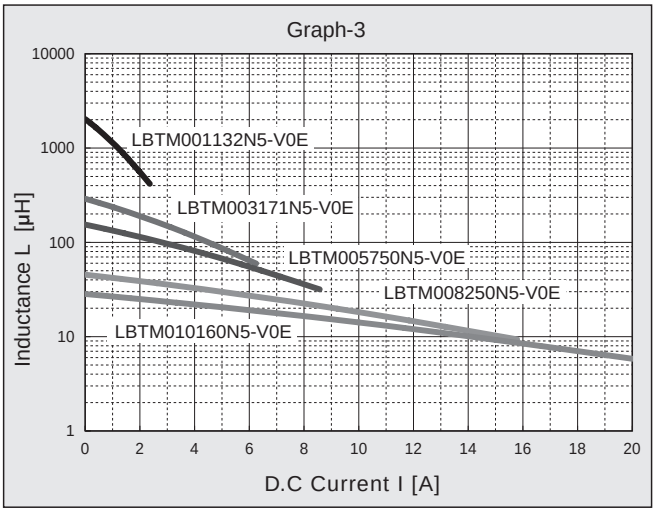
Graph-1



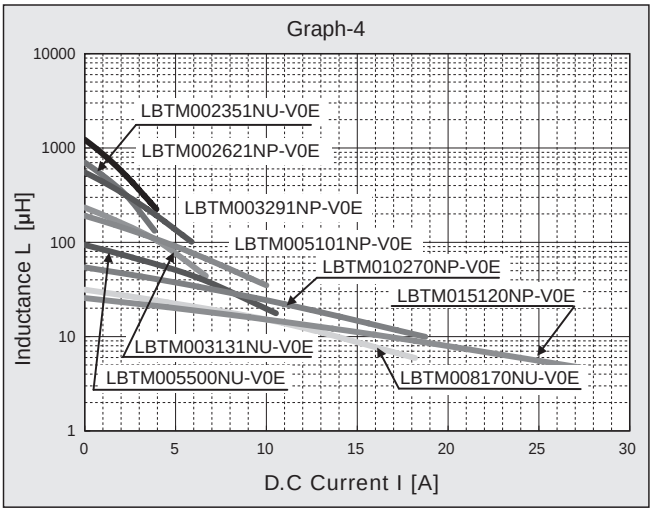
Graph-2



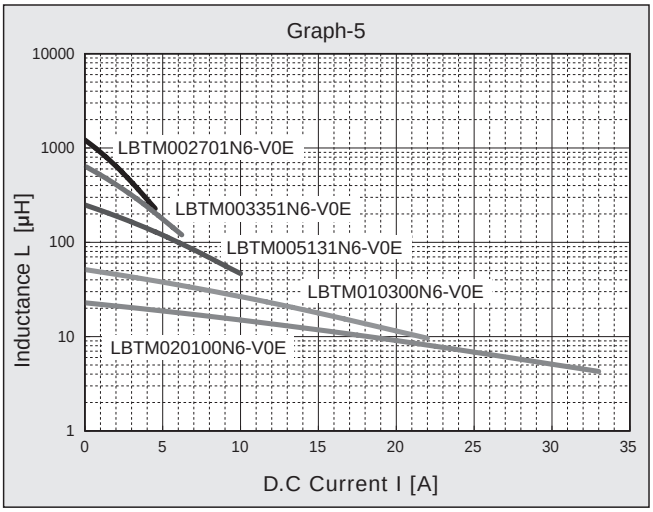
Graph-3



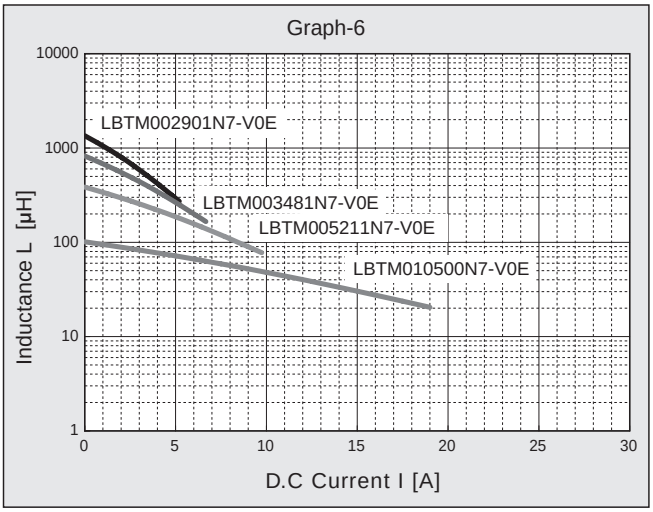
Graph-4



Graph-5



Graph-6



BM Series

RoHS2 Compliant

◆MAJOR USES
●For Switching Mode Power Supply Normal mode noise filter

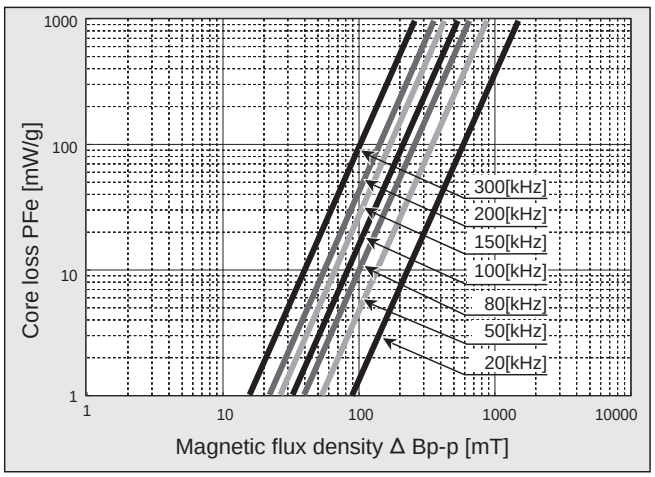
◆FEATURES
●Improved DC superimposition characteristics when compared to the TM Series
●Low leakage flux due to gap-less structure

Core Part No.	Cross Sectional Area [cm²]	Magnetic Path Length [cm]	Weight [g]	Outside Dimensions			Inductance Coefficient AL Value			BIAS CHARACTERISTICS Graph
				ϕD [mm]	ϕd [mm]	W [mm]	0A [μH]	Rating* [μH]	Rated Current Ampere Turn [AT]	
LPB150905N	0.14	3.85	5	17.2	7.3	6.4	0.079	0.047	100	1
LPB190910N	0.45	4.49	16	21.6	7.3	11.9	0.248	0.100	200	
LPB221310N	0.40	5.50	18	24.7	10.5	12.0	0.153	0.065	240	
LPB251510N	0.43	6.28	25	28.3	12.7	12.3	0.153	0.068	270	
LPB251515N	0.65	6.28	36	28.3	12.7	17.5	0.226	0.091	300	
LPB322015N	0.77	8.17	54	35.2	17.5	17.3	0.229	0.091	350	2
LPB372315N	0.92	9.42	69	40.5	19.5	18.0	0.209	0.096	375	
LPB462715N	1.25	11.50	112	49.4	22.7	18.0	0.232	0.084	600	
LPB462720N	1.63	11.50	148	49.4	22.7	23.0	0.310	0.112	600	

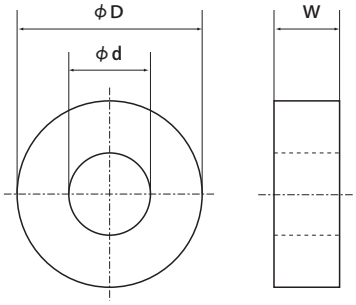
*200kHz, ±25%

◆CORE LOSS CHARACTERISTICS

●BM choke



◆DIMENSIONS OF CORE



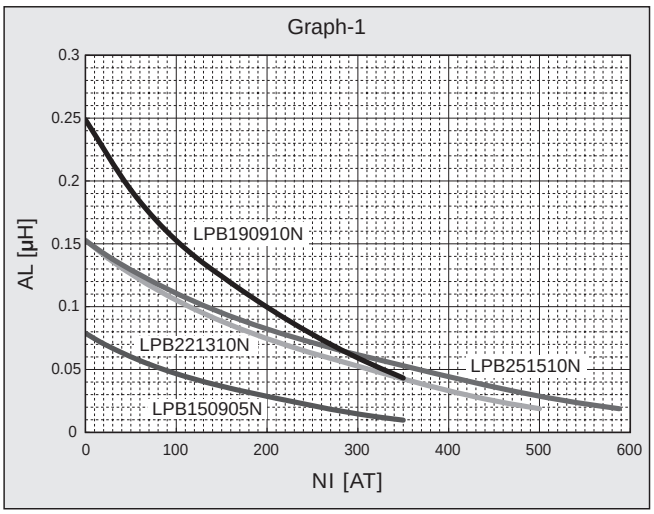
Outer diameter : ϕD
Inner diameter : ϕd
Width : W

BM Series

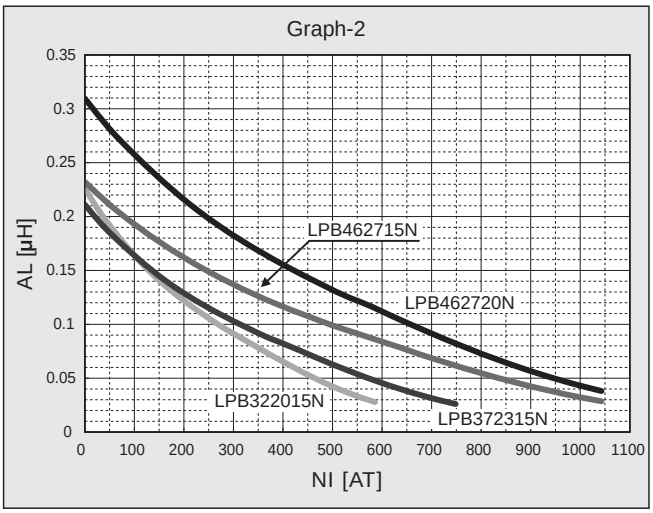
◆D.C. BIAS CHARACTERISTICS AL-AT

●**Frequency : 200[kHz]**

Graph-1

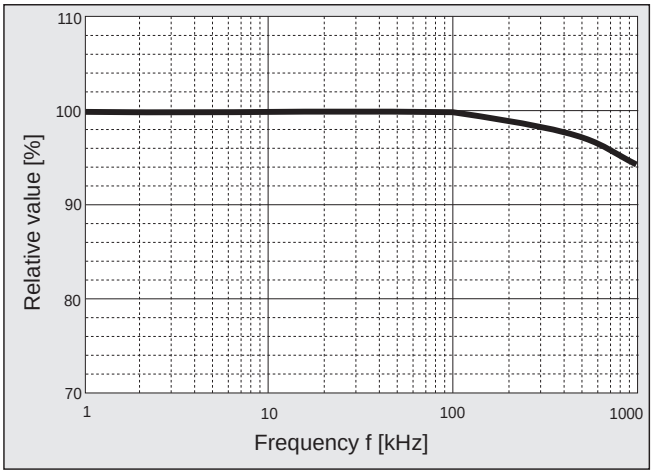


Graph-2



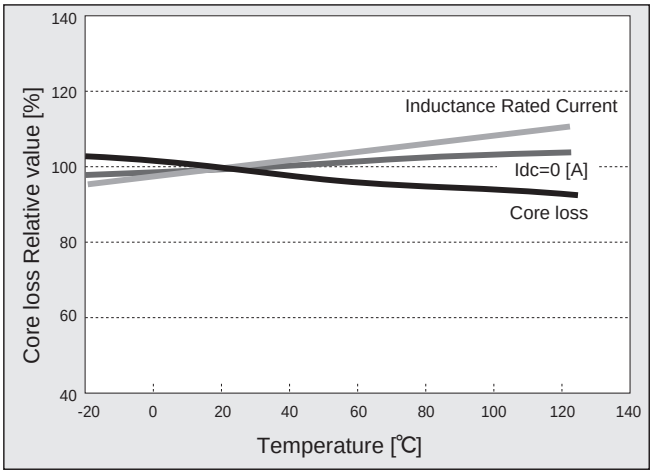
◆FREQUENCY - INDUCTANCE CHARACTERISTICS

●**BM choke**

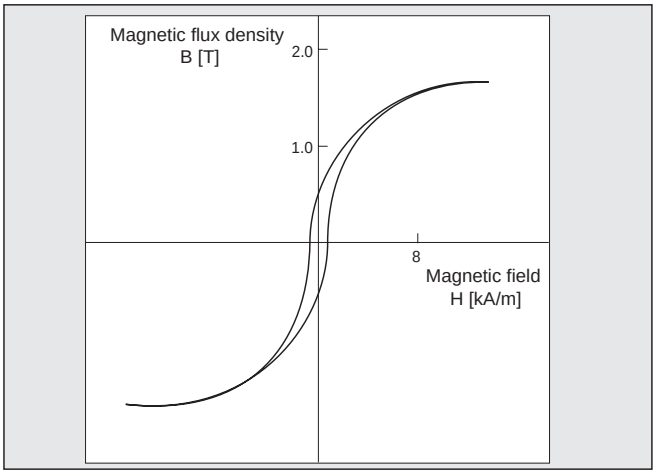


◆TEMPERATURE DEPENDENCE - INDUCTANCE AND CORE LOSS

●**Frequency : 200[kHz]**



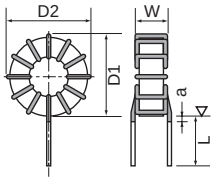
◆B-H CURVE



BM Series

◆MAJOR USES
●For Switching Mode Power Supply Normal mode noise filter

◆FEATURES
●Improved DC superimposition characteristics when compared to the TM Series
●Low leakage flux due to gap-less structure



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 Part No.	Core Part No.	Rated Current [A]	Inductance (200kHz)		D.C.R. mΩ (max)	Winding mm ϕ-lines	Outside Dimensions			D.C. BIAS CHARACTERISTICS Graph
			0A [μH]	Rating [μH]			D1 [mm]	D2 [mm]	W [mm]	
LBBM003421X6-V0E	LPB221310N	3	980	420 **	130	0.8-1P	29.0	29.0	17.5	1
LBBM005161X6-V0E		5	360	160	55	1.0-1P	29.0	29.0	18.0	
LBBM008600X6-V0E		8	140	60	20	0.9-2P	29.0	29.0	18.0	
LBBM010300X6-V0E		10	62	30	11	1.0-2P	29.0	29.0	18.0	
LBBM015150X6-V0E		15	35	15	6	1.0-3P	29.5	29.5	18.5	
LBBM020100X6-V0E		20	23	10	4	1.0-4P	29.5	29.5	18.5	
LBBM025060X6-V0E		25	13	6	2	1.2-4P	30.0	30.0	19.0	
LBBM0303R6X6-V0E		30	7.5	3.6	2	1.3-4P	31.0	31.0	19.5	
LBBM003551X7-V0E	LPB251510N	3	1300	550 **	150	0.8-1P	32.5	32.5	18.0	2
LBBM005201X7-V0E		5	460	200	60	1.0-1P	32.0	32.5	18.0	
LBBM008800X7-V0E		8	190	80	26	0.9-2P	32.5	33.0	18.5	
LBBM010500X7-V0E		10	120	50	16	1.0-2P	32.5	33.0	18.5	
LBBM015270X7-V0E		15	65	27	8	1.0-3P	33.0	33.5	19.0	
LBBM020150X7-V0E		20	36	15	5	1.2-3P	33.5	33.5	20.0	
LBBM025090X7-V0E		25	24	9	3	1.2-4P	33.5	33.5	21.0	
LBBM035050X7-V0E		35	13	5	3	1.4-4P	34.0	34.0	21.0	
LBBM030070X7-V0E		30	16	7	3	1.3-4P	34.5	34.5	21.0	
LBBM0403R4X7-V0E		40	8	3.4	2	1.4-5P	35.0	35.0	21.0	

* The inductance at current 0[A] indicates the reference value.
** This is the inductance at 100kHz.

BM Series

Coil Part No.	Core Part No.	Rated Current [A]	Inductance (200kHz)		D.C.R. mΩ (max)	Winding mm ϕ-lines	Outside Dimensions			D.C. BIAS CHARACTERISTICS Graph
			0A [μH]	Rating [μH]			D1 [mm]	D2 [mm]	W [mm]	
LBBM003801X8-V0E	LPB251515N	3	1800	800 **	185	0.8-1P	33.0	33.0	24.5	3
LBBM005351X8-V0E		5	820	350	85	1.0-1P	34.0	34.0	24.5	
LBBM008121X8-V0E		8	280	120	30	1.3-1P	34.0	34.0	24.5	
LBBM010750X8-V0E		10	170	75	17	1.1-2P	34.0	34.0	25.5	
LBBM020210X8-V0E		20	51	21	6	1.2-3P	34.0	34.0	26.0	
LBBM015350X8-V0E		15	82	35	9	1.3-2P	34.5	34.5	25.0	
LBBM025130X8-V0E		25	33	13	4	1.2-4P	35.0	35.0	26.0	
LBBM0357R5X8-V0E		35	18	7.5	3	1.4-4P	35.0	35.0	27.5	
LBBM030090X8-V0E		30	23	9	3	1.3-4P	35.5	35.5	27.0	
LBBM040050X8-V0E		40	11	5	2	1.4-5P	36.5	36.5	26.5	
LBBM003122XR-V0E	LPB322015N	3	2800	1200 **	155	1.0-1P	41.5	41.5	26.5	4
LBBM005481XR-V0E		5	1000	480	100	1.1-1P	41.0	41.0	25.5	
LBBM008191XR-V0E		8	430	190	40	1.3-1P	41.5	41.5	25.5	
LBBM015570XR-V0E		15	130	57	13	1.3-2P	41.5	41.5	26.0	
LBBM025200XR-V0E		25	48	20	5	1.2-4P	41.5	41.5	26.0	
LBBM010121XR-V0E		10	260	120	22	1.1-2P	42.0	42.0	26.0	
LBBM020310XR-V0E		20	68	31	7	1.2-3P	42.0	42.0	26.0	
LBBM030140XR-V0E		30	30	14	4	1.3-4P	42.0	42.0	27.0	
LBBM0359R5XR-V0E		35	21	9.5	3	1.4-4P	42.0	42.0	26.0	
LBBM0406R5XR-V0E		40	14	6.5	2	1.4-5P	42.5	42.5	26.5	
LBBM0454R9XR-V0E		45	10	4.9	2	1.3-6P	42.5	42.5	26.5	

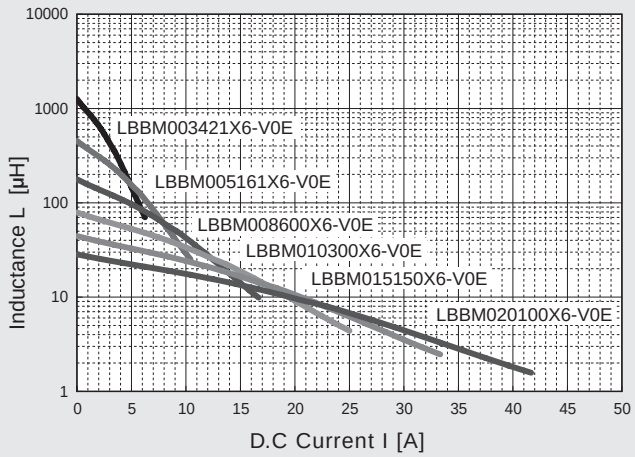
* The inductance at current 0[A] indicates the reference value.
** This is the inductance at 100kHz.

BM Series

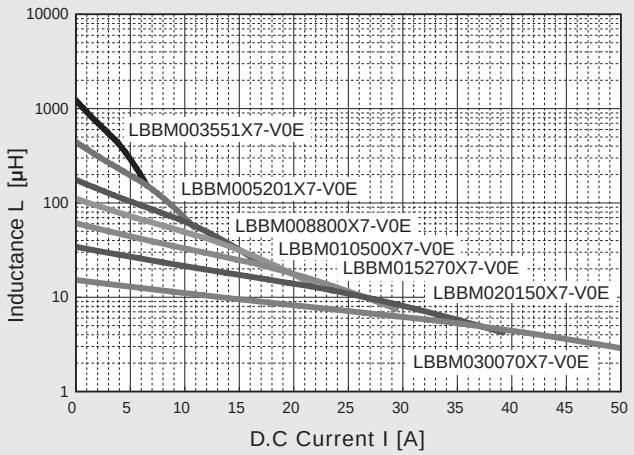
◆D.C. BIAS CHARACTERISTICS

●**Frequency : 200[kHz]**

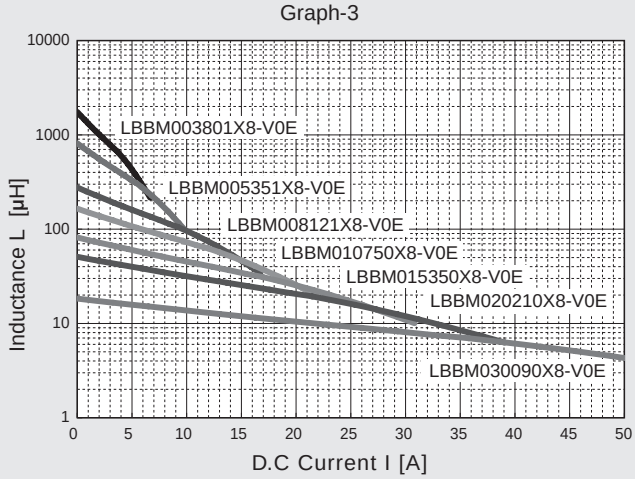
Graph-1



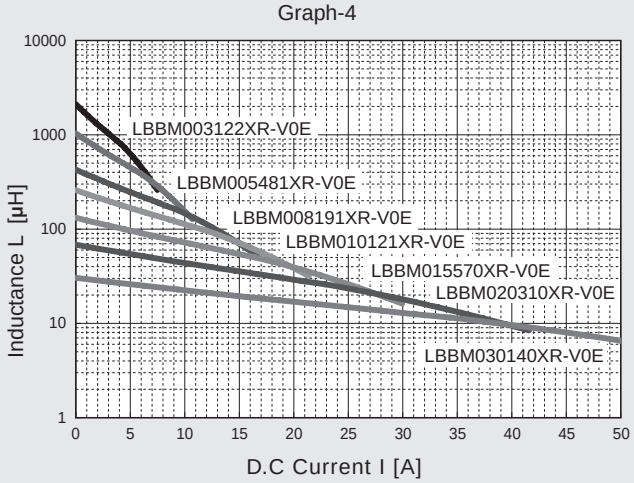
Graph-2



Graph-3



Graph-4



DM Series

RoHS2 Compliant

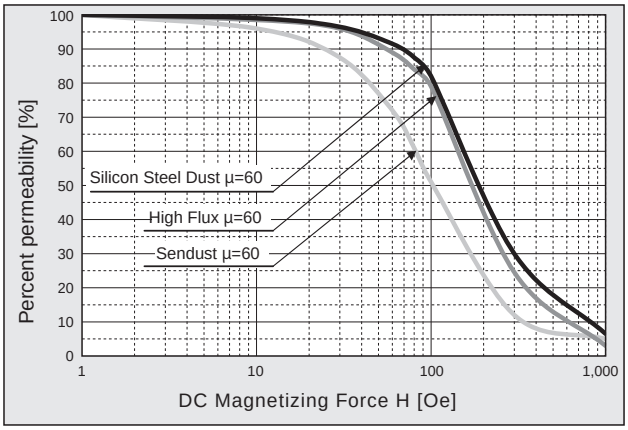
◆MAJOR USES

●For PFC For Switching Mode Power Supply

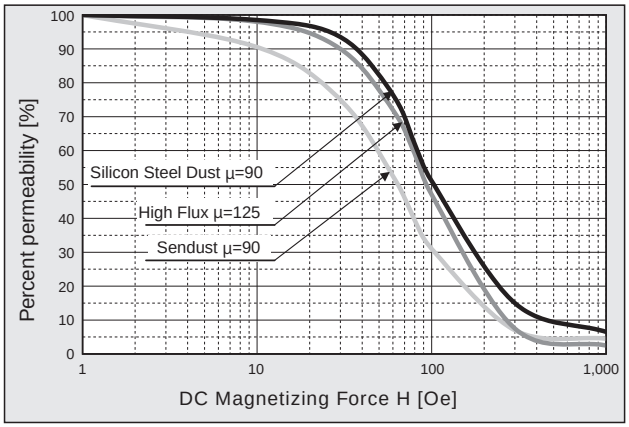
◆FEATURES

●Excellent frequency and temperature characteristics
●Exhibits high saturation magnetic flux density, excellent DC superimposition characteristics, and achieved significant miniaturization

◆D.C. bias of Dust core (1)

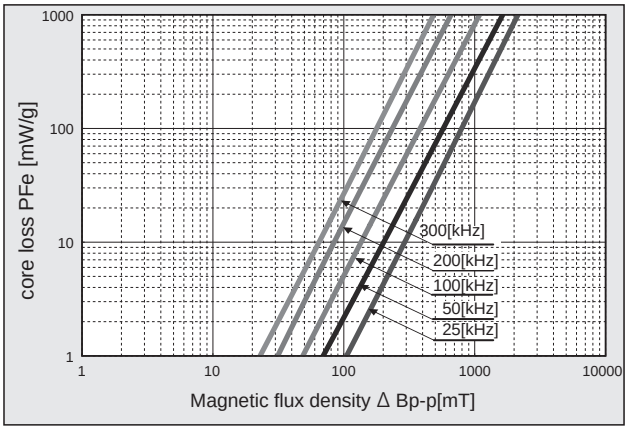


◆D.C. bias of Dust core (2)



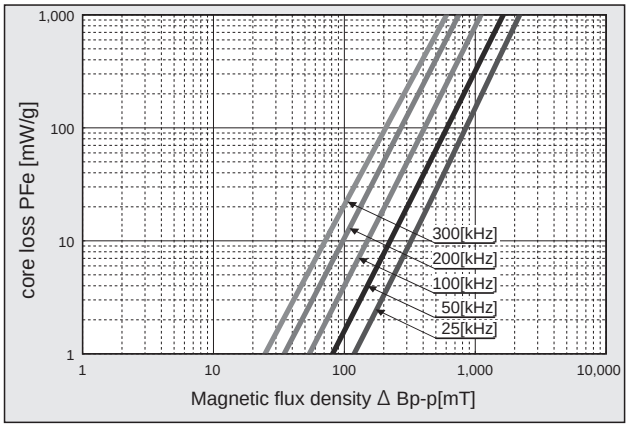
◆Core Loss Characteristics (1) (Magnetic Flux Density Dependency)

●Sendust(Fe-Si-Al)



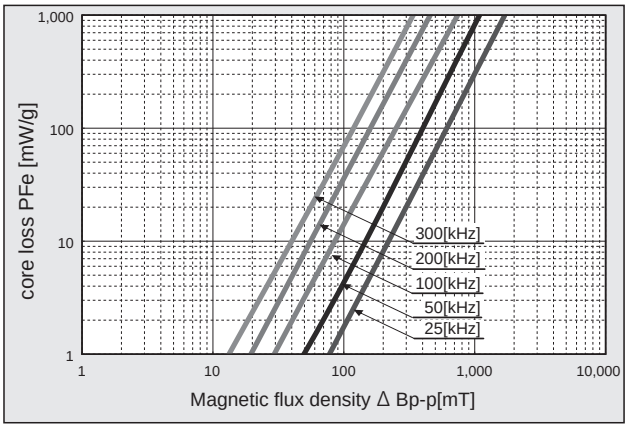
◆Core Loss Characteristics (2) (Magnetic Flux Density Dependency)

●High Flux(Fe-Ni)



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

●Silicon steel dust (Fe-Si)



DM Series

Sendust (Fe-Si-Al)

RoHS2 Compliant

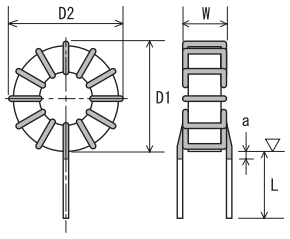
●Permissible end-to-end voltage of coils : 250V

◆MAJOR USES

●For PFC For Switching Mode Power Supply

◆FEATURES

●Excellent frequency and temperature characteristics
●Exhibits high saturation magnetic flux density, excellent DC superimposition characteristics, and achieved significant miniaturization
●Permissible end-to-end voltage of coils : 250V



Maximum outer diameter : D1, D2
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.

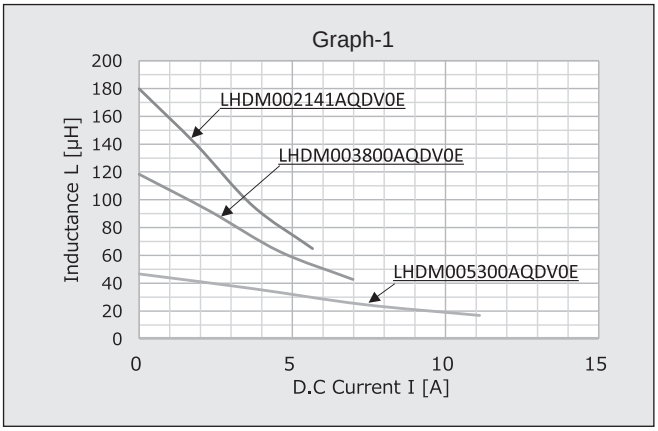
Coil Part No.	Rated Current [A]	Inductance (100kHz)		D.C.R. mΩ (max)	Winding mmϕ-lines	Outside Dimensions			D.C. BIAS CHARACTERISTICS Graph
		0A [μH]	Rating [μH]			D1 [mm]	D2 [mm]	W [mm]	
LHDM002141AQDV0E	2	190	135	78	0.7-1P	22.5	23.5	12.5	1
LHDM003800AQDV0E	3	120	80	48	0.8-1P	23.0	24.0	13.5	
LHDM005300AQDV0E	5	46	30	23	1.0-1P	23.5	24.5	14.5	
LHDM002331ARDV0E	2	550	330	150	0.7-1P	26.0	27.0	14.0	2
LHDM003101ARDV0E	3	140	100	58	0.8-1P	26.0	27.0	14.0	
LHDM005550ARDV0E	5	95	55	32	1.0-1P	26.5	27.0	14.5	
LHDM003251AUGV0E	3	360	250	90	0.8-1P	32.5	33.0	14.0	3
LHDM005161AUGV0E	5	310	160	55	1.0-1P	33.5	34.0	15.0	
LHDM010300AUGV0E	10	48	30	14	1.1-2P	34.0	34.5	16.0	
LHDM002951AUDV0E	2	1500	950	260	0.7-1P	32.5	33.5	18.5	4
LHDM003231AUDV0E	3	300	230	90	0.8-1P	32.5	33.5	18.5	
LHDM005141AUDV0E	5	210	140	50	1.0-1P	33.0	34.0	19.0	
LHDM010330AUDV0E	10	48	33	12	1.6-1P	35.0	36.0	20.5	
LHDM005571AZDV0E	5	800	570	95	1.1-1P	52.5	53.0	26.5	5
LHDM010151AZDV0E	10	220	150	28	1.6-1P	55.0	56.0	28.0	
LHDM020200AZDV0E	20	26	20	6	1.8-2P	55.0	56.0	28.5	

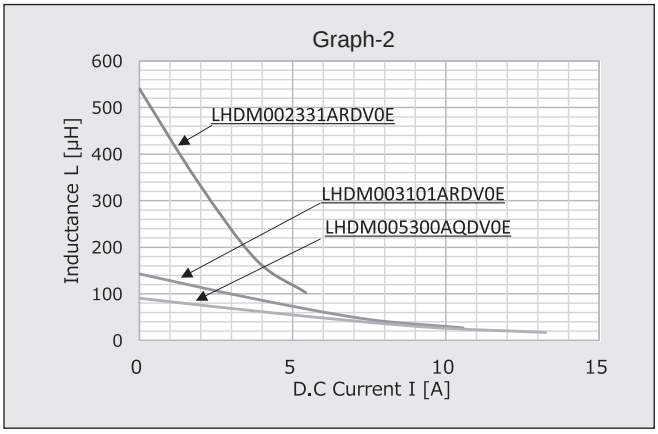
* The inductance at current 0[A] indicates the reference value.

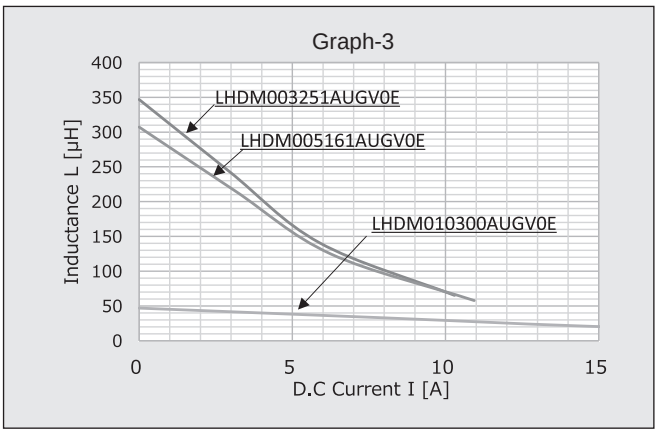
DM Series

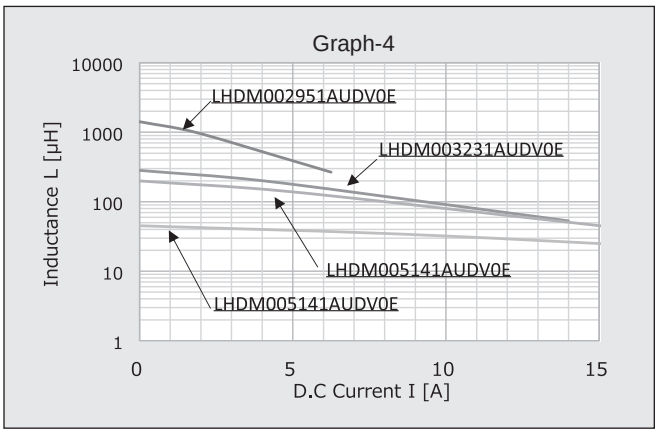
◆D.C. BIAS CHARACTERISTICS

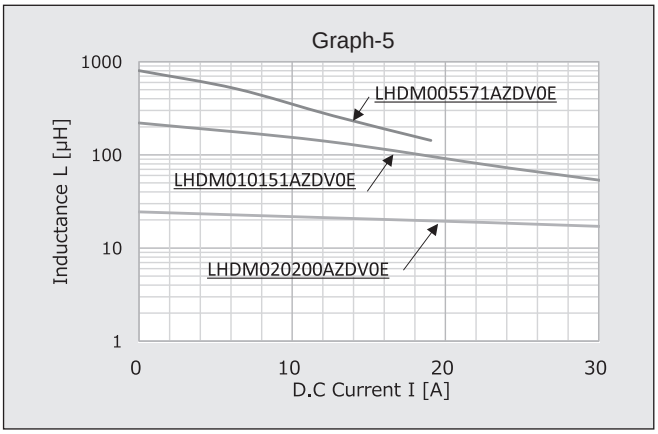
●Frequency : 100[kHz]









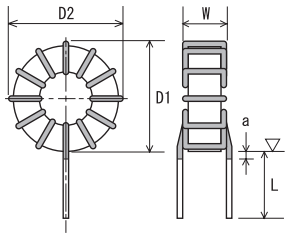


DM Series

RoHS2 Compliant

High Flux (Fe-Ni)

●Permissible end-to-end voltage of coils : 250V (Without a core case)
500V (With a core case)



Maximum outer diameter : D1, D2
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.

◆MAJOR USES

●For PFC For Switching Mode Power Supply

◆FEATURES

●Exhibits excellent DC superimposition characteristics and achieved significant miniaturization
●Great reduction of core loss enabling low temperature rise at high frequency
●Ideal for PFC use

Coil Part No.	Rated Current [A]	Inductance (100kHz)		D.C.R. mΩ (max)	Winding mmϕ-lines	Outside Dimensions			D.C. BIAS CHARACTERISTICS Graph	Core case
		0A [μH]	Rating [μH]			D1 [mm]	D2 [mm]	W [mm]		
LHDM003101CQFV0E	3	115	100	45	0.8-1P	22.0	23.0	13.5	1	-
LHDM005570CQFV0E	5	70	57	25	1.0-1P	22.5	23.5	14.5		
LHDM003231CTBV0E	3	250	230	96	0.8-1P	29.0	30.0	16.5	2	-
LHDM005141CTBV0E	5	160	140	52	1.0-1P	29.5	30.5	17.5		
LHDM010330CTBV0E	10	37	33	12	1.6-1P	31.5	32.5	19.5		
LHDM005571CYFV0E	5	710	570	76	1.1-1P	46.5	47.5	23.0	3	-
LHDM010151CYBV0E	10	170	150	28	1.6-1P	47.5	48.5	26.0		
LHDM020200CYBV0E	20	24	20	6	1.8-2P	48.0	49.0	26.5		
LHDM005451DUFV0E	5	620	450	85	1.0-1P	34.5	35.5	22.0	4	○
LHDM007381DVFV0E	7	640	380	65	1.2-1P	41.5	42.0	21.5		○
LHDM008371DVFV0E	8	750	370 **	59	1.3-1P	42.5	43.0	23.0		○
LHDM010201DVFV0E	10	340	200	30	1.1-2P	43.5	44.0	23.0		○
LHDM008501DYBV0E	8	570	500 **	68	1.4-1P	50.0	50.5	27.5	5	○
LHDM010401DYBV0E	10	490	400	58	1.5-1P	50.0	50.5	27.0		○
LHDM010651DZBV0E	10	760	650 **	72	1.0-2P	57.5	58.0	31.0	6	○
LHDM015301DZBV0E	15	360	300	35	1.3-2P	57.0	57.5	32.0		○

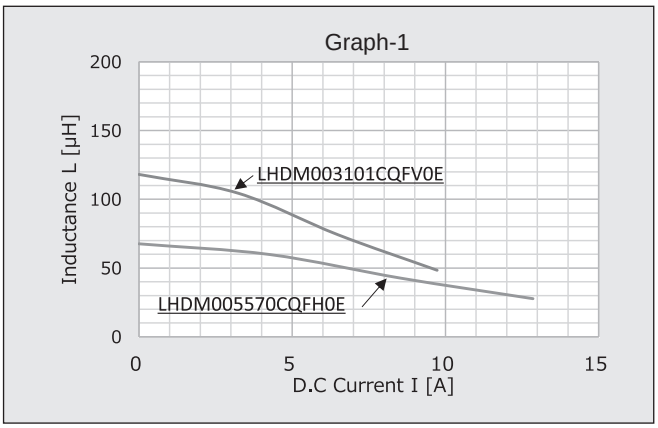
* The inductance at current 0[A] indicates the reference value.
** This is the inductance at 100kHz.

DM Series

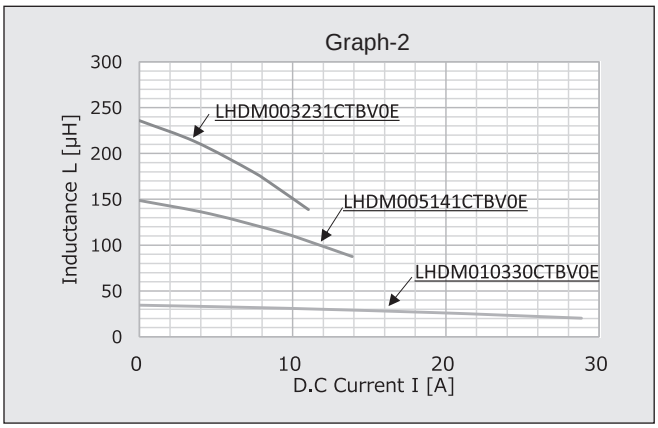
RoHS2 Compliant

◆D.C. BIAS CHARACTERISTICS

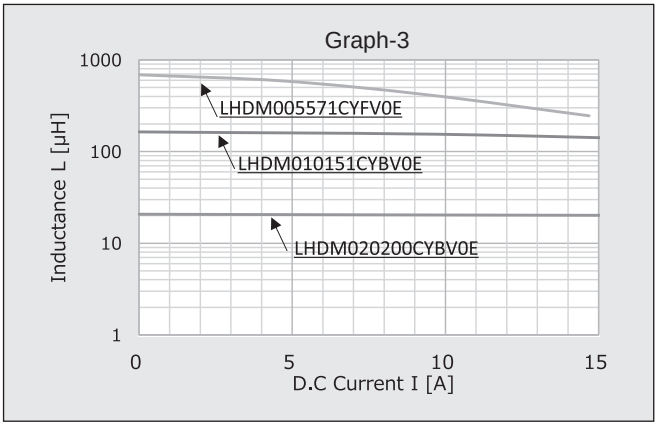
Graph-1



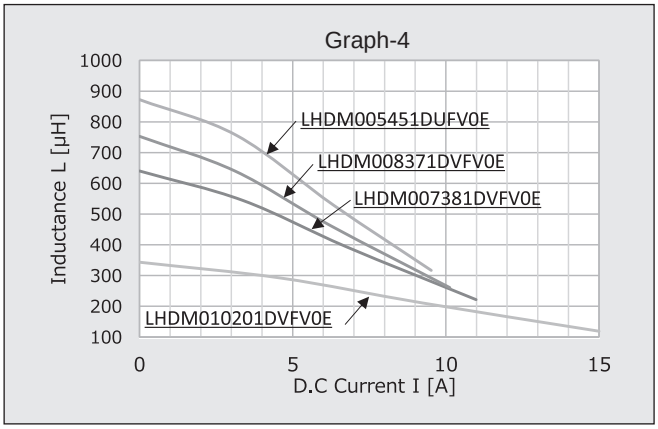
Graph-2



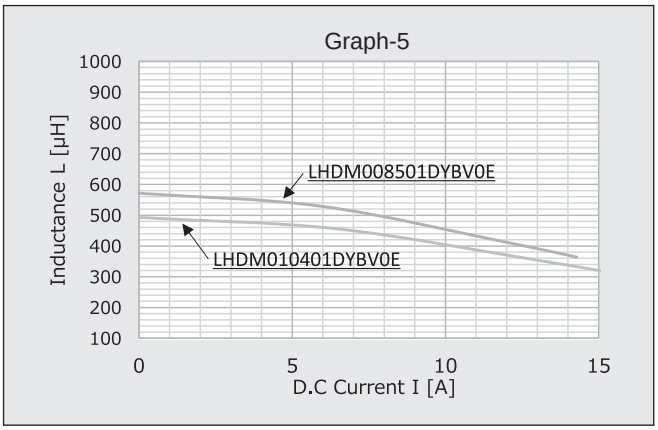
Graph-3



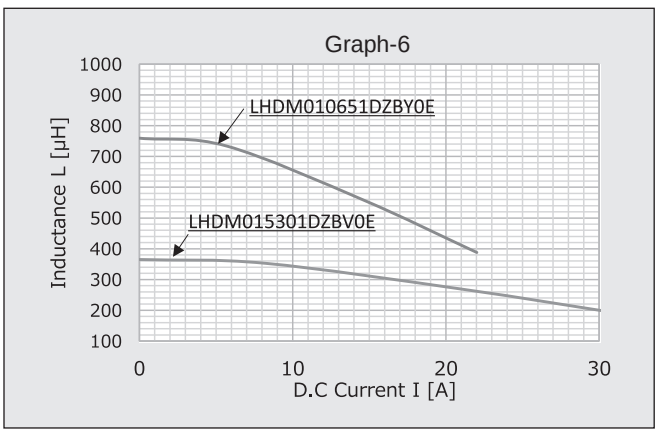
Graph-4



Graph-5



Graph-6



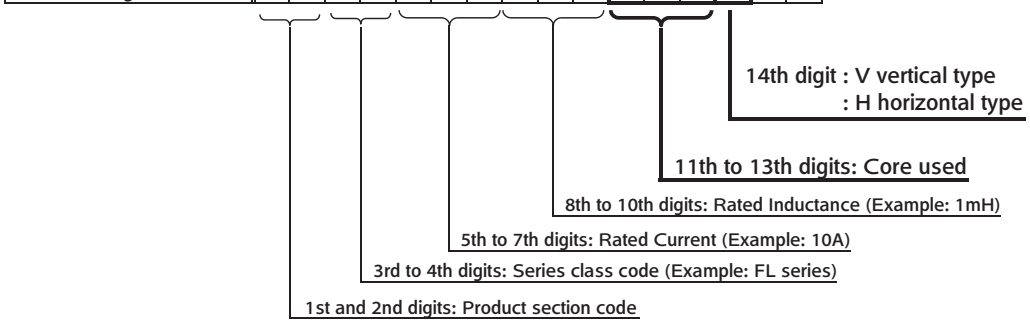
Minimum quantity in a package

●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.

Coil Part No. (Example)	L	D	F	L	0	1	0	1	0	2	L	T	-	V	0	E
Digits	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16



◆Reference 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
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
BM	X6-	231	192
	X7-	231	75
	X8-	132	75
	XR-	100	75
DM	AQD	200	---
	ARD	200	---
	AUG	231	---
	AUD	231	---
	AZD	64	---
	CQF	200	---
	CTB	132	---
	CYF	50	---
	CYB	50	---
	DUF	132	---
	DVF	100	---
	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
☐Normal mode line filter
☐Harmonic counter-measure (Active filter)
☐Common mode choke coil
☐Others

Equipment Classification:

Equipment Classification (Option)

Electrical specification:

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]

For others:

Mounting direction	Vertical or Horizontal	Pedestal (Stand)	Yes or No
Dimension limit (Yes or No)	× [mm] or less	Height from substrage	[mm] or less
Ambient temperature	[℃]	Temperature rise	[K] or less
Cooling method	Natural or Forced or Others		

Remarks (including special instructions on lead handling)

MEMO

MEMO

MEMO

ELECTRONIC COMPONENTS & DEVICES

PRODUCTS

Notes on Safety

■ Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.

■ Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.

■ The products listed in this catalog are designed and manufactured for general electronics equipment use and are not intended for use in applications that can adversely affect human life; where the malfunction of equipment may cause damage to life or property. In addition, our products are not intended to be used in specific applications that may cause a major social impact. Please consult with us in advance of usage of our products in the following listed applications. ① Aerospace equipment ② Power generation equipment such as thermal power, nuclear power etc. ③ Medical equipment ④ Transport equipment (automobiles, trains, ships, etc.) ⑤ Transportation control equipment ⑥ Disaster prevention/ crime prevention equipment ⑦ Highly publicized information processing equipment ⑧ Submarine equipment ⑨ Other applications that are not considered general-purpose applications.

■ The circuits described as examples in this catalog and the "delivery specifications" are featured in order to show the operations and usage of our products, however, this fact does not guarantee that the circuits are available to function in your equipment systems. We are not in any case responsible for any failures or damage caused by the use of information contained herein. You should examine our products, of which the characteristics are described in the "delivery specifications" and other documents, and determine whether or not our products suit your requirements according to the specifications of your equipment systems. Therefore, you bear final responsibility regarding the use of our products. Please make sure that you take appropriate safety measures such as use of redundant design and malfunction prevention measures in order to prevent fatal accidents and/or fires in the event any of our products malfunction.

Note

■ We strongly recommend our customers to purchase Nippon Chemi-Con products only through our official sales channels. We assume no responsibility for any defects or damages caused by using products purchased from outside our official sales channel or of counterfeit goods. In addition, we will ask the customer to pay the investigation cost for products purchased outside our official sales channel.

■ We reserve the right to discontinue production and delivery of products. We do not guarantee that all the products included in this catalog will be available in the future.
The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products

■ We continually strive to improve the quality and reliability of our products, but in any case that our product does not meet our published specifications, please stop using it promptly and contact us immediately. As for compensation for non-conforming goods delivered by Chemi-Con, we will limit it only to goods found in non-compliance of our published specifications.This may be accomplished by a no cost replacement of non-conforming individual products, a credit of the piece price paid per each individual non-conforming product, or in other ways deemed necessary.
In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

■ The content of this catalog is as of April 2024

NIPPON CHEMI-CON CORPORATION

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