

Notice for TAIYO YUDEN Products

Please read this notice before using the TAIYO YUDEN products.

REMINDERS

Product Information in this Catalog

Product information in this catalog is as of October 2021. All of the contents specified herein and production status of the products listed in this catalog are subject to change without notice due to technical improvement of our products, etc. Therefore, please check for the latest information carefully before practical application or use of our products.

Please note that TAIYO YUDEN shall not be in any way responsible for any damages and defects in products or equipment incorporating our products, which are caused under the conditions other than those specified in this catalog or individual product specification sheets.

Approval of Product Specifications

Please contact TAIYO YUDEN for further details of product specifications as the individual product specification sheets are available. When using our products, please be sure to approve our product specifications or make a written agreement on the product specification with TAIYO YUDEN in advance.

Pre-Evaluation in the Actual Equipment and Conditions

Please conduct validation and verification of our products in actual conditions of mounting and operating environment before using our products.

Safety Design

When using our products for high safety and/or reliability-required equipment or circuits, please fully perform safety and/or reliability evaluation. In addition, please install (i) systems equipped with a protection circuit and a protection device and/or (ii) systems equipped with a redundant circuit or other system to prevent an unsafe status in the event of a single fault for a failsafe design to ensure safety.

Intellectual Property Rights

Information contained in this catalog is intended to convey examples of typical performances and/or applications of our products and is not intended to make any warranty with respect to the intellectual property rights or any other related rights of TAIYO YUDEN or any third parties nor grant any license under such rights.

Limited Warranty

Please note that the scope of warranty for our products is limited to the delivered our products themselves conforming to the product specifications specified in the individual product specification sheets, and TAIYO YUDEN shall not be in any way responsible for any damages resulting from a failure or defect in our products. Notwithstanding the foregoing, if there is a written agreement (e.g., supply and purchase agreement, quality assurance agreement) signed by TAIYO YUDEN and your company, TAIYO YUDEN will warrant our products in accordance with such agreement, provided, however, that our products shall be used for general-purpose and standard use in the equipment specified in this catalog or the individual product specification sheets.

TAIYO YUDEN's Official Sales Channel

The contents of this catalog are applicable to our products which are purchased from our sales offices or authorized distributors (hereinafter "TAIYO YUDEN's official sales channel"). Please note that the contents of this catalog are not applicable to our products purchased from any seller other than TAIYO YUDEN's official sales channel.

Caution for Export

Some of our products listed in this catalog may require specific procedures for export according to "U.S. Export Administration Regulations", "Foreign Exchange and Foreign Trade Control Law" of Japan, and other applicable regulations. Should you have any questions on this matter, please contact our sales staff.

TAIYO YUDEN 2022

Limited Application

1. Equipment Intended for Use

The products listed in this catalog are intended for general-purpose and standard use in general electronic equipment for consumer (e.g., AV equipment, OA equipment, home electric appliances, office equipment, information and communication equipment including, without limitation, mobile phone, and PC) and other equipment specified in this catalog or the individual product specification sheets, or the equipment approved separately by TAIYO YUDEN. TAIYO YUDEN has the product series intended for use in the following equipment. Therefore, when using our products for these equipment, please check available applications specified in this catalog or the individual product specification sheets and use the corresponding products.

Application	Product Series		Quality Grade ³⁾
	Equipment ¹⁾	Category (Part Number Code ²⁾)	
Automotive	Automotive Electronic Equipment (POWERTRAIN, SAFETY)	A	1
	Automotive Electronic Equipment (BODY & CHASSIS, INFOTAINMENT)	C	2
Industrial	Telecommunications Infrastructure and Industrial Equipment	B	2
Medical	Medical Devices classified as GHTF Class C (Japan Class III)	M	2
	Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)	L	3
Consumer	General Electronic Equipment	S	3

*Notes: 1. Based on the general specifications required for electronic components for such equipment, which are recognized by TAIYO YUDEN, the use of each product series for the equipment is recommended. Please be sure to contact TAIYO YUDEN before using our products for equipment other than those covered by the product series.

2. On each of our part number, the 2nd code from the left is a code indicating the "Category" as shown in the above table. For details, please check the explanatory materials regarding the part numbering system of each of our products.

3. Each product series is assigned a "Quality Grade" from 1 to 3 in order of higher quality. Please do not incorporate a product into any equipment with a higher Quality Grade than the Quality Grade of such product without the prior written consent of TAIYO YUDEN.

2. Equipment Requiring Inquiry

Please be sure to contact TAIYO YUDEN for further information before using the products listed in this catalog for the following equipment (excluding intended equipment as specified in this catalog or the individual product specification sheets) which may cause loss of human life, bodily injury, serious property damage and/or serious public impact due to a failure or defect of the products and/or malfunction attributed thereto.

- (1) Transportation equipment (automotive powertrain control system, train control system, and ship control system, etc.)
- (2) Traffic signal equipment
- (3) Disaster prevention equipment, crime prevention equipment
- (4) Medical devices classified as GHTF Class C (Japan Class III)
- (5) Highly public information network equipment, data-processing equipment (telephone exchange, and base station, etc.)
- (6) Any other equipment requiring high levels of quality and/or reliability equal to the equipment listed above

3. Equipment Prohibited for Use

Please do not incorporate our products into the following equipment requiring extremely high levels of safety and/or reliability.

- (1) Aerospace equipment (artificial satellite, rocket, etc.)
- (2) Aviation equipment ¹⁾
- (3) Medical devices classified as GHTF Class D (Japan Class IV), implantable medical devices ²⁾
- (4) Power generation control equipment (nuclear power, hydroelectric power, thermal power plant control system, etc.)
- (5) Undersea equipment (submarine repeating equipment, etc.)
- (6) Military equipment
- (7) Any other equipment requiring extremely high levels of safety and/or reliability equal to the equipment listed above

*Notes: 1. There is a possibility that our products can be used only for aviation equipment that does not directly affect the safe operation of aircraft (e.g., in-flight entertainment, cabin light, electric seat, cooking equipment) if such use meets requirements specified separately by TAIYO YUDEN. Please be sure to contact TAIYO YUDEN for further information before using our products for such aviation equipment.

2. Implantable medical devices contain not only internal unit which is implanted in a body, but also external unit which is connected to the internal unit.

4. Limitation of Liability

Please note that unless you obtain prior written consent of TAIYO YUDEN, TAIYO YUDEN shall not be in any way responsible for any damages incurred by you or third parties arising from use of the products listed in this catalog for any equipment that is not intended for use by TAIYO YUDEN, or any equipment requiring inquiry to TAIYO YUDEN or prohibited for use by TAIYO YUDEN as described above.

TAIYO YUDEN 2022

Medical Application Guide

According to the medical devices classified as GHTF Classes A to C (Japan Classes I to III), we have the corresponding product series (the part number code of 2nd digit from the left side is "M" or "L") intended for use in the medical devices. Therefore, when using our products for the medical devices, please be sure to check the classification based on the GHTF Rules and use the corresponding product series.

On the other hand, we don't have the product series intended for use in (i) all medical devices classified as GHTF Class D (Japan Class IV) and (ii) implantable medical devices (bone-anchored hearing aid, artificial retina system, and external unit which is connected to internal unit which is implanted in a body, etc.). Therefore, please do not incorporate our products into these medical devices. Should you have any questions on this matter, please contact us.

Risk Level		Low → High				
Japan	Classification according to the PMDA Act of Japan (based on the GHTF Rules)	Class I General Medical Devices (GHTF Class A)	Class II Controlled Medical Devices (GHTF Class B)	Class III Specially-controlled Medical Devices (GHTF Class C)	Class IV Specially-controlled Medical Devices (GHTF Class D)	
		Medical devices with extremely low risk to the human body in case of problems [Ex.] • In Vitro Diagnostic Devices • Nebulizer • Blood Gas Analyzer • Plethysmographs • Breathing Sensor • AC-powered Operating Table • Surgical Light • Cholesterol Analysis Device • Blood Type Analysis Device, etc.	Medical devices with relatively low risk to the human body in case of problems [Ex.] • Electronic Thermometer • Electronic Blood Pressure Gauge • Electronic Endoscope • Hearing Aid • Electrocardiograph • MRI • Ultrasonic Diagnostic System • Diagnostic Imaging Equipment • X-ray Diagnostic Equipment • Central Monitor • Pulse Oximeter, etc.	Medical devices with relatively high risk to the human body in case of problems [Ex.] • Dialysis Machine • Radiation Therapy Equipment • Infusion Pump • Respirator • Glucose Monitoring System • AED (Automated External Defibrillator) • Skin Laser Scanner • Electric Surgical Unit • Insulin Pump, etc.	Medical devices highly invasive to patients and with life-threatening risk in case of problems [Ex.] • Cardiac Pacemaker • Video Flexible Angioscope • Implantable Infusion Pump • Cardiac Electrosurgical Unit • Inspection Device with Cardiac Catheter • Defibrillator, etc.	
		Class I General Controls	Class II General Controls and Special Controls	Class III General Controls and Premarket Approval		
U.S.A.	FDA Classification	Medical devices without the possibility of causing serious injury or harm to the patient or user even if there is a defect or malfunction in such medical devices	Medical devices with the possibility of causing injury or harm to the patient or user if there is a defect or malfunction in such medical devices	Medical devices with the possibility of causing serious injury, disability or death to the patient or user if a defect or malfunction occurs in such medical devices		
Corresponding TAIYO YUDEN Product Series		Product Series for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II) (Part Number Code of 2nd Digit from the Left Side: "L")			Product Series for Medical Devices classified as GHTF Class C (Japan Class III) (Part Number Code of 2nd Digit from the Left Side: "M") (See the Note below.)	N/A

* Note: It is prohibited that our products are used in some medical devices such as implantable medical devices even if such medical

TAIYO YUDEN 2022

for Medical Devices Equipment

Wire-wound Ferrite Power Inductors LLXB/LLXN/LLXP series for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)

Code in front of Series have been extracted from Part number, which describes the segment of products, such as kind and characteristics.

PART NUMBER
* Operating Temp.: -25~+120°C (LLXN 4040/5050/6060/8080 -25~+125°C) (Including self-generated heat)

L	L	X	B	D	4	0	4	0	T	K	L	1	0	0	M		
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱

① Series

Code	
(1)(2)(3)(4)	
LLXB	Wire-wound Ferrite Power Inductor for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)
LLXN	Wire-wound Ferrite Power Inductor for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)
LLXP	Wire-wound Ferrite Power Inductor for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)

(1) Product Group

Code	
L	Inductors

(2) Category

Code	Recommended equipment	Quality Grade
L	Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)	3

(3) Type

Code	
X	Ferrite Wire-wound (Drum type)

(4) Features, Characteristics

Code	
B	Standard
N	Standard Power choke
P	High current power choke

(5) Packaging

Code	Packaging
T	Taping
L	Taping

(6) Nominal inductance

Code (example)	Nominal inductance[μH]
2R2	2.2
100	10
101	100

※R=Decimal point

(7) Inductance tolerance

Code	Inductance tolerance
M	±20%
N	±30%

(8) Internal code

(9) Dimensions (L × W)

Code	Dimensions (L × W) [mm]
2020	2.0 × 2.0
2424	2.4 × 2.4
3030	3.0 × 3.0
4040	4.0 × 4.0
5050	5.0 × 5.0
6060	6.0 × 6.0
8080	8.0 × 8.0

(10) Dimensions (H)

Code	Dimensions (H) [mm]
KK	1.0
MK	1.2
PK	1.4
OK	1.5
TK	1.8
WK	2.0
WD	2.4
WE	2.5
WH	2.8
XX	3.0
XA	3.1
YK	4.0
YA	4.1
YB	4.2
YE	4.5

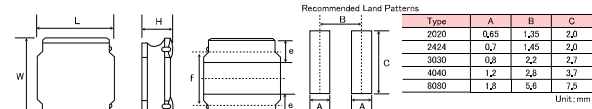
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CATALOG 2022

TAIYO YUDEN

Lsm_NRL_e-E10F01

STANDARD EXTERNAL DIMENSIONS / STANDARD QUANTITY



Type	L	W	H	e	f	Standard quantity [pcs] Taping
2020KK	2,0±0,1 (0,079±0,004)	2,0±0,1 (0,079±0,004)	1,0 max (0,039 max)	0,5±0,2 (0,020±0,008)	1,25±0,2 (0,050±0,008)	2500
2020MK	2,0±0,1 (0,079±0,004)	2,0±0,1 (0,079±0,004)	1,2 max (0,047 max)	0,5±0,2 (0,020±0,008)	1,25±0,2 (0,050±0,008)	2500
2424KK	2,4±0,1 (0,095±0,004)	2,4±0,1 (0,095±0,004)	1,0 max (0,039 max)	0,6±0,2 (0,024±0,008)	1,45±0,2 (0,057±0,008)	2500
2424MK	2,4±0,1 (0,095±0,004)	2,4±0,1 (0,095±0,004)	1,2 max (0,047 max)	0,6±0,2 (0,024±0,008)	1,45±0,2 (0,057±0,008)	2500
3030KK	3,0±0,1 (0,118±0,004)	3,0±0,1 (0,118±0,004)	1,0 max (0,039 max)	0,8±0,2 (0,035±0,008)	1,8±0,2 (0,075±0,008)	2000
3030MK	3,0±0,1 (0,118±0,004)	3,0±0,1 (0,118±0,004)	1,2 max (0,047 max)	0,8±0,2 (0,035±0,008)	1,8±0,2 (0,075±0,008)	2000
3030QK	3,0±0,1 (0,118±0,004)	3,0±0,1 (0,118±0,004)	1,5 max (0,059 max)	0,9±0,2 (0,035±0,008)	1,8±0,2 (0,075±0,008)	2000
4040KK	4,0±0,2 (0,158±0,008)	4,0±0,2 (0,158±0,008)	1,0 max (0,039 max)	1,1±0,2 (0,043±0,008)	2,5±0,2 (0,098±0,008)	5000
4040MK	4,0±0,2 (0,158±0,008)	4,0±0,2 (0,158±0,008)	1,2 max (0,047 max)	1,1±0,2 (0,043±0,008)	2,5±0,2 (0,098±0,008)	4500
4040TK	4,0±0,2 (0,158±0,008)	4,0±0,2 (0,158±0,008)	1,8 max (0,071 max)	1,1±0,2 (0,043±0,008)	2,5±0,2 (0,098±0,008)	3500
5050KK	5,0±0,2 (0,315±0,008)	5,0±0,2 (0,315±0,008)	3,0 max (0,118 max)	1,60±0,3 (0,063±0,012)	5,8±0,3 (0,22±0,012)	1000
5050YK	5,0±0,2 (0,315±0,008)	5,0±0,2 (0,315±0,008)	4,0 max (0,158 max)	1,60±0,3 (0,063±0,012)	5,8±0,3 (0,22±0,012)	1000
5050YB	5,0±0,2 (0,315±0,008)	5,0±0,2 (0,315±0,008)	4,2 max (0,165 max)	1,60±0,3 (0,063±0,012)	5,8±0,3 (0,22±0,012)	1000

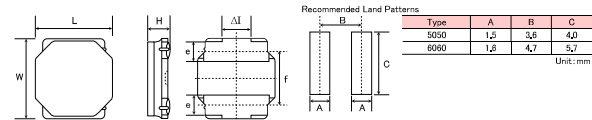
Unit: mm (inch)

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CATALOG 2022

TAIYO YUDEN

Lsm_NRL_e-E10F01



Type	L	W	H	e	f	ΔI	Standard quantity [pcs] Taping
5050KK	4,9±0,2 (0,193±0,008)	4,9±0,2 (0,193±0,008)	1,0 max (0,039 max)	1,2±0,2 (0,047±0,008)	3,3±0,2 (0,130±0,008)	1,2typ (0,051typ)	1000
5050MK	4,9±0,2 (0,193±0,008)	4,9±0,2 (0,193±0,008)	1,2 max (0,047 max)	1,2±0,2 (0,047±0,008)	3,3±0,2 (0,130±0,008)	1,2typ (0,051typ)	1000
5050PK	4,9±0,2 (0,193±0,008)	4,9±0,2 (0,193±0,008)	1,4 max (0,055 max)	1,2±0,2 (0,047±0,008)	3,3±0,2 (0,130±0,008)	1,2typ (0,051typ)	1000
5050WK	4,9±0,2 (0,193±0,008)	4,9±0,2 (0,193±0,008)	2,0 max (0,079 max)	1,2±0,2 (0,047±0,008)	3,3±0,2 (0,130±0,008)	1,2typ (0,051typ)	800
5050WD	4,9±0,2 (0,193±0,008)	4,9±0,2 (0,193±0,008)	2,4 max (0,095 max)	1,2±0,2 (0,047±0,008)	3,3±0,2 (0,130±0,008)	1,2typ (0,051typ)	2500
5050WE	4,9±0,2 (0,193±0,008)	4,9±0,2 (0,193±0,008)	2,5 max (0,098 max)	1,2±0,2 (0,047±0,008)	3,3±0,2 (0,130±0,008)	1,2typ (0,051typ)	2500
5050XK	4,9±0,2 (0,193±0,008)	4,9±0,2 (0,193±0,008)	3,0 max (0,118 max)	1,2±0,2 (0,047±0,008)	3,3±0,2 (0,130±0,008)	1,2typ (0,051typ)	500
5050XA	4,9±0,2 (0,193±0,008)	4,9±0,2 (0,193±0,008)	3,1 max (0,122 max)	1,2±0,2 (0,047±0,008)	3,3±0,2 (0,130±0,008)	1,2typ (0,051typ)	500
5050YK	4,9±0,2 (0,193±0,008)	4,9±0,2 (0,193±0,008)	4,0 max (0,158 max)	1,2±0,2 (0,047±0,008)	3,3±0,2 (0,130±0,008)	1,2typ (0,051typ)	1500
5050YA	4,9±0,2 (0,193±0,008)	4,9±0,2 (0,193±0,008)	4,1 max (0,161 max)	1,2±0,2 (0,047±0,008)	3,3±0,2 (0,130±0,008)	1,2typ (0,051typ)	1500
6060KK	6,0±0,2 (0,236±0,008)	6,0±0,2 (0,236±0,008)	1,0 max (0,039 max)	1,35±0,2 (0,053±0,008)	4,0±0,2 (0,158±0,008)	2,3typ (0,091typ)	1000
6060MK	6,0±0,2 (0,236±0,008)	6,0±0,2 (0,236±0,008)	1,2 max (0,047 max)	1,35±0,2 (0,053±0,008)	4,0±0,2 (0,158±0,008)	2,3typ (0,091typ)	1000
6060PK	6,0±0,2 (0,236±0,008)	6,0±0,2 (0,236±0,008)	1,4 max (0,055 max)	1,35±0,2 (0,053±0,008)	4,0±0,2 (0,158±0,008)	2,3typ (0,091typ)	1000
6060WK	6,0±0,2 (0,236±0,008)	6,0±0,2 (0,236±0,008)	2,0 max (0,079 max)	1,35±0,2 (0,053±0,008)	4,0±0,2 (0,158±0,008)	2,3typ (0,091typ)	2500
6060WH	6,0±0,2 (0,236±0,008)	6,0±0,2 (0,236±0,008)	2,8 max (0,110 max)	1,35±0,2 (0,053±0,008)	4,0±0,2 (0,158±0,008)	2,3typ (0,091typ)	2000
6060YE	6,0±0,2 (0,236±0,008)	6,0±0,2 (0,236±0,008)	4,5 max (0,177 max)	1,35±0,2 (0,053±0,008)	4,0±0,2 (0,158±0,008)	2,3typ (0,091typ)	1500

Unit: mm (inch)

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CATALOG 2022

TAIYO YUDEN

Lsm_NRL_e-E10F01

PART NUMBER

3200MK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)		Rated current (80℃)		Measuring frequency [kHz]
						Max.	Typ.	Max.	Typ.	
LLND3200MK1TRNDG	NR52012T 1RN GJ	RuHS	1.0	±30%	—	0.870	1.900	2.000	1.900	100
LLND3200MK1TRNDG	NR52012T 1RN GJ	RuHS	1.5	±30%	—	0.880	1.950	1.900	1.900	100
LLND3200MK1TRNDG	NR52012T 2RN GJ	RuHS	2.2	±30%	—	0.920	1.900	1.900	1.900	100
LLND3200MK1TRNDG	NR52012T 3RN GJ	RuHS	3.3	±30%	—	0.180	1.800	1.150	1.020	100
LLND3200MK1TRNDG	NR52012T 4RN GJ	RuHS	4.7	±30%	—	0.240	880	1.050	910	100

3200MK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)		Rated current (80℃)		Measuring frequency [kHz]
						Max.	Typ.	Max.	Typ.	
LLAPD3200KATRN7600	NRV3010T 847N GJ	RuHS	0.47	±30%	—	0.930	2.100	2.250	2.000	100
LLAPD3200KATRN7600	NRV3010T 180N GJ	RuHS	0.88	±30%	—	0.980	2.000	2.000	1.900	100
LLAPD3200KATRN7600	NRV3010T 1RN GJ	RuHS	1.0	±30%	—	0.980	1.900	1.900	1.850	100
LLAPD3200KATRN7600	NRV3010T 180M GJ	RuHS	1.5	±30%	—	0.150	1.250	1.450	1.450	100
LLAPD3200KATRN7600	NRV3010T 250M GJ	RuHS	2.2	±30%	—	0.170	1.100	1.200	1.200	100
LLAPD3200KATRN7600	NRV3010T 330M GJ	RuHS	3.3	±30%	—	0.250	880	950	1.000	100
LLAPD3200KATRN7600	NRV3010T 470M GJ	RuHS	4.7	±30%	—	0.320	780	810	820	100

3200MK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)		Rated current (80℃)		Measuring frequency [kHz]	
						Max.	Typ.	Max.	Typ.		
LLAPD3200KATRN7600	NRV3010T 1RN GJ	RuHS	1.0	±30%	—	0.870	2.000	2.250	1.950	100	
LLAPD3200KATRN7600	NRV3010T 1RN GJ	RuHS	1.5	±30%	—	0.120	1.800	1.950	1.800	100	
LLAPD3200KATRN7600	NRV3010T 250M GJ	RuHS	2.2	±30%	—	0.120	1.800	1.900	1.800	100	
LLAPD3200KATRN7600	NRV3010T 330M GJ	RuHS	3.3	±30%	—	0.220	1.250	1.350	1.400	100	
LLAPD3200KATRN7600	NRV3010T 470M GJ	RuHS	4.7	±30%	—	0.320	1.100	1.150	790	880	100

3240MK type

New part number	Old part number for reference	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)		Rated current (80 °C)		Measuring frequency [kHz]
						Max.	Typ.	Max.	Typ.	
LLANE3240M1TRN4N	NRH410T 180N H4	RuHS	0.88	±30%	120	0.980	2.200	2.300	1.970	100
LLANE3240M1TRN4N	NRH410T 180M H4	RuHS	1.0	±30%	100	0.970	1.800	1.850	1.410	100
LLANE3240M1TRN4N	NRH410T 250M H4	RuHS	1.5	±30%	84	0.110	1.550	1.640	1.140	100
LLANE3240M1TRN4N	NRH410T 330M H4	RuHS	2.2	±30%	77	0.130	1.250	1.340	970	110
LLANE3240M1TRN4N	NRH410T 470M H4	RuHS	3.3	±30%	66	0.220	1.000	1.140	770	890
LLANE3240M1TRN4N	NRH410T 500M H4	RuHS	4.7	±30%	50	0.280	880	950	870	100
LLANE3240M1TRN4N	NRH410T 100M H4	RuHS	5.8	±30%	43	0.410	750	760	870	100
LLANE3240M1TRN4N	NRH410T 150M H4	RuHS	10	±30%	32	0.890	520	600	450	520
LLANE3240M1TRN4N	NRH410T 220M H4	RuHS	15	±30%	27	1.32	470	550	370	430
LLANE3240M1TRN4N	NRH410T 330M H4	RuHS	22	±30%	22	1.47	380	460	350	340

3240MK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (±20%)	Rated current (80℃)		Measuring frequency [kHz]	
						Saturation current (100℃)	Temperature rise current (100℃)		
LLANE3240M1TRN4N	NRH410T 180N H4	RuHS	0.47	±30%	180	0.950	2.500 2.600	2.100 2.200	100
LLANE3240M1TRN4N	NRH410T 180N H4	RuHS	1.0	±30%	101	0.970	2.100 2.410	1.900 1.640	100
LLANE3240M1TRN4N	NRH410T 180N H4	RuHS	1.5	±30%	89	0.100	1.100 1.210	1.150 1.280	100
LLANE3240M1TRN4N	NRH410T 250M H4	RuHS	2.2	±30%	78	0.140	1.200 1.440	1.050 1.120	100
LLANE3240M1TRN4N	NRH410T 330M H4	RuHS	3.3	±30%	66	0.220	1.400 1.600	750 890	100
LLANE3240M1TRN4N	NRH410T 470M H4	RuHS	4.7	±30%	45	0.300	1.150 1.280	650 770	100
LLANE3240M1TRN4N	NRH410T 500M H4	RuHS	5.8	±30%	34	0.450	850 1.100	550 630	100
LLANE3240M1TRN4N	NRH410T 100M H4	RuHS	10	±30%	29	0.850	810 890	450 510	100

3200MK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)		Rated current (80℃)		Measuring frequency [kHz]
						Max.	Typ.	Max.	Typ.	
LLNE3200MK1TRN4N	NRH3010T 180N H4	RuHS	1.2	±30%	120	0.985	1.900	1.950	1.850	100
LLNE3200MK1TRN4N	NRH3010T 180N H4	RuHS	1.5	±30%	99	0.970	1.440	1.500	1.370	1.680
LLNE3200MK1TRN4N	NRH3010T 250M H4	RuHS	2.2	±30%	88	0.980	1.200	1.400	1.200	1.550
LLNE3200MK1TRN4N	NRH3010T 330M H4	RuHS	3.3	±30%	84	0.130	1.000	1.020	1.030	1.220
LLNE3200MK1TRN4N	NRH3010T 470M H4	RuHS	4.7	±30%	50	0.130	850	930	850	1.050
LLNE3200MK1TRN4N	NRH3010T 500M H4	RuHS	5.8	±30%	44	0.190	750	780	720	820
LLNE3200MK1TRN4N	NRH3010T 100M H4	RuHS	10	±30%	34	0.350	680	650	420	760
LLNE3200MK1TRN4N	NRH3010T 150M H4	RuHS	15	±30%	25	0.570	450	420	400	480
LLNE3200MK1TRN4N	NRH3010T 220M H4	RuHS	22	±30%	22	0.710	380	440	410	510
LLNE3200MK1TRN4N	NRH3010T 330M H4	RuHS	33	±30%	20	1.250	290	360	290	440
LLNE3200MK1TRN4N	NRH3010T 470M H4	RuHS	47	±30%	17	2.350	250	300	250	330

- 8) The saturation current value (Isat) is the DC current value having inductance decrease down to 30% (at 20℃).
 9) The temperature rise current value (Isr) is the DC current value having temperature increase up to 40℃ (at 20℃).
 9') The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.

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CATALOG 2022

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Lmd_NRLU_E-10R01

PART NUMBER

3300MK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)		Rated current (80℃)		Measuring frequency [kHz]	
						Max.	Typ.	Max.	Typ.		
LLNE3300MK1TRN4N	NRH3010T 180N H4	RuHS	0.47	±30%	180	0.930	2.000	2.200	1.900	2.200	100
LLNE3300MK1TRN4N	NRH3010T 180N H4	RuHS	1.0	±30%	111	0.940	2.200	2.500	1.710	1.970	100
LLNE3300MK1TRN4N	NRH3010T 250M H4	RuHS	1.5	±30%	95	0.950	1.900	1.900	1.800	1.750	100
LLNE3300MK1TRN4N	NRH3010T 330M H4	RuHS	2.2	±30%	78	0.970	1.500	1.750	1.370	1.650	100
LLNE3300MK1TRN4N	NRH3010T 470M H4	RuHS	3.3	±30%	61	0.920	1.200	1.500	1.210	1.480	100
LLNE3300MK1TRN4N	NRH3010T 500M H4	RuHS	4.7	±30%	50	0.130	1.000	1.200	1.040	1.280	100
LLNE3300MK1TRN4N	NRH3010T 100M H4	RuHS	10	±30%	32	0.270	720	780	720	850	100
LLNE3300MK1TRN4N	NRH3010T 150M H4	RuHS	15	±30%	24	0.430	580	650	570	680	100
LLNE3300MK1TRN4N	NRH3010T 220M H4	RuHS	22	±30%	22	0.680	500	550	460	540	100
LLNE3300MK1TRN4N	NRH3010T 330M H4	RuHS	33	±30%	18	0.960	380	440	450	510	100
LLNE3300MK1TRN4N	NRH3010T 470M H4	RuHS	47	±30%	16	1.340	280	380	380	430	100

3300MK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)		Rated current (80℃)		Measuring frequency [kHz]	
						Saturation current I _{sat}	Temperature rise current I _{TR}	Max.	Typ.		Max.
LLAPD3300KATRN7600	NRV3010T 180N GJ	RuHS	1.0	±30%	110	0.985	2.500	3.000	1.800	1.970	100
LLAPD3300KATRN7600	NRV3010T 180N GJ	RuHS	1.5	±30%	92	0.970	2.100	2.500	1.800	1.810	100
LLAPD3300KATRN7600	NRV3010T 250M GJ	RuHS	2.2	±30%	79	0.130	1.800	2.100	1.100	1.330	100
LLAPD3300KATRN7600	NRV3010T 330M GJ	RuHS	3.3	±30%	55	0.180	1.600	1.900	1.000	1.250	100
LLAPD3300KATRN7600	NRV3010T 470M GJ	RuHS	4.7	±30%	48	0.190	1.250	1.500	850	1.040	100
LLAPD3300KATRN7600	NRV3010T 680M GJ	RuHS	6.8	±30%	40	0.300	950	1.200	650	880	100
LLAPD3300KATRN7600	NRV3010T 100M GJ	RuHS	10	±30%	32	0.470	880	950	550	640	100

3300MK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)		Rated current (80 °C)		Measuring frequency [kHz]	
						Max.	Typ.	Max.	Typ.		
LLND3300MK1TRNDG	NR53010T 180N H4	RuHS	1.0	±30%	100	0.920	2.100	2.400	2.100	2.350	100
LLND3300MK1TRNDG	NR53010T 180N H4	RuHS	1.5	±30%	87	0.930	1.800	2.100	1.820	2.100	100
LLND3300MK1TRNDG	NR53010T 250M H4	RuHS	2.2	±30%	84	0.950	1.400	1.700	1.400	1.650	100
LLND3300MK1TRNDG	NR53010T 330M H4	RuHS	3.3	±30%	49	0.970	1.210	1.400	1.230	1.500	100
LLND3300MK1TRNDG	NR53010T 440M H4	RuHS	4.7	±30%	40	0.980	1.030	1.150	1.040	1.200	100
LLND3300MK1TRNDG	NR53010T 560M H4	RuHS	5.6	±30%	33	0.990	0.880	1.000	0.900	1.100	100
LLND3300MK1TRNDG	NR53010T 680M H4	RuHS	6.8	±30%	28	0.990	0.760	0.850	0.780	0.900	100
LLND3300MK1TRNDG	NR53010T 820M H4	RuHS	8.2	±30%	23	0.990	0.660	0.750	0.680	0.800	100
LLND3300MK1TRNDG	NR53010T 1000M H4	RuHS	10	±30%	20	0.990	0.560	0.650	0.580	0.700	100
LLND3300MK1TRNDG	NR53010T 1500M H4	RuHS	15	±30%	16	0.990	0.450	0.540	0.480	0.600	100
LLND3300MK1TRNDG	NR53010T 2200M H4	RuHS	22	±30%	12	0.990	0.350	0.440	0.380	0.500	100
LLND3300MK1TRNDG	NR53010T 3300M H4	RuHS	33	±30%	10	0.990	0.250	0.340	0.280	0.400	100
LLND3300MK1TRNDG	NR53010T 4700M H4	RuHS	47	±30%	8	0.990	0.180	0.270	0.210	0.300	100
LLND3300MK1TRNDG	NR53010T 6800M H4	RuHS	68	±30%	6	0.990	0.130	0.220	0.160	0.250	100
LLND3300MK1TRNDG	NR53010T 10000M H4	RuHS	100	±30%	5	0.990	0.100	0.190	0.130	0.200	100

PART NUMBER

4047K type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz (min.)]	DC Resistance [Ω (±20%)]		Rated current (80℃)			Measuring frequency [kHz]
						100% (100% IPR)	50% (50% IPR)	Saturation current (50℃)	Temperature rise current (50℃)	Temp. rise	
LLN4047KTL1R0NDJ	NR50401T1R0NDJ	RuHS	1.0	±30%	30	0.027	4,000	4,000	2,500	100	100
LLN4047KTL1R2NDJ	NR50401T1R2NDJ	RuHS	1.5	±30%	25	0.031	3,200	3,200	2,000	100	100
LLN4047KTL1R5NDJ	NR50401T1R5NDJ	RuHS	2.2	±30%	20	0.045	2,000	2,000	1,500	100	100
LLN4047KTL1R8NDJ	NR50401T1R8NDJ	RuHS	3.3	±30%	15	0.055	1,500	1,500	1,000	100	100
LLN4047KTL2R2NDJ	NR50401T2R2NDJ	RuHS	4.7	±30%	10	0.070	1,000	1,000	700	100	100
LLN4047KTL3R3NDJ	NR50401T3R3NDJ	RuHS	6.8	±30%	7	0.090	600	600	450	100	100
LLN4047KTL4R7NDJ	NR50401T4R7NDJ	RuHS	10	±30%	5	0.120	400	400	300	100	100
LLN4047KTL6R8NDJ	NR50401T6R8NDJ	RuHS	15	±30%	3	0.150	250	250	150	100	100
LLN4047KTL10M0NDJ	NR50401T10M0NDJ	RuHS	22	±30%	2	0.200	150	150	100	100	100
LLN4047KTL15M0NDJ	NR50401T15M0NDJ	RuHS	33	±30%	1	0.250	100	100	70	100	100
LLN4047KTL22M0NDJ	NR50401T22M0NDJ	RuHS	47	±30%	1	0.300	80	80	50	100	100
LLN4047KTL33M0NDJ	NR50401T33M0NDJ	RuHS	68	±30%	0.8	0.360	60	60	40	100	100
LLN4047KTL47M0NDJ	NR50401T47M0NDJ	RuHS	100	±30%	0.6	0.430	40	40	30	100	100
LLN4047KTL68M0NDJ	NR50401T68M0NDJ	RuHS	150	±30%	0.4	0.500	30	30	20	100	100
LLN4047KTL100M0NDJ	NR50401T100M0NDJ	RuHS	220	±30%	0.3	0.580	20	20	15	100	100

5050K type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-Resonant frequency [MHz (typ.)]	DC Resistance [Ω (±20%)]		Rated current (80℃)		Measuring frequency [kHz]
						Temperature rise current (50℃)	Temperature rise current (50℃)	Typ.	Typ.	
LLN5050SKT1R0NDJ	NR50501T1R0NDJ	RuHS	1.0	±30%	35	0.010	2,500	2,500	1,500	100
LLN5050SKT1R2NDJ	NR50501T1R2NDJ	RuHS	1.5	±30%	30	0.012	2,000	2,000	1,200	100
LLN5050SKT1R5NDJ	NR50501T1R5NDJ	RuHS	2.2	±30%	25	0.015	1,500	1,500	900	100
LLN5050SKT1R8NDJ	NR50501T1R8NDJ	RuHS	3.3	±30%	20	0.018	1,000	1,000	700	100
LLN5050SKT2R2NDJ	NR50501T2R2NDJ	RuHS	4.7	±30%	15	0.022	700	700	450	100
LLN5050SKT3R3NDJ	NR50501T3R3NDJ	RuHS	6.8	±30%	10	0.028	500	500	300	100
LLN5050SKT4R7NDJ	NR50501T4R7NDJ	RuHS	10	±30%	7	0.035	350	350	200	100
LLN5050SKT6R8NDJ	NR50501T6R8NDJ	RuHS	15	±30%	5	0.045	250	250	150	100
LLN5050SKT10M0NDJ	NR50501T10M0NDJ	RuHS	22	±30%	3	0.060	150	150	100	100
LLN5050SKT15M0NDJ	NR50501T15M0NDJ	RuHS	33	±30%	2	0.075	100	100	70	100

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-Resonant frequency [MHz (typ.)]	DC Resistance [Ω (±20%)]		Rated current (80℃)		Measuring frequency [kHz]
						Temperature rise current (50℃)	Temperature rise current (50℃)	Typ.	Typ.	
LLN5050SKT1R0NDJ	NR50501T1R0NDJ	RuHS	1.0	±30%	10	0.053	450	450	270	100
LLN5050SKT1R2NDJ	NR50501T1R2NDJ	RuHS	1.5	±30%	9	0.063	400	400	240	100
LLN5050SKT1R5NDJ	NR50501T1R5NDJ	RuHS	2.2	±30%	7	0.075	350	350	210	100
LLN5050SKT1R8NDJ	NR50501T1R8NDJ	RuHS	3.3	±30%	6	0.085	310	310	190	100
LLN5050SKT2R2NDJ	NR50501T2R2NDJ	RuHS	4.7	±30%	5	0.100	240	240	150	100
LLN5050SKT3R3NDJ	NR50501T3R3NDJ	RuHS	6.8	±30%	4	0.120	190	190	120	100
LLN5050SKT4R7NDJ	NR50501T4R7NDJ	RuHS	10	±30%	3	0.140	150	150	90	100
LLN5050SKT6R8NDJ	NR50501T6R8NDJ	RuHS	15	±30%	2	0.180	100	100	60	100
LLN5050SKT10M0NDJ	NR50501T10M0NDJ	RuHS	22	±30%	1	0.240	70	70	40	100
LLN5050SKT15M0NDJ	NR50501T15M0NDJ	RuHS	33	±30%	0.8	0.300	50	50	30	100

5050PK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz (min.)]	DC Resistance [Ω (±20%)]		Rated current (80℃)		Measuring frequency [kHz]	
						Saturation current (50℃)		Temperature rise current (50℃)			
						Max.	Typ.	Max.	Typ.		
LLN5050PKT1R0NDJ	NR50501T1R0NDJ	RuHS	0.47	±30%	105	0.025	3,500	4,400	3,300	2,410	100
LLN5050PKT1R2NDJ	NR50501T1R2NDJ	RuHS	0.68	±30%	85	0.028	3,000	3,800	2,800	2,030	100
LLN5050PKT1R5NDJ	NR50501T1R5NDJ	RuHS	2.2	±30%	56	0.035	2,500	3,100	2,000	1,450	100
LLN5050PKT1R8NDJ	NR50501T1R8NDJ	RuHS	3.3	±30%	48	0.040	2,200	2,600	1,700	1,200	100
LLN5050PKT2R2NDJ	NR50501T2R2NDJ	RuHS	4.7	±30%	41	0.050	1,800	2,100	1,400	1,000	100
LLN5050PKT3R3NDJ	NR50501T3R3NDJ	RuHS	6.8	±30%	33	0.055	1,600	1,800	1,200	850	100
LLN5050PKT4R7NDJ	NR50501T4R7NDJ	RuHS	10	±30%	25	0.065	1,200	1,400	900	650	100
LLN5050PKT6R8NDJ	NR50501T6R8NDJ	RuHS	15	±30%	18	0.080	900	1,000	550	400	100
LLN5050PKT10M0NDJ	NR50501T10M0NDJ	RuHS	18	±30%	27	0.200	1,400	1,600	1,050	1,250	100
LLN5050PKT15M0NDJ	NR50501T15M0NDJ	RuHS	22	±30%	20	0.320	1,100	1,200	750	900	100
LLN5050PKT22M0NDJ	NR50501T22M0NDJ	RuHS	22	±20%	17	0.400	900	1,000	550	650	100

5050MK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz (min.)]	DC Resistance [Ω (±20%)]		Rated current (80℃)		Measuring frequency [kHz]
						Maximum	Typical	Maximum	Typical	
LLN5050MKT1R0NDJ	NR50501T1R0NDJ	RuHS	1.0	±30%	35	0.010	2,500	2,500	1,500	100
LLN5050MKT1R2NDJ	NR50501T1R2NDJ	RuHS	1.5	±30%	30	0.012	2,000	2,000	1,200	100
LLN5050MKT1R5NDJ	NR50501T1R5NDJ	RuHS	2.2	±30%	25	0.015	1,500	1,500	900	100
LLN5050MKT1R8NDJ	NR50501T1R8NDJ	RuHS	3.3	±30%	20	0.018	1,000	1,000	700	100
LLN5050MKT2R2NDJ	NR50501T2R2NDJ	RuHS	4.7	±30%	15	0.022	700	700	450	100
LLN5050MKT3R3NDJ	NR50501T3R3NDJ	RuHS	6.8	±30%	10	0.028	500	500	300	100
LLN5050MKT4R7NDJ	NR50501T4R7NDJ	RuHS	10	±30%	7	0.035	350	350	200	100
LLN5050MKT6R8NDJ	NR50501T6R8NDJ	RuHS	15	±30%	5	0.045	250	250	150	100
LLN5050MKT10M0NDJ	NR50501T10M0NDJ	RuHS	22	±30%	3	0.060	150	150	100	100
LLN5050MKT15M0NDJ	NR50501T15M0NDJ	RuHS	33	±30%	2	0.075	100	100	70	100
LLN5050MKT22M0NDJ	NR50501T22M0NDJ	RuHS	47	±30%	1	0.100	60	60	40	100

80) The saturation current value (50℃) is the DC current value having inductance decrease down to 30% (at 20℃).
 81) The temperature rise current value (50℃) is the DC current value having temperature increase up to 40℃ (at 20℃).
 82) The rated current is the DC current value that satisfies both of current value, saturation current value and temperature rise current value.

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CATALOG 2022

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Lem_NRL_u-E10R01

PART NUMBER

5050K, 5050MD type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz (min.)]	DC Resistance [Ω (±20%)]		Rated current (80℃)		Measuring frequency [kHz]
						DC Resistance [Ω (±20%)]	Saturation current (50℃)	Temperature rise current (50℃)		
LLN5050KTL1R0NDJ	NR50501T1R0NDJ	RuHS	1.0	±30%	35	0.010	2,500	2,500	1,500	100
LLN5050KTL1R2NDJ	NR50501T1R2NDJ	RuHS	1.5	±30%	30	0.012	2,000	2,000	1,200	100
LLN5050KTL1R5NDJ	NR50501T1R5NDJ	RuHS	2.2	±30%	25	0.015	1,500	1,500	900	100
LLN5050KTL1R8NDJ	NR50501T1R8NDJ	RuHS	3.3	±30%	20	0.018	1,000	1,000	700	100
LLN5050KTL2R2NDJ	NR50501T2R2NDJ	RuHS	4.7	±30%	15	0.022	700	700	450	100
LLN5050KTL3R3NDJ	NR50501T3R3NDJ	RuHS	6.8	±30%	10	0.028	500	500	300	100
LLN5050KTL4R7NDJ	NR50501T4R7NDJ	RuHS	10	±30%	7	0.035	350	350	200	100
LLN5050KTL6R8NDJ	NR50501T6R8NDJ	RuHS	15	±30%	5	0.045	250	250	150	100
LLN5050KTL10M0NDJ	NR50501T10M0NDJ	RuHS	22	±30%	3	0.060	150	150	100	100
LLN5050KTL15M0NDJ	NR50501T15M0NDJ	RuHS	33	±30%	2	0.075	100	100	70	100

5050A, 5050V type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz (min.)]	DC Resistance [Ω (±20%)]		Rated current (80℃)		Measuring frequency [kHz]
						Maximum saturation current [A]	Temperature rise current [A]	Maximum saturation current [A]	Temperature rise current [A]	
LLN5050ATL1R0NDJ	NR50501T1R0NDJ	RuHS	0.1	±30%	110	0.010	2,500	2,500	1,500	100
LLN5050ATL1R2NDJ	NR50501T1R2NDJ	RuHS	0.15	±30%	110	0.013	2,000	2,000	1,200	100
LLN5050ATL1R5NDJ	NR50501T1R5NDJ	RuHS	0.22	±30%	110	0.015	1,500	1,500	900	100
LLN5050ATL1R8NDJ	NR50501T1R8NDJ	RuHS	0.33	±30%	48	0.022	1,000	1,000	700	100
LLN5050ATL2R2NDJ	NR50501T2R2NDJ	RuHS	0.47	±30%	31	0.025	700	700	450	100
LLN5050ATL3R3NDJ	NR50501T3R3NDJ	RuHS	0.68	±30%	22	0.030	500	500	300	100
LLN5050ATL4R7NDJ	NR50501T4R7NDJ	RuHS	1.0	±30%	15	0.035	350	350	200	100
LLN5050ATL6R8NDJ	NR50501T6R8NDJ	RuHS	1.5	±30%	10	0.045	250	250	150	100
LLN5050ATL10M0NDJ	NR50501T10M0NDJ	RuHS	2.2	±30%	5	0.060	150	150	100	100
LLN5050ATL15M0NDJ	NR50501T15M0NDJ	RuHS	3.3	±30%	3	0.075	100	100	70	100
LLN5050ATL22M0NDJ	NR50501T22M0NDJ	RuHS	4.7	±30%	2	0.100	70	70	50	100
LLN5050ATL33M0NDJ	NR50501T33M0NDJ	RuHS	6.8	±30%	1	0.150	40	40	30	100
LLN5050ATL47M0NDJ	NR50501T47M0NDJ	RuHS	10	±30%	0.8	0.200	25	25	20	100
LLN5050ATL68M0NDJ	NR50501T68M0NDJ	RuHS	15	±30%	0.6	0.300	15	15	12	100
LLN5050ATL100M0NDJ	NR50501T100M0NDJ	RuHS	22	±30%	0.5	0.400	10	10	8	100
LLN5050ATL150M0NDJ	NR50501T150M0NDJ	RuHS	33	±30%	0.4	0.600	7	7	5	100
LLN5050ATL220M0NDJ	NR50501T220M0NDJ	RuHS	47	±30%	0.3	0.800	5	5	4	100
LLN5050ATL330M0NDJ	NR50501T330M0NDJ	RuHS	68	±30%	0.2	1.200	3	3	2	100
LLN5050ATL470M0NDJ	NR50501T470M0NDJ	RuHS	100	±30%	0.15	1.800	2	2	1.5	100
LLN5050ATL680M0NDJ	NR50501T680M0NDJ	RuHS	150	±30%	0.1	2.500	1.5	1.5	1	100
LLN5050ATL1000M0NDJ	NR50501T1000M0NDJ	RuHS	220	±30%	0.08	3.500	1	1	0.8	100
LLN5050ATL1500M0NDJ	NR50501T1500M0NDJ	RuHS	330	±30%	0.06	5.000	0.8	0.8	0.6	100
LLN5050ATL2200M0NDJ	NR50501T2200M0NDJ	RuHS	470	±30%	0.05	7.000	0.6	0.6	0.5	100
LLN5050ATL3300M0NDJ	NR50501T3300M0NDJ	RuHS	680	±30%	0.04	10.000	0.4	0.4	0.3	100
LLN5050ATL4700M0NDJ	NR50501T4700M0NDJ	RuHS	1000	±30%	0.03	15.000	0.3	0.3	0.2	100
LLN5050ATL6800M0NDJ	NR50501T6800M0NDJ	RuHS	1500	±30%	0.02	25.000	0.2	0.2	0.15	100
LLN5050ATL10000M0NDJ	NR50501T10000M0NDJ	RuHS	2200	±30%	0.015	40.000	0.15	0.15	0.1	100
LLN5050ATL15000M0NDJ	NR50501T15000M0NDJ	RuHS	3300	±30%	0.01	60.000	0.1	0.1	0.08	100
LLN5050ATL22000M0NDJ	NR50501T22000M0NDJ	RuHS	4700	±30%	0.008	100.000	0.08	0.08	0.06	100
LLN5050ATL33000M0NDJ	NR50501T33000M0NDJ	RuHS	6800	±30%	0.006	150.000	0.06	0.06	0.04	100
LLN5050ATL47000M0NDJ	NR50501T47000M0NDJ	RuHS	10000	±30%	0.005	250.000	0.05	0.05	0.03	100
LLN5050ATL68000M0NDJ	NR50501T68000M0NDJ	RuHS	15000	±30%	0.004	400.000	0.04	0.04	0.02	100
LLN5050ATL100000M0NDJ	NR50501T100000M0NDJ	RuHS	22000	±30%	0.003	600.000	0.03	0.03	0.02	100
LLN5050ATL150000M0NDJ	NR50501T150000M0NDJ	RuHS	33000	±30%	0.002	1000.000	0.02	0.02	0.01	100
LLN5050ATL220000M0NDJ	NR50501T220000M0NDJ	RuHS	47000	±30%	0.0015	1500.000	0.015	0.015	0.01	100
LLN5050ATL330000M0NDJ	NR50501T330000M0NDJ	RuHS	68000	±30%	0.001	2500.000	0.01	0.01	0.008	100
LLN5050ATL470000M0NDJ	NR50501T470000M0NDJ	RuHS	100000	±30%	0.0008	4000.000	0.008	0.008	0.006	100
LLN5050ATL680000M0NDJ	NR50501T680000M0NDJ	RuHS	150000	±30%	0.0006	6000.000	0.006	0.006	0.004	100
LLN5050ATL1000000M0NDJ	NR50501T1000000M0NDJ	RuHS	220000	±30%	0.0004	10000.000	0.004	0.004	0.003	100
LLN5050ATL1500000M0NDJ	NR50501T1500000M0NDJ	RuHS	330000	±30%	0.0003	15000.000	0.003	0.003	0.002	100
LLN5050ATL2200000M0NDJ	NR50501T2200000M0NDJ	RuHS	470000	±30%	0.0002	25000.000	0.002	0.002	0.0015	100
LLN5050ATL3300000M0NDJ	NR50501T3300000M0NDJ	RuHS	680000	±30%	0.00015	40000.000	0.0015	0.0015	0.001	100
LLN5050ATL4700000M0NDJ	NR50501T4700000M0NDJ	RuHS	1000000	±30%	0.0001	60000.000	0.001	0.001	0.0008	100
LLN5050ATL6800000M0NDJ	NR50501T6800000M0NDJ	RuHS	1500000	±30%	0.00008	100000.000	0.0008	0.0008	0.0006	100
LLN5050ATL10000000M0NDJ	NR50501T10000000M0NDJ	RuHS	2200000	±30%	0.00006	150000.000	0.0006	0.0006	0.0004	100
LLN5050ATL15000000M0NDJ	NR50501T15000000M0NDJ	RuHS	3300000	±30%	0.00004	250000.000	0.0004	0.0004	0.0003	100
LLN5050ATL22000000M0NDJ	NR50501T22000000M0NDJ	RuHS	4700000	±30%	0.00003	400000.000	0.0003	0.0003	0.0002	100
LLN5050ATL33000000M0NDJ	NR50501T33000000M0NDJ	RuHS	6800000	±30%	0.00002	600000.000	0.0002	0.0002	0.00015	100
LLN5050ATL47000000M0NDJ	NR50501T47000000M0NDJ	RuHS	10000000	±30%	0.000015	1000000.000	0.00015	0.00015	0.0001	100
LLN5050ATL68000000M0NDJ	NR50501T68000000M0NDJ	RuHS	15000000	±30%	0.00001	1500000.000	0.0001	0.0001	0.00008	100
LLN5050ATL100000000M0NDJ	NR50501T100000000M0NDJ	RuHS	22000000	±30%	0.000008	2500000.000	0.00008	0.00008	0.00006	100
LLN5050ATL150000000M0NDJ	NR50501T150000000M0NDJ	RuHS	33000000	±30%	0.000006	4000000.000	0.00006	0.00006	0.00004	100
LLN5050ATL220000000M0NDJ	NR50501T220000000M0NDJ	RuHS	47000000	±30%	0.000004	6000000.000	0.00004	0.00004	0.00003	100
LLN5050ATL330000000M0NDJ	NR50501T330000000M0NDJ	RuHS	68000000	±30%	0.000003	10000000.000	0.00003	0.00003	0.00002	100
LLN5050ATL470000000M0NDJ	NR50501T470000000M0NDJ	RuHS	100000000	±30%	0.000002	15000000.000	0.00002	0.00002	0.000015	100
LLN5050ATL680000000M0NDJ	NR50501T680000000M0NDJ	RuHS	150000000	±30%	0.0000015	25000000.000	0.000015	0.000015	0.00001	100
LLN5050ATL1000000000M0NDJ	NR50501T1000000000M0NDJ	RuHS	220000000	±30%	0.000001	40000000.000	0.00001	0.00001	0.000008	100
LLN5050ATL1500000000M0NDJ	NR50501T1500000000M0NDJ	RuHS	330000000	±30%	0.0000008	60000000.000	0.000008	0.000008	0.000006	100
LLN5050ATL2200000000M0NDJ	NR50501T2200000000M0NDJ	RuHS	470000000	±30%	0.0000006	100000000.000	0.000006	0.000006	0.000004	100
LLN5050ATL3300000000M0NDJ	NR50501T3300000000M0NDJ	RuHS	680000000	±30%	0.0000004	150000000.000	0.000004	0.000004	0.000003	100
LLN5050ATL4700000000M0NDJ	NR50501T4700000000M0NDJ	RuHS	1000000000	±30%	0.0000003	250000000.000	0.000003	0.000003	0.000002	100
LLN5050ATL6800000000M0NDJ	NR50501T6800000000M0NDJ	RuHS	1500000000	±30%	0.0000002	400000000.000	0.000002	0.000002	0.0000015	100
LLN5050ATL10000000000M0NDJ	NR50501T10000000000M0NDJ	RuHS	2200000000	±30%	0.00000015	600000000.000	0.0000015	0.0000015	0.000001	100
LLN5050ATL15000000000M0NDJ	NR50501T15000000000M0NDJ	RuHS	3300000000	±30%	0.0000001	1000000000.000	0.000001	0.000001	0.0000008	100
LLN5050ATL22000000000M0NDJ	NR50501T22000000000M0NDJ	RuHS	4700000000	±30%	0.00000008	1500000000.000	0.0000008	0.0000008	0.0000006	100
LLN5050ATL33000000000M0NDJ	NR50501T33000000000M0NDJ	RuHS	6800000000	±30%	0.00000006	2500000000.000	0.0000006	0.0000006	0.0000004	100
LLN5050ATL47000000000M0NDJ	NR50501T47000000000M0NDJ	RuHS	10000000000	±30%	0.00000004	4000000000.000	0.0000004	0.0000004	0.0000003	100
LLN5050ATL68000000000M0NDJ	NR50501T68000000000M0NDJ	RuHS	15000000000	±30%	0.00000003	6000000000.000	0.0000003	0.0000003	0.0000002	100
LLN5050ATL100000000000M0NDJ	NR50501T100000000000M0NDJ	RuHS	22000000000	±30%	0.00000002	10000000000.000	0.0000002	0.0000002	0.00000015	100
LLN5050ATL150000000000M0NDJ	NR50501T150000000000M0NDJ	RuHS	33000000000	±30%	0.000000015	15000000000.000	0.00000015	0.00000015	0.0000001	100
LLN5050ATL220000000000M0NDJ	NR50501T220000000000M0NDJ	RuHS	47000000000	±30%	0.00000001	25000000000.000	0.0000001	0.0000001	0.00000008	100
LLN5050ATL330000000000M0NDJ	NR50501T330000000000M0NDJ	RuHS	68000000000	±30%	0.000000008	40000000000.000	0.00000008	0.00000008	0.00000006	100
LLN5050ATL470000000000M0NDJ	NR50501T470000000000M0NDJ	RuHS	100000000000	±30%	0.000000006	60000000000.000	0.00000006	0.00000006	0.00000004	100
LLN5050ATL680000000000M0NDJ	NR50501T680000000000M0NDJ	RuHS	150000000000	±30%	0.000000004	100000000000.000	0.00000004	0.00000004	0.00000003	100
LLN5050ATL1000000000000M0NDJ	NR50501T1000000000000M0NDJ	RuHS	220000000000	±30%	0.000000003	150000000000.000	0.00000003	0.00000003	0.00000002	100
LLN5050ATL1500000000000M0NDJ	NR50501T1500000000000M0NDJ	RuHS	330000000000	±30%	0.000000002	250000000000.000	0.00000002	0.00000002	0.000000015	100
LLN5050ATL2200000000000M0NDJ	NR50501T2200000000000M0NDJ	RuHS	470000000000	±30%	0.0000000015	400000000000.000	0.000000015	0.000000015	0.00000001	100
LLN5050ATL3300000000000M0NDJ	NR50501T3300000000000M0NDJ	RuHS	680000000000	±30%	0.000000001	600000000000.000	0.00000001	0.00000001	0.000000008	100
LLN5050ATL4700000000000M0NDJ	NR50501T4700000000000M0NDJ	RuHS	1000000000000	±30%	0.0000000008	1000000000000.000	0.000000008	0.000000008	0.000000006	100
LLN5050ATL6800000000000M0NDJ	NR50501T6800000000000M0NDJ	RuHS	1500000000000	±30%	0.0000000006	1500000000000.000	0.000000006	0.000000006	0.000000004	100
LLN5050ATL10000000000000M0NDJ	NR50501T10000000000000M0NDJ	RuHS	2200000000000	±30%	0.0000000004	2500000000000.000	0.000000004	0.000000004	0.000000003	100
LLN5050ATL15000000000000M0NDJ	NR50501T15000000000000M0NDJ	RuHS	3300000000000	±30%	0.0000000003	4000000000000.000	0.000000003	0.000000003	0.000000002	100
LLN5050ATL22000000000000M0NDJ	NR50501T22000000000000M0NDJ	RuHS	4700000000000	±30%	0.0000000002	6000000000000.000	0.000000002	0.000000002	0.0000000015	100
LLN5050ATL33000000000000M0NDJ	NR50501T33000000000000M0NDJ	RuHS	6800000000000	±30%	0.00000000015	10000000000000.000	0.0000000			

5050V, 5050V type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz (min.)]	DC Resistance [Ω (±20%)]		Rated current (80℃)		Measuring frequency [kHz]	
						DC Resistance [Ω (typ.)]	DC Resistance [Ω (max.)]	Saturation current (50℃)	Temperature rise current (50℃)		
LLN5050VTL1R0NDJ	NR50501T1R0NDJ	RuHS	1.0	±30%	60	0.017	4,800	8,500	4,500	4,700	100
LLN5050VTL1R2NDJ	NR50501T1R2NDJ	RuHS	1.5	±30%	48	0.022	4,000	7,000	3,500	3,700	100
LLN5050VTL1R5NDJ	NR50501T1R5NDJ	RuHS	2.2	±30%	35	0.027	4,000	6,000	3,000	3,300	100
LLN5050VTL1R8NDJ	NR50501T1R8NDJ	RuHS	3.3	±30%	25	0.033	3,500	5,000	2,500	2,700	100
LLN5050VTL2R2NDJ	NR50501T2R2NDJ	RuHS	4.7	±30%	18	0.040	3,000	4,000	2,000	2,200	100
LLN5050VTL3R3NDJ	NR50501T3R3NDJ	RuHS	6.8	±30%	12	0.048	2,800	3,500	2,400	2,600	100
LLN5050VTL4R7NDJ	NR50501T4R7NDJ	RuHS	10	±30%	10	0.055	2,500	3,200	2,100	2,300	100
LLN5050VTL6R8NDJ	NR50501T6R8NDJ	RuHS	15	±30%	7	0.065	2,000	2,800	1,800	2,000	100
LLN5050VTL10M0NDJ	NR50501T10M0NDJ	RuHS	22	±30%	5	0.080	1,500	2,200	1,400	1,600	100
LLN5050VTL15M0NDJ	NR50501T15M0NDJ	RuHS	33	±30%	4	0.110	1,000	1,500	800	1,000	100
LLN5050VTL22M0NDJ	NR50501T22M0NDJ	RuHS	47	±30%	3	0.130	800	1,200	600	800	100

5010K type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz (min.)]	DC Resistance [Ω (±20%)]		Rated current (80℃)		Measuring frequency [kHz]
						Saturation current [mA]	Max.	Max.	Max.	
LLNDS0800K1020MAG	NR800101 1020MAG	RoHS	1.0	±20%	60	0.10	1,000	1,000	1,000	100
LLNDS0800K1025MAG	NR800102 1025MAG	RoHS	2.2	±20%	66	0.10	1,000	1,120	1,700	1,000
LLNDS0800K1030MAG	NR800103 1030MAG	RoHS	3.3	±20%	42	0.125	1,800	1,700	1,500	1,700
LLNDS0800K1035MAG	NR800104 1035MAG	RoHS	4.7	±20%	33	0.15	1,800	1,700	1,500	1,700
LLNDS0800K1040MAG	NR800105 1040MAG	RoHS	6.8	±20%	30	0.220	2,000	1,300	1,200	1,300
LLNDS0800K1045MAG	NR800106 1045MAG	RoHS	10	±20%	22	0.30	2,000	1,400	1,200	1,300
LLNDS0800K1050MAG	NR800107 1050MAG	RoHS	15	±20%	15	0.550	600	700	700	100
LLNDS0800K1055MAG	NR800108 1055MAG	RoHS	22	±20%	12	0.800	600	700	700	100

PART NUMBER

④000PK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)	Saturation current 16.1 [mA]	Rated current 8.1 [mA]	Measuring frequency [kHz]
LLAND000PK1T0NNG	NR50014T10NNG	RuHS	1.2	±30%	77	0.042	4,000	4,400	2,500
LLAND000PK1T0NNG	NR50014T0NNG	RuHS	2.2	±30%	61	0.055	3,000	3,300	2,000
LLAND000PK1T0NNG	NR50014T0NNG	RuHS	3.3	±30%	47	0.073	2,500	2,800	1,600
LLAND000PK1T0NNG	NR50014T0NNG	RuHS	4.7	±30%	38	0.090	2,000	2,170	1,850
LLAND000PK1T0NNG	NR50014T0NNG	RuHS	6.8	±30%	28	0.116	1,700	1,880	1,700
LLAND000PK1T0NNG	NR50014T0NNG	RuHS	10	±30%	24	0.140	1,400	1,540	1,500
LLAND000PK1T0NNG	NR50014T0NNG	RuHS	15	±30%	20	0.210	1,100	1,300	1,280
LLAND000PK1T0NNG	NR50014T0NNG	RuHS	22	±30%	16	0.300	950	1,100	1,000

④000M type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)	Saturation current 16.1 [mA]	Rated current 8.1 [mA]	Measuring frequency [kHz]
LLAND000M1L0NNG	NR5001T0NNG	RuHS	0.8	±30%	110	0.020	8,400	7,400	4,100
LLAND000M1L0NNG	NR5001T0NNG	RuHS	1.5	±30%	83	0.023	5,300	5,300	4,000
LLAND000M1L0NNG	NR5001T0NNG	RuHS	2.2	±30%	73	0.034	3,200	4,000	2,900
LLAND000M1L0NNG	NR5001T0NNG	RuHS	3.3	±30%	55	0.046	2,800	3,400	2,700
LLAND000M1L0NNG	NR5001T0NNG	RuHS	4.7	±30%	43	0.059	2,400	2,800	2,100
LLAND000M1L0NNG	NR5001T0NNG	RuHS	6.8	±30%	30	0.085	2,000	2,400	1,800
LLAND000M1L0NNG	NR5001T0NNG	RuHS	10	±30%	19	0.121	1,800	2,240	1,700
LLAND000M1L0NNG	NR5001T0NNG	RuHS	22	±30%	11	0.290	1,200	1,470	950

④000M4 type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)	Saturation current 16.1 [mA]	Rated current 8.1 [mA]	Measuring frequency [kHz]
LLAND000M4L0NNG	NR5001T0NNG	RuHS	0.8	±30%	90	0.013	9,700	7,900	4,200
LLAND000M4L0NNG	NR5001T0NNG	RuHS	1.5	±30%	78	0.018	6,100	4,300	4,700
LLAND000M4L0NNG	NR5001T0NNG	RuHS	2.2	±30%	68	0.025	4,200	3,100	4,200
LLAND000M4L0NNG	NR5001T0NNG	RuHS	3.3	±30%	55	0.032	3,000	2,800	3,000
LLAND000M4L0NNG	NR5001T0NNG	RuHS	4.7	±30%	39	0.041	2,700	3,300	3,000
LLAND000M4L0NNG	NR5001T0NNG	RuHS	6.8	±30%	25	0.045	2,400	3,000	2,600
LLAND000M4L0NNG	NR5001T0NNG	RuHS	10	±30%	20	0.083	1,800	2,200	1,900
LLAND000M4L0NNG	NR5001T0NNG	RuHS	22	±30%	12	0.175	1,300	1,600	1,000
LLAND000M4L0NNG	NR5001T0NNG	RuHS	33	±30%	10	0.220	1,100	1,300	1,100
LLAND000M4L0NNG	NR5001T0NNG	RuHS	47	±30%	8	0.300	1,000	1,100	1,000
LLAND000M4L0NNG	NR5001T0NNG	RuHS	68	±30%	5	0.450	880	950	770
LLAND000M4L0NNG	NR5001T0NNG	RuHS	100	±30%	3	0.680	600	750	600

④000T type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)	Saturation current 16.1 [mA]	Rated current 8.1 [mA]	Measuring frequency [kHz]
LLAND000T1L0NNG	NR5001T0NNG	RuHS	1.0	±30%	110	0.014	9,800	11,000	4,500
LLAND000T1L0NNG	NR5001T0NNG	RuHS	1.5	±30%	85	0.016	6,200	5,300	4,800
LLAND000T1L0NNG	NR5001T0NNG	RuHS	2.2	±30%	70	0.019	4,500	4,100	4,000
LLAND000T1L0NNG	NR5001T0NNG	RuHS	3.3	±30%	60	0.019	2,200	3,100	3,000
LLAND000T1L0NNG	NR5001T0NNG	RuHS	4.7	±30%	49	0.022	1,900	2,800	4,100
LLAND000T1L0NNG	NR5001T0NNG	RuHS	6.8	±30%	40	0.027	1,600	2,200	1,900
LLAND000T1L0NNG	NR5001T0NNG	RuHS	10	±30%	32	0.032	1,400	1,800	1,500
LLAND000T1L0NNG	NR5001T0NNG	RuHS	15	±30%	25	0.036	1,200	1,600	1,300
LLAND000T1L0NNG	NR5001T0NNG	RuHS	22	±30%	18	0.040	1,000	1,300	1,000
LLAND000T1L0NNG	NR5001T0NNG	RuHS	33	±30%	15	0.050	800	1,000	800
LLAND000T1L0NNG	NR5001T0NNG	RuHS	47	±30%	10	0.055	600	800	600
LLAND000T1L0NNG	NR5001T0NNG	RuHS	68	±30%	7	0.070	500	700	500
LLAND000T1L0NNG	NR5001T0NNG	RuHS	100	±30%	5	0.100	400	600	400

⑧) The saturation current value (16.1) is the DC current value having inductance decrease down to 30% (at 20°C).

⑧) The temperature rise current value (8.1) is the DC current value having temperature increase up to 40°C (at 20°C).

⑧) The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.

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CATALOG 2022

TAIYO YUDEN

Lem_NRL_g-E10R01

PART NUMBER

④000YK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)	Saturation current 16.1 [mA]	Rated current 8.1 [mA]	Measuring frequency [kHz]
LLAND000YK1L0NNG	NR5001T0NNG	RuHS	1.0	±30%	120	0.009	12,000	8,000	4,000
LLAND000YK1L0NNG	NR5001T0NNG	RuHS	1.5	±30%	80	0.012	8,200	7,800	3,300
LLAND000YK1L0NNG	NR5001T0NNG	RuHS	2.2	±30%	60	0.015	4,500	4,100	4,000
LLAND000YK1L0NNG	NR5001T0NNG	RuHS	3.3	±30%	50	0.019	3,200	3,200	3,100
LLAND000YK1L0NNG	NR5001T0NNG	RuHS	4.7	±30%	40	0.022	2,800	3,000	2,600
LLAND000YK1L0NNG	NR5001T0NNG	RuHS	6.8	±30%	32	0.029	2,000	3,000	2,400
LLAND000YK1L0NNG	NR5001T0NNG	RuHS	10	±30%	27	0.033	1,800	2,500	2,000
LLAND000YK1L0NNG	NR5001T0NNG	RuHS	15	±30%	20	0.040	1,500	2,200	1,800
LLAND000YK1L0NNG	NR5001T0NNG	RuHS	22	±30%	16	0.070	1,200	1,800	1,500
LLAND000YK1L0NNG	NR5001T0NNG	RuHS	33	±30%	13	0.100	1,000	1,600	1,300
LLAND000YK1L0NNG	NR5001T0NNG	RuHS	47	±30%	11	0.170	1,100	1,400	1,300

④000YB, ④000YK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)	Saturation current 16.1 [mA]	Rated current 8.1 [mA]	Measuring frequency [kHz]
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	0.8	±30%	85	0.009	13,000	14,000	7,800
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	1	±30%	85	0.009	13,000	14,000	7,800
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	1.5	±30%	63	0.007	10,000	11,000	7,000
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	2.2	±30%	50	0.009	8,100	9,200	6,300
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	3.3	±30%	40	0.009	6,100	6,200	5,600
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	4.7	±30%	34	0.015	4,400	4,800	4,000
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	6.8	±30%	30	0.018	4,400	5,000	4,100
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	10	±30%	24	0.023	4,400	4,800	3,700
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	15	±30%	22	0.034	3,800	4,100	3,100
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	22	±30%	18	0.050	2,800	3,200	2,400
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	33	±30%	13	0.066	2,400	2,100	2,000
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	47	±30%	12	0.100	2,000	2,200	1,800
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	68	±30%	8	0.140	1,500	1,800	1,500
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	100	±30%	7	0.210	1,200	1,400	1,100
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	150	±30%	6	0.280	1,100	1,300	1,100
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	220	±30%	4	0.450	800	900	700
LLAND000YB1L0NNG	NR5001T0NNG	RuHS	330	±30%	4	0.650	700	800	670

④000YK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)	Saturation current 16.1 [mA]	Rated current 8.1 [mA]	Measuring frequency [kHz]
LLAB000YK1T0NNG	NR 3010T 10NNG	RuHS	1.0	±30%	108	0.005	1,200	1,400	100
LLAB000YK1T0NNG	NR 3010T 10NNG	RuHS	1.5	±30%	88	0.005	1,200	1,400	100
LLAB000YK1T0NNG	NR 3010T 20NNG	RuHS	2.2	±30%	82	0.005	1,100	1,100	100
LLAB000YK1T0NNG	NR 3010T 30NNG	RuHS	3.3	±30%	63	0.010	870	780	100
LLAB000YK1T0NNG	NR 3010T 40NNG	RuHS	4.7	±30%	58	0.150	750	780	100
LLAB000YK1T0NNG	NR 3010T 50NNG	RuHS	6.8	±30%	48	0.200	640	670	100
LLAB000YK1T0NNG	NR 3010T 100NNG	RuHS	10	±30%	35	0.450	500	510	100
LLAB000YK1T0NNG	NR 3010T 200NNG	RuHS	15	±30%	30	0.740	400	400	100
LLAB000YK1T0NNG	NR 3010T 300NNG	RuHS	22	±30%	22	1.00	250	250	100
LLAB000YK1T0NNG	NR 3010T 500NNG	RuHS	33	±30%	20	1.55	260	275	100
LLAB000YK1T0NNG	NR 3010T 600NNG	RuHS	47	±30%	17	2.05	230	230	100

④000YK type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)	Saturation current 16.1 [mA]	Rated current 8.1 [mA]	Measuring frequency [kHz]
LLAB000YK1T0NNG	NR 3010T 10NNG	RuHS	1.0	±30%	110	0.005	1,500	1,400	100
LLAB000YK1T0NNG	NR 3010T 10NNG	RuHS	1.5	±30%	82	0.005	1,300	1,400	100
LLAB000YK1T0NNG	NR 3010T 20NNG	RuHS	2.2	±30%	70	0.005	1,100	1,100	100
LLAB000YK1T0NNG	NR 3010T 30NNG	RuHS	3.3	±30%	55	0.010	910	1,000	100
LLAB000YK1T0NNG	NR 3010T 40NNG	RuHS	4.7	±30%	48	0.120	750	780	100
LLAB000YK1T0NNG	NR 3010T 50NNG	RuHS	6.8	±30%	40	0.150	670	740	100
LLAB000YK1T0NNG	NR 3010T 100NNG	RuHS	10	±30%	32	0.450	540	540	100
LLAB000YK1T0NNG	NR 3010T 200NNG	RuHS	15	±30%	27	0.650	440	480	100
LLAB000YK1T0NNG	NR 3010T 300NNG	RuHS	22	±30%	22	0.900	375	420	100
LLAB000YK1T0NNG	NR 3010T 500NNG	RuHS	33	±30%	19	1.10	310	310	100
LLAB000YK1T0NNG	NR 3010T 600NNG	RuHS	47	±30%	17	1.45	250	280	100

⑧) The saturation current value (16.1) is the DC current value having inductance decrease down to 30% (at 20°C).

⑧) The temperature rise current value (8.1) is the DC current value having temperature increase up to 40°C (at 20°C).

⑧) The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.

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TAIYO YUDEN

Lem_NRL_g-E10R01

PART NUMBER

● 3030K type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz]	DC Resistance [Ω] (±30%)	Saturation current Isat1 [mA]	Rated current Is1 [mA]	Temperature rise current Isat2 [mA]	Measuring frequency [kHz]
LL30303030K110BN	NR 3015T 10BN	RuHS	1.0	±30%	30	0.030	2,100	1,800	2,100	100
LL30303030K115BN	NR 3015T 15BN	RuHS	1.5	±30%	37	0.040	1,800	1,500	1,800	100
LL30303030K125BN	NR 3015T 25BN	RuHS	2.2	±30%	44	0.060	1,400	1,000	1,400	100
LL30303030K135BN	NR 3015T 35BN	RuHS	3.3	±30%	49	0.080	1,200	900	1,200	100
LL30303030K147BN	NR 3015T 47BN	RuHS	4.7	±30%	56	0.100	1,000	800	1,000	100
LL30303030K150BN	NR 3015T 50BN	RuHS	5.0	±30%	58	0.100	900	700	900	100
LL30303030K155BN	NR 3015T 55BN	RuHS	5.5	±30%	60	0.110	850	650	850	100
LL30303030K160BN	NR 3015T 60BN	RuHS	6.0	±30%	62	0.120	800	600	800	100
LL30303030K170BN	NR 3015T 70BN	RuHS	7.0	±30%	65	0.130	750	550	750	100
LL30303030K180BN	NR 3015T 80BN	RuHS	8.0	±30%	68	0.140	700	500	700	100
LL30303030K190BN	NR 3015T 90BN	RuHS	9.0	±30%	70	0.150	650	450	650	100
LL30303030K200BN	NR 3015T 100BN	RuHS	10	±30%	72	0.160	600	400	600	100
LL30303030K220BN	NR 3015T 220BN	RuHS	22	±30%	80	0.220	450	300	450	100
LL30303030K250BN	NR 3015T 250BN	RuHS	33	±30%	88	0.300	300	200	300	100
LL30303030K410M	NR 3015T 410M	RuHS	47	±30%	100	0.400	200	150	200	100

● 4040K type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz]	DC Resistance [Ω] (±30%)	Saturation current Isat1 [mA]	Rated current Is1 [mA]	Temperature rise current Isat2 [mA]	Measuring frequency [kHz]
LL40404040K110BN	NR 4010T 10BN	RuHS	1.0	±30%	30	0.030	4,000	3,500	4,000	100
LL40404040K115BN	NR 4010T 15BN	RuHS	1.5	±30%	37	0.040	3,500	3,000	3,500	100
LL40404040K125BN	NR 4010T 25BN	RuHS	2.2	±30%	44	0.060	2,700	2,300	2,700	100
LL40404040K135BN	NR 4010T 35BN	RuHS	3.3	±30%	49	0.080	2,300	2,000	2,300	100
LL40404040K147BN	NR 4010T 47BN	RuHS	4.7	±30%	56	0.100	1,900	1,600	1,900	100
LL40404040K150BN	NR 4010T 50BN	RuHS	5.0	±30%	58	0.100	1,800	1,500	1,800	100
LL40404040K155BN	NR 4010T 55BN	RuHS	5.5	±30%	60	0.110	1,700	1,400	1,700	100
LL40404040K160BN	NR 4010T 60BN	RuHS	6.0	±30%	62	0.120	1,600	1,300	1,600	100
LL40404040K170BN	NR 4010T 70BN	RuHS	7.0	±30%	65	0.130	1,500	1,200	1,500	100
LL40404040K180BN	NR 4010T 80BN	RuHS	8.0	±30%	68	0.140	1,400	1,100	1,400	100
LL40404040K190BN	NR 4010T 90BN	RuHS	9.0	±30%	70	0.150	1,300	1,000	1,300	100
LL40404040K200BN	NR 4010T 100BN	RuHS	10	±30%	72	0.160	1,200	900	1,200	100
LL40404040K220M	NR 4010T 220M	RuHS	22	±30%	80	0.220	900	600	900	100
LL40404040K250M	NR 4010T 250M	RuHS	33	±30%	88	0.300	600	400	600	100
LL40404040K410M	NR 4010T 410M	RuHS	47	±30%	100	0.400	400	300	400	100

● 4040M type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz]	DC Resistance [Ω] (±30%)	Saturation current Isat1 [mA]	Rated current Is1 [mA]	Temperature rise current Isat2 [mA]	Measuring frequency [kHz]
LL40404040M110BN	NR 4012T 10BN	RuHS	1.0	±30%	30	0.030	2,500	2,100	2,500	100
LL40404040M115BN	NR 4012T 15BN	RuHS	1.5	±30%	37	0.040	2,100	1,800	2,100	100
LL40404040M125BN	NR 4012T 25BN	RuHS	2.2	±30%	44	0.060	1,600	1,300	1,600	100
LL40404040M135BN	NR 4012T 35BN	RuHS	3.3	±30%	49	0.080	1,300	1,100	1,300	100
LL40404040M147BN	NR 4012T 47BN	RuHS	4.7	±30%	56	0.100	1,100	900	1,100	100
LL40404040M150BN	NR 4012T 50BN	RuHS	5.0	±30%	58	0.100	900	800	900	100
LL40404040M155BN	NR 4012T 55BN	RuHS	5.5	±30%	60	0.110	850	750	850	100
LL40404040M160BN	NR 4012T 60BN	RuHS	6.0	±30%	62	0.120	800	700	800	100
LL40404040M170BN	NR 4012T 70BN	RuHS	7.0	±30%	65	0.130	750	650	750	100
LL40404040M180BN	NR 4012T 80BN	RuHS	8.0	±30%	68	0.140	700	600	700	100
LL40404040M190BN	NR 4012T 90BN	RuHS	9.0	±30%	70	0.150	650	550	650	100
LL40404040M200BN	NR 4012T 100BN	RuHS	10	±30%	72	0.160	600	500	600	100
LL40404040M220M	NR 4012T 220M	RuHS	22	±30%	80	0.220	450	300	450	100
LL40404040M250M	NR 4012T 250M	RuHS	33	±30%	88	0.300	300	200	300	100
LL40404040M410M	NR 4012T 410M	RuHS	47	±30%	100	0.400	200	150	200	100

● 4040T type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz]	DC Resistance [Ω] (±30%)	Saturation current Isat1 [mA]	Rated current Is1 [mA]	Temperature rise current Isat2 [mA]	Measuring frequency [kHz]
LL40404040T110BN	NR 4018T 10BN	RuHS	1.0	±30%	30	0.030	4,000	3,500	4,000	100
LL40404040T115BN	NR 4018T 15BN	RuHS	1.5	±30%	37	0.040	3,500	3,000	3,500	100
LL40404040T125BN	NR 4018T 25BN	RuHS	2.2	±30%	44	0.060	2,700	2,300	2,700	100
LL40404040T135BN	NR 4018T 35BN	RuHS	3.3	±30%	49	0.080	2,300	2,000	2,300	100
LL40404040T147BN	NR 4018T 47BN	RuHS	4.7	±30%	56	0.100	1,900	1,600	1,900	100
LL40404040T150BN	NR 4018T 50BN	RuHS	5.0	±30%	58	0.100	1,800	1,500	1,800	100
LL40404040T155BN	NR 4018T 55BN	RuHS	5.5	±30%	60	0.110	1,700	1,400	1,700	100
LL40404040T160BN	NR 4018T 60BN	RuHS	6.0	±30%	62	0.120	1,600	1,300	1,600	100
LL40404040T170BN	NR 4018T 70BN	RuHS	7.0	±30%	65	0.130	1,500	1,200	1,500	100
LL40404040T180BN	NR 4018T 80BN	RuHS	8.0	±30%	68	0.140	1,400	1,100	1,400	100
LL40404040T190BN	NR 4018T 90BN	RuHS	9.0	±30%	70	0.150	1,300	1,000	1,300	100
LL40404040T200BN	NR 4018T 100BN	RuHS	10	±30%	72	0.160	1,200	900	1,200	100
LL40404040T220M	NR 4018T 220M	RuHS	22	±30%	80	0.220	900	600	900	100
LL40404040T250M	NR 4018T 250M	RuHS	33	±30%	88	0.300	600	400	600	100
LL40404040T410M	NR 4018T 410M	RuHS	47	±30%	100	0.400	400	300	400	100
LL40404040T410M	NR 4018T 410M	RuHS	47	±30%	100	0.400	400	300	400	100

● 5050A, 5050V type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz]	DC Resistance [Ω] (±30%)	Saturation current Isat1 [mA]	Rated current Is1 [mA]	Temperature rise current Isat2 [mA]	Measuring frequency [kHz]
LL50505050A110BN	NR 5040T 10BN	RuHS	1.0	±30%	30	0.030	4,000	3,500	4,000	100
LL50505050A115BN	NR 5040T 15BN	RuHS	1.5	±30%	37	0.040	3,500	3,000	3,500	100
LL50505050A125BN	NR 5040T 25BN	RuHS	2.2	±30%	44	0.060	2,700	2,300	2,700	100
LL50505050A135BN	NR 5040T 35BN	RuHS	3.3	±30%	49	0.080	2,300	2,000	2,300	100
LL50505050A147BN	NR 5040T 47BN	RuHS	4.7	±30%	56	0.100	1,900	1,600	1,900	100
LL50505050A150BN	NR 5040T 50BN	RuHS	5.0	±30%	58	0.100	1,800	1,500	1,800	100
LL50505050A155BN	NR 5040T 55BN	RuHS	5.5	±30%	60	0.110	1,700	1,400	1,700	100
LL50505050A160BN	NR 5040T 60BN	RuHS	6.0	±30%	62	0.120	1,600	1,300	1,600	100
LL50505050A170BN	NR 5040T 70BN	RuHS	7.0	±30%	65	0.130	1,500	1,200	1,500	100
LL50505050A180BN	NR 5040T 80BN	RuHS	8.0	±30%	68	0.140	1,400	1,100	1,400	100
LL50505050A190BN	NR 5040T 90BN	RuHS	9.0	±30%	70	0.150	1,300	1,000	1,300	100
LL50505050A200BN	NR 5040T 100BN	RuHS	10	±30%	72	0.160	1,200	900	1,200	100
LL50505050A220M	NR 5040T 220M	RuHS	22	±30%	80	0.220	900	600	900	100
LL50505050A250M	NR 5040T 250M	RuHS	33	±30%	88	0.300	600	400	600	100
LL50505050A410M	NR 5040T 410M	RuHS	47	±30%	100	0.400	400	300	400	100

8) The saturation current value Isat1 is the DC current value having inductance decrease down to 30% (at 20°C).
9) The temperature rise current value Isat2 is the DC current value having temperature increase up to 40°C (at 20°C).
9) The rated current is the DC current value that satisfies both of current value saturation current, value and temperature rise current value.

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CATALOG 2022

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Lem_NRL_p-E100R1

PART NUMBER

● 6060K type

New part number	Old part number (for reference)	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz]	DC Resistance [Ω] (±30%)	Saturation current Isat1 [mA]	Rated current Is1 [mA]	Temperature rise current Isat2 [mA]	Measuring frequency [kHz]
LL60606060K110BN	NR 6012T 10BN	RuHS	1.0	±30%	45	0.030	2,100	1,800	2,100	100
LL60606060K115BN	NR 6012T 15BN	RuHS	1.5	±30%	53	0.040	1,800	1,500	1,800	100
LL60606060K125BN	NR 6012T 25BN	RuHS	2.2	±30%	61	0.060	1,400	1,000	1,400	100
LL60606060K135BN	NR 6012T 35BN	RuHS	3.3	±30%	69	0.080	1,200	900	1,200	100
LL60606060K147BN	NR 6012T 47BN	RuHS	4.7	±30%	77	0.100	1,000	800	1,000	100
LL60606060K150BN	NR 6012T 50BN	RuHS	5.0	±30%	80	0.100	900	700	900	100
LL60606060K155BN	NR 6012T 55BN	RuHS	5.5	±30%	83	0.110	850	650	850	100
LL60606060K160BN	NR 6012T 60BN	RuHS	6.0	±30%	86	0.120	800	600	800	100
LL60606060K170BN	NR 6012T 70BN	RuHS	7.0	±30%	89	0.130	750	550	750	100
LL60606060K180BN	NR 6012T 80BN	RuHS	8.0	±30%	92	0.140	700	500	700	100
LL60606060K190BN	NR 6012T 90BN	RuHS	9.0	±30%	95	0.150	650	450	650	100
LL60606060K200BN	NR 6012T 100BN	RuHS	10	±30%	98	0.160	600	400	600	100
LL60606060K220M	NR 6012T 220M	RuHS	22	±30%	110	0.220	450	300	450	100
LL60606060K250M	NR 6012T 250M	RuHS	33	±30%	120	0.300	300	200	300	100
LL60606060K410M	NR 6012T 410M	RuHS	47	±30%	130	0.400	200	150	200	100
LL60606060K680M	NR 6012T 680M	RuHS	68	±30%	140	0.550	150	100	150	100
LL60606060K1010M	NR 6012T 1010M	RuHS	100	±30%	150	0.700	100	70	100	100

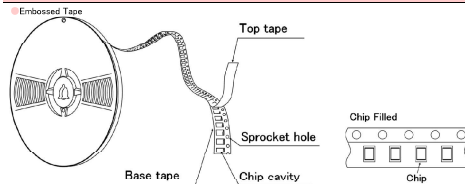
Wire-wound Ferrite Power Inductors LCXH/LBXH/LMXH series
Wire-wound Ferrite Inductors for Class D Amplifier LCXA

① Minimum Quantity

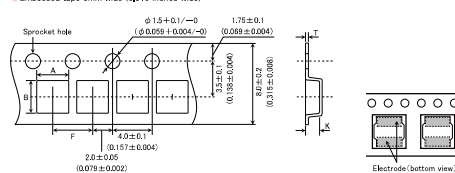
Type	Standard Quantity (pcs) Type & Retail
2020KK	2500
2020MK	2500
2424KK	2500
2424MK	2500
3030KK	2000
3030MK	2000
3030GK	2000
4040KK	5000
4040MK	4500
4040TK	3500
4040WK	700

Type	Standard Quantity (pcs) Type & Retail
5050KK	1000
5050MK	1000
5050PK	1000
5050WB	800
5050WK	800
5050WD	2500
5050WE	
5050YK	500
5050YA	
5050YA	1500
5050YK	
8080KK	1000
8080MK	1000
8080PK	1000
8080WK	2500
8080WH	2000
8080YE	1500
8080YK	1000
8080YB	1000

- Embossed Tape



● Embossed tape 8mm wide (0.315 inches wide)



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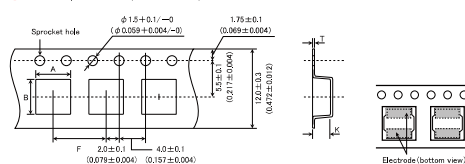
Land NR pack #E10R03

TAIYO YUDEN

Type	Chip cavity		Insertion pitch	Tape thickness	
	A	B		T	K
2020KK	2,2±0,1	2,2±0,1	0,25±0,05 (0,009±0,002)	1,3±0,1	
2020MK	(0,102±0,004)	(0,102±0,004)		(0,061±0,004)	
2424KK	2,6±0,1	2,6±0,1	0,3±0,05 (0,009±0,002)	1,3±0,1	
2424MK	(0,287±0,004)	(0,102±0,004)		(0,061±0,004)	
3030KK		4,0±0,1 (0,157±0,004)	0,3±0,05 (0,012±0,002)	1,4±0,1 (0,065±0,004)	
3030MK	3,2±0,1 (0,126±0,004)	3,2±0,1 (0,126±0,004)		1,5±0,1 (0,063±0,004)	
3030QK				1,5±0,1 (0,075±0,004)	

Unit : mm (inch)

● Embossed tape 12mm wide (0.47 inches wide)



Type	Chip cavity		Inscription pitch	Tape thickness	
	A	B	F	T	K
4049KK					1,4±0,1 (0,055±0,004)
4040MK	4,3±0,1 (0,169±0,004)	4,3±0,1 (0,169±0,004)			1,6±0,1 (0,062±0,004)
4042TK					2,1±0,1 (0,083±0,004)
4040WK					1,4±0,1 (0,055±0,004)
5050KK				0,3±0,1 (0,017±0,004)	1,4±0,1 (0,055±0,004)
5050MK					1,6±0,1 (0,063±0,004)
5050PK	5,25±0,1 (0,207±0,004)	5,25±0,1 (0,207±0,004)			2,3±0,1 (0,091±0,004)
5050MB					2,7±0,1 (0,106±0,004)
5050WD					3,2±0,1 (0,128±0,004)
5050WE			8,0±0,1 (0,315±0,004)		4,2±0,1 (0,165±0,004)
5050XK	5,15±0,1 (0,203±0,004)	5,15±0,1 (0,203±0,004)			1,4±0,1 (0,055±0,004)
5050YA					1,6±0,1 (0,063±0,004)
5050YK	5,15±0,1 (0,203±0,004)	5,15±0,1 (0,203±0,004)			2,3±0,1 (0,091±0,004)
5050YY					3,1±0,1 (0,122±0,004)
6060KK					4,7±0,1 (0,185±0,004)
6060MK				0,4±0,1 (0,016±0,004)	1,4±0,1 (0,055±0,004)
6060PK	6,2±0,1 (0,248±0,004)	6,3±0,1 (0,248±0,004)			1,6±0,1 (0,063±0,004)
6060WK					2,3±0,1 (0,091±0,004)
6060WH					3,1±0,1 (0,122±0,004)
6060YE					4,7±0,1 (0,185±0,004)

Unit : mm(inch)

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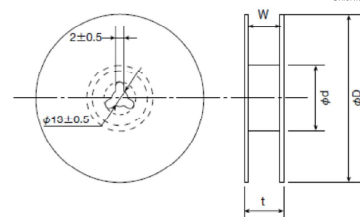
I send NR pack on 5/10/2023

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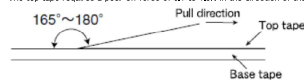
Unit : mm (inch)

The diagram shows a cross-section of a blank tape. It is divided into four main sections: 'Blank portions' on the left, 'Chip cavity' in the middle, another 'Blank portions' section to the right of the cavity, and a 'Leader' section on the far right. The 'Blank portions' are marked with circles representing holes. Dimensions are indicated below the tape: the first blank portion is '160mm or more (6.3 inches or more)', the chip cavity is '100mm or more (3.94 inches or more)', and the second blank portion is '400mm or more (15.8 inches or more)'. An arrow at the bottom points to the right, labeled 'Direction of tape feed'.

LandNRpack-E10R02

Unit: mm (inch)Unit: mm (inch)

The top tape requires a peel-off force of 0.1 to 1.3N in the direction of the arrow as illustrated below.

I send NR pack 510902

Wire-wound Ferrite Power Inductors LSXB/LSXN/LSXP series
for General Electronic Equipment for Consumer
Wire-wound Ferrite Power Inductors LLXB/LLXN/LLXP series
for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)

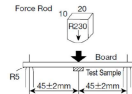

RELIABILITY DATA

1. Operating Temperature Range													
Specified Value	—25~+120°C (LSXB: 3030~8080 type, LSXN: 2020~3030 type, LSXP: 2020~3030 type) —25~+125°C (LSXN: 4040~8080 type) —25~+120°C (LLXB: 3030~8080 type, LLXN: 2020~3030 type, LLXP: 2020~3030 type) —25~+125°C (LLXN: 4040~8080 type)												
Test Methods and Remarks	Including self-generated heat												
2. Storage Temperature Range													
Specified Value	—40~+85°C												
Test Methods and Remarks	—5 to 40°C for the product with taping.												
3. Rated current													
Specified Value	Within the specified tolerance												
4. Inductance													
Specified Value	Within the specified tolerance												
Test Methods and Remarks	Measuring equipment : LCR Meter (HP 4285A or equivalent) Measuring frequency : 100kHz, 1V												
5. DC Resistance													
Specified Value	Within the specified tolerance												
Test Methods and Remarks	Measuring equipment : DC ohmmeter (HIOKI 3227 or equivalent)												
6. Self resonance frequency													
Specified Value	Within the specified tolerance												
Test Methods and Remarks	Measuring equipment : Impedance analyzer/material analyzer (HP4191A or equivalent HP4191A, 4192A or equivalent)												
7. Temperature characteristic													
Specified Value	Inductance change : Within $\pm 20\%$												
Test Methods and Remarks	Measurement of inductance shall be taken at temperature range within —25°C~+85°C. With reference to inductance value at +20°C, change rate shall be calculated. Change of maximum inductance deviation in step 1 to 5 <table><tr><th>Step</th><th>Temperature(°C)</th></tr><tr><td>1</td><td>20</td></tr><tr><td>2</td><td>Minimum operating temperature</td></tr><tr><td>3</td><td>20 (Standard temperature)</td></tr><tr><td>4</td><td>Maximum operating temperature</td></tr><tr><td>5</td><td>20</td></tr></table>	Step	Temperature(°C)	1	20	2	Minimum operating temperature	3	20 (Standard temperature)	4	Maximum operating temperature	5	20
Step	Temperature(°C)												
1	20												
2	Minimum operating temperature												
3	20 (Standard temperature)												
4	Maximum operating temperature												
5	20												

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L=mm(1/16")
L=mm(1/8")

8. Resistance to flexure of substrate																																	
Specified Value	No damage																																
Test Methods and Remarks	<p>The test samples shall be soldered to the test board by the reflow. As illustrated below, apply force in the direction of the arrow indicating until deflection of the test board reaches to 2 mm.</p> <p>Test board size : 100×40×1.0 Test board material : Glass epoxy-resin Solder cream thickness : 0.10mm (2020~3030 type) : 0.15mm (4040~8080 type)</p>  <p>Land dimension</p> <table><thead><tr><th>Type</th><th>A</th><th>B</th><th>C</th></tr></thead><tbody><tr><td>2020</td><td>0,65</td><td>0,7</td><td>2,0</td></tr><tr><td>2424</td><td>0,7</td><td>0,75</td><td>2,0</td></tr><tr><td>3030</td><td>0,8</td><td>1,4</td><td>2,7</td></tr><tr><td>4040</td><td>1,2</td><td>1,6</td><td>3,7</td></tr><tr><td>5050</td><td>1,5</td><td>2,1</td><td>4,9</td></tr><tr><td>6060</td><td>1,6</td><td>3,1</td><td>5,7</td></tr><tr><td>8080</td><td>1,8</td><td>3,8</td><td>7,5</td></tr></tbody></table> 	Type	A	B	C	2020	0,65	0,7	2,0	2424	0,7	0,75	2,0	3030	0,8	1,4	2,7	4040	1,2	1,6	3,7	5050	1,5	2,1	4,9	6060	1,6	3,1	5,7	8080	1,8	3,8	7,5
Type	A	B	C																														
2020	0,65	0,7	2,0																														
2424	0,7	0,75	2,0																														
3030	0,8	1,4	2,7																														
4040	1,2	1,6	3,7																														
5050	1,5	2,1	4,9																														
6060	1,6	3,1	5,7																														
8080	1,8	3,8	7,5																														

9. Insulation resistance : between wires	
Specified Value	—

10. Insulation resistance : between wire and core	
Specified Value	—

11. Withstanding voltage : between wire and core	
Specified Value	—

12. Adhesion of terminal electrode	
Specified Value	Shall not come off PC board
Test Methods and Remarks	The test samples shall be soldered to the test board by the reflow. Applied force : 10N to X and Y directions. Duration : 5s. Solder cream thickness : 0.10mm (2020~3030 type) : 0.15mm (4040~8080 type) 

13. Resistance to vibration		
Specified Value	Inductance change : Within $\pm 10\%$ No significant abnormality in appearance.	
	The test samples shall be soldered to the test board by the reflow. Then it shall be submitted to below test conditions.	
Test Methods and Remarks	Frequency Range	10~55Hz
	Total Amplitude	1.5mm. May not exceed acceleration 196m/s ²
	Sweeping Method	10Hz to 55Hz to 10Hz for 1min.
	X	For 2 hours on each X, Y, and Z axis.
	Y	
Z		
Recovery : At least 2hrs of recovery under the standard condition after the test, followed by the measurement within 48hrs.		

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L=mm(1/16")
L=mm(1/8")

14, Solderability																			
Specified Value	At least 80% of surface of terminal electrode is covered by new solder.																		
Test Methods and Remarks	<p>The test samples shall be dipped in flux, and then immersed in molten solder as shown in below table,</p> <table><tr><td>Flux : Ethanol solution containing resin 25%,</td><td></td></tr><tr><td>Solder Temperature</td><td>245±5°C</td></tr><tr><td>Time</td><td>5±1.0 sec.</td></tr></table> <p>※Immersion depth : All sides of mounting terminal shall be immersed.</p>	Flux : Ethanol solution containing resin 25%,		Solder Temperature	245±5°C	Time	5±1.0 sec.												
Flux : Ethanol solution containing resin 25%,																			
Solder Temperature	245±5°C																		
Time	5±1.0 sec.																		
15, Resistance to soldering heat																			
Specified Value	<p>Inductance change : Within ±10% No significant abnormality in appearance.</p>																		
Test Methods and Remarks	<p>The test sample shall be exposed to reflow oven at 230±5°C for 40 seconds, with peak temperature at 280±5°C for 5 seconds, 2 times, Test board material : Glass epoxy-resin Test board thickness : 1.2mm</p>																		
16, Thermal shock																			
Specified Value	<p>Inductance change : Within ±10% No significant abnormality in appearance.</p>																		
Test Methods and Remarks	<p>The test samples shall be soldered to the test board by the reflow. The test samples shall be placed at specified temperature for specified time by step 1 to step 4 as shown in below table in sequence. The temperature cycle shall be repeated 100 cycles,</p> <table><tr><th colspan="3">Conditions of 1 cycle</th></tr><tr><th>Step</th><th>Temperature (°C)</th><th>Duration (min)</th></tr><tr><td>1</td><td>-40±3</td><td>30±3</td></tr><tr><td>2</td><td>Room temperature</td><td>Within 3</td></tr><tr><td>3</td><td>+85±2</td><td>30±3</td></tr><tr><td>4</td><td>Room temperature</td><td>Within 3</td></tr></table> <p>Recovery : At least 2hrs of recovery under the standard condition after the test, followed by the measurement within 48hrs.</p>	Conditions of 1 cycle			Step	Temperature (°C)	Duration (min)	1	-40±3	30±3	2	Room temperature	Within 3	3	+85±2	30±3	4	Room temperature	Within 3
Conditions of 1 cycle																			
Step	Temperature (°C)	Duration (min)																	
1	-40±3	30±3																	
2	Room temperature	Within 3																	
3	+85±2	30±3																	
4	Room temperature	Within 3																	
17, Damp heat																			
Specified Value	<p>Inductance change : Within ±10% No significant abnormality in appearance.</p>																		
Test Methods and Remarks	<p>The test samples shall be soldered to the test board by the reflow, The test samples shall be placed in thermostatic oven set at specified temperature and humidity as shown in below table,</p> <table><tr><td>Temperature</td><td>60±2°C</td></tr><tr><td>Humidity</td><td>90~95%RH</td></tr><tr><td>Time</td><td>500+24/-0 hour</td></tr></table> <p>Recovery : At least 2hrs of recovery under the standard condition after the test, followed by the measurement within 48hrs.</p>	Temperature	60±2°C	Humidity	90~95%RH	Time	500+24/-0 hour												
Temperature	60±2°C																		
Humidity	90~95%RH																		
Time	500+24/-0 hour																		
18, Loading under damp heat																			
Specified Value	<p>Inductance change : Within ±10% No significant abnormality in appearance.</p>																		
Test Methods and Remarks	<p>The test samples shall be soldered to the test board by the reflow, The test samples shall be placed in thermostatic oven set at specified temperature and humidity and applied the rated current continuously as shown in below table,</p> <table><tr><td>Temperature</td><td>60±2°C</td></tr><tr><td>Humidity</td><td>90~95%RH</td></tr><tr><td>Applied current</td><td>Rated current</td></tr><tr><td>Time</td><td>500+24/-0 hour</td></tr></table> <p>Recovery : At least 2hrs of recovery under the standard condition after the test, followed by the measurement within 48hrs.</p>	Temperature	60±2°C	Humidity	90~95%RH	Applied current	Rated current	Time	500+24/-0 hour										
Temperature	60±2°C																		
Humidity	90~95%RH																		
Applied current	Rated current																		
Time	500+24/-0 hour																		
19, Low temperature life test																			
Specified Value	<p>Inductance change : Within ±10% No significant abnormality in appearance.</p>																		
Test Methods and Remarks	<p>The test samples shall be soldered to the test board by the reflow. After that, the test samples shall be placed at test conditions as shown in below table,</p> <table><tr><td>Temperature</td><td>-40±2°C</td></tr><tr><td>Time</td><td>500+24/-0 hour</td></tr></table> <p>Recovery : At least 2hrs of recovery under the standard condition after the test, followed by the measurement within 48hrs.</p>	Temperature	-40±2°C	Time	500+24/-0 hour														
Temperature	-40±2°C																		
Time	500+24/-0 hour																		

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LCM1NR3UJ24R6E10R01

20, High temperature life test							
Specified Value	—						
21, Loading at high temperature life test							
Specified Value	<p>Inductance change : Within ±10% No significant abnormality in appearance.</p>						
Test Methods and Remarks	<p>The test samples shall be soldered to the test board by the reflow soldering,</p> <table> <tr> <td>Temperature</td><td>85±2°C</td></tr> <tr> <td>Applied current</td><td>Rated current</td></tr> <tr> <td>Time</td><td>500+24/-0 hour</td></tr> </table> <p>Recovery : At least 2hrs of recovery under the standard condition after the test, followed by the measurement within 48hrs.</p>	Temperature	85±2°C	Applied current	Rated current	Time	500+24/-0 hour
Temperature	85±2°C						
Applied current	Rated current						
Time	500+24/-0 hour						
22, Standard condition							
Specified Value	<p>Standard test condition : Unless otherwise specified, temperature is 20±15°C and 65±20% of relative humidity, When there is any question concerning measurement result: In order to provide correlation data, the test shall be condition of 20±2°C of temperature, 65±5% relative humidity, Inductance is in accordance with our measured value.</p>						

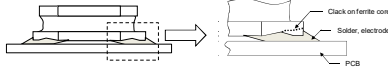
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LCM1NR3UJ24R6E10R01

Wire-wound Ferrite Power Inductors LSXB/LSXN/LSXP series
for General Electronic Equipment for Consumer
Wire-wound Ferrite Power Inductors LSXBH10050 for General Electronic Equipment for Consumer
Wire-wound Ferrite Power Inductors LSRN series for General Electronic Equipment for Consumer
Wire-wound Ferrite Power Inductors LLXB/LLXN/LLXP series
for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)
Wire-wound Ferrite Power Inductors LLXBH10050
for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)
Wire-wound Ferrite Power Inductors LLRN series
for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)

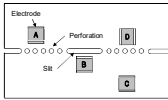
■ PRECAUTIONS

1. Circuit Design	
Precautions	<p>◆ Verification of operating environment, electrical rating and performance</p> <p>1. A malfunction in medical equipment, spacecraft, nuclear reactors, etc. may cause serious harm to human life or have severe social ramifications. As such, any inductors to be used in such equipment may require higher safety and/or reliability considerations and should be clearly differentiated from components used in general purpose applications.</p> <p>2. When inductors are used in places where dew condensation develops and/or where corrosive gas such as hydrogen sulfide, sulfuric acid, or chlorine exists in the air, characteristic deterioration may occur. Please do not use inductors under such environmental conditions.</p> <p>◆ Operating Current (Verification of Rated current)</p> <p>1. The operating current including inrush current for inductors must always be lower than their rated values.</p> <p>2. Do not apply current in excess of the rated value because the inductance may be reduced due to the magnetic saturation effect.</p> <p>◆ Temperature rise</p> <p>Temperature rise of power choke coil depends on the installation condition in end products.</p> <p>Make sure that temperature rise of power choke coils in actual end products is within the specified temperature range.</p>
2. PCB Design	
Precautions	<p>◆ Land pattern design</p> <p>1. Please refer to a recommended land pattern.</p> <p>2. There is stress, which has been caused by distortion of a PCB, to the inductor, (LSXB/LSXN/LSXP/LLXB/LLXN/LLXP)</p> <p>3. Please consider the arrangement of parts on a PCB, (LSXB/LSXN/LSXP/LLXB/LLXN/LLXP)</p>
Technical considerations	<p>◆ Land pattern design</p> <p>Surface Mounting</p> <p>1. Mounting and soldering conditions should be checked beforehand.</p> <p>2. Applicable soldering process to this products is reflow soldering only.</p> <p>3. Please use the recommended land pattern shown as below. Electrical characteristics and the mounting ability of the product are being considered in the recommended land pattern. If a PCB is designed with other dimensions, defective soldering and stress to a product may occur due to misalignment. The performance of the product may not be brought out. If an adopted land pattern is different from the recommended land pattern, stress to the product will increase. It may cause cracks or defective electrical characteristics of the product. Please conduct validation completely before studying adoption of this product and please judge the pros and cons of adoption of this product with taking on responsibility. (LSXB/LSXN/LSXP/LLXB/LLXN/LLXP)</p> <p>4. As coefficients of thermal expansion between an inductor and a PCB differs, cracks may occur on a ferrite core when thermal stress is applied to them after mounting an inductor. (Please refer to the drawings below.) Please conduct validation completely before studying adoption of this product and please judge the pros and cons of adoption of this product with taking on responsibility. (LSXB/LSXN/LSXP/LLXB/LLXN/LLXP)</p> 


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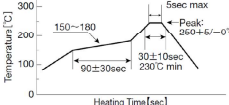
UMJ4RH5LLJ2m006E10061

	<p>5. SMD inductors should be located to minimize any possible mechanical stresses from board warp or deflection. When splitting the PC board after mounting inductors and other components, care is required so as not to give any stresses of deflection or twisting to the board. (LSXB/LSXN/LSXP/LLXB/LLXN/LLXP)</p> 
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3. Considerations for automatic placement

Precautions	<p>◆ Adjustment of mounting machine</p> <p>1. Excessive impact load should not be imposed on the products when mounting onto the PC boards.</p> <p>2. Mounting and soldering conditions should be checked beforehand.</p>
Technical considerations	<p>◆ Adjustment of mounting machine</p> <p>1. When installing products, care should be taken not to apply distortion stress as it may deform the products.</p> <p>2. Stress may be applied to a product with a warp or a twist in handling of the product. Please conduct validation completely before studying adoption of this product and please judge the pros and cons of adoption of this product with taking on responsibility. (LSXB/LSXN/LSXP/LLXB/LLXN/LLXP)</p> <p><Wrap> <Twist></p> 

4. Soldering

Precautions	<p>◆ Reflow soldering</p> <p>1. Please contact any of our offices for a reflow soldering, and refer to the recommended condition specified.</p> <p>2. The product shall be used reflow soldering only.</p> <p>3. Please do not add any stress to a product until it returns in normal temperature after reflow soldering.</p> <p>◆ Lead free soldering</p> <p>1. When using products with lead free soldering, we request to use them after confirming adhesion, temperature of resistance to soldering heat, soldering etc sufficiently.</p> <p>◆ Recommended conditions for using a soldering iron (LSXBH10050/LLXBH10050)</p> <ul style="list-style-type: none"> Put the soldering iron on the land/pattern. Soldering iron's temperature ~ Below 350°C Duration ~ 3 seconds or less The soldering iron should not directly touch the inductor.
Technical considerations	<p>◆ Reflow soldering</p> <p>1. If products are used beyond the range of the recommended conditions, heat stresses may deform the products, and consequently degrade the reliability of the products.</p> <p>Recommended reflow condition (Pb free solder)</p> 

5. Cleaning

Precautions	<p>◆ Cleaning conditions</p> <p>1. Washing by supersonic waves shall be avoided.</p>
Technical considerations	<p>◆ Cleaning conditions</p> <p>1. If washed by supersonic waves, the products might be broken.</p>

* This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our specification.
For details of each product (characteristic graph, reliability information, precautions for use, and so on), see our Web site (<http://www.taiyo-yuden.com/>)

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6. Handling	
Precautions	<ul style="list-style-type: none"> ◆Handling <ul style="list-style-type: none"> 1, Keep the product away from all magnets and magnetic objects. ◆Breakaway PC boards (splitting along perforations) <ul style="list-style-type: none"> 1, When splitting the PC board after mounting product, care should be taken not to give any stresses of deflection or twisting to the board. 2, Board separation should not be done manually, but by using the appropriate devices. ◆Mechanical considerations <ul style="list-style-type: none"> 1, Please do not give the product any excessive mechanical shocks. 2, Please do not add any shock and power to a product in transportation. ◆Pick-up pressure <ul style="list-style-type: none"> 1, Please do not push to add any pressure to a winding part. Please do not give any shock and push into a ferrite core exposure part. ◆Packing <ul style="list-style-type: none"> 1, Please avoid accumulation of a packing box as much as possible.
Technical considerations	<ul style="list-style-type: none"> ◆Handling <ul style="list-style-type: none"> 1, There is a case that a characteristic varies with magnetic influence. ◆Breakaway PC boards (splitting along perforations) <ul style="list-style-type: none"> 1, The position of the product on PCBs shall be carefully considered to minimize the stress caused from splitting of the PCBs. ◆Mechanical considerations <ul style="list-style-type: none"> 1, There is a case to be damaged by a mechanical shock. 2, There is a case to be broken by the handling in transportation. ◆Pick-up pressure <ul style="list-style-type: none"> 1, Damage and a characteristic can vary with an excessive shock or stress. ◆Packing <ul style="list-style-type: none"> 1, If packing boxes are accumulated, that could cause a deformation on packing tapes or a damage on the products.
7. Storage conditions	
Precautions	<ul style="list-style-type: none"> ◆Storage <ul style="list-style-type: none"> 1, To maintain the solderability of terminal electrodes and to keep the packing material in good condition, temperature and humidity in the storage area should be controlled. <ul style="list-style-type: none"> • Recommended conditions <ul style="list-style-type: none"> Ambient temperature : -5~40°C Humidity : Below 70% RH • The ambient temperature must be kept below 30°C. Even under ideal storage conditions, solderability of products electrodes may decrease as time passes. For this reason, product should be used within 6 months from the time of delivery. In case of storage over 6 months, solderability shall be checked before actual usage.
Technical considerations	<ul style="list-style-type: none"> ◆Storage <ul style="list-style-type: none"> 1, Under a high temperature and humidity environment, problems such as reduced solderability caused by oxidation of terminal electrodes and deterioration of taping / packaging materials may take place.

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