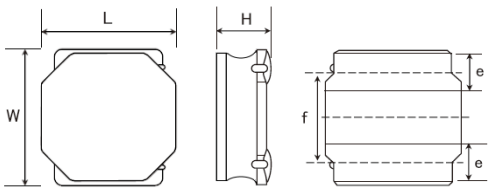
Spec Sheet

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

LLXBD4040MKL220M (Previous PN: NR4012T220M)



Features

- Item Summary

  22uH±20%, 0.51A, 4.0x4.0x1.2mm

- Lifecycle Stage

  Phaseout

- Standard packaging quantity (minimum)

  Taping Embossed 4500pcs

Products characteristics table

Inductance	22 uH ± 20 %
Case Size (mm)	4.0x4.0
Rated Current (max)	0.51 A
Saturation Current (max)	0.51 A (⊿L=30%)
Temperature Rise Current (max)	0.54 A (⊿T=40℃)
DC Resistance (max)	0.576 Ω
DC Resistance (typ)	0.48 Ω
Self Resonant Frequency (min)	18 MHz
Operating Temp. Range	-25 to +120 ℃ (Including-self-generated heat)
Temperature characteristic (Inductance change)	± 20 %
Measuring Frequency	100 kHz
RoHS Compliance (10 subst.)	Yes
REACH Compliance (253 subst.)	Yes
Halogen Free	Yes
Soldering	Reflow

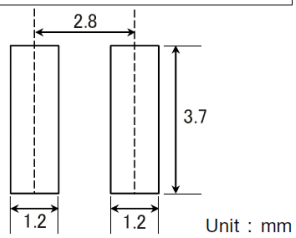
External Dimensions

Dimension L	4.0 ±0.2 mm
Dimension W	4.0 ±0.2 mm
Dimension H	Max 1.2 mm
Dimension e	1.1 ±0.2 mm
Dimension f	2.5 ±0.2 mm

Recommended Land Patterns

【推奨ランドパターン】
実装上の注意
・実装状態を確認の上ご使用くださいますようお願いいたします。
・本製品のはんだ付けはリフローはんだ工法に限ります。

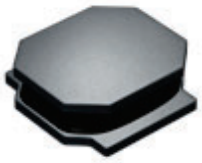
【Recommended Land Pattern】
Surface Mounting
・Mounting and soldering conditions should be checked beforehand.
・Applicable soldering process to these products is reflow soldering only.



2026.03.31

The data is reference only. Electrical characteristics vary depending on environment or measurement condition.
TAIYO YUDEN reserves the right to make change to the Data at any time without notice.
Before making final selection, please check product specification.

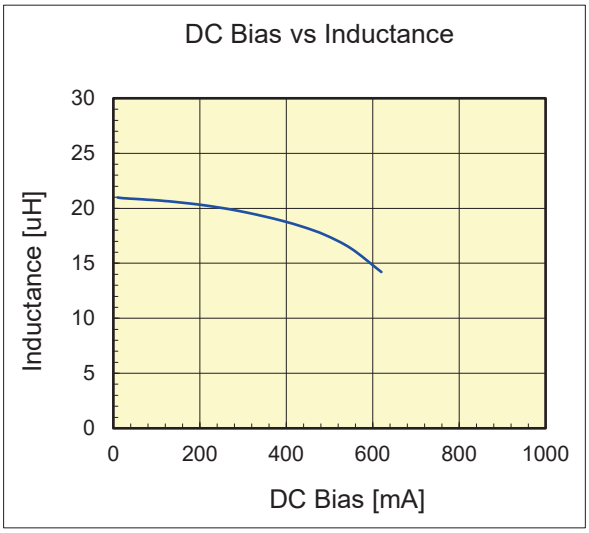
LLXBD4040MKL220M

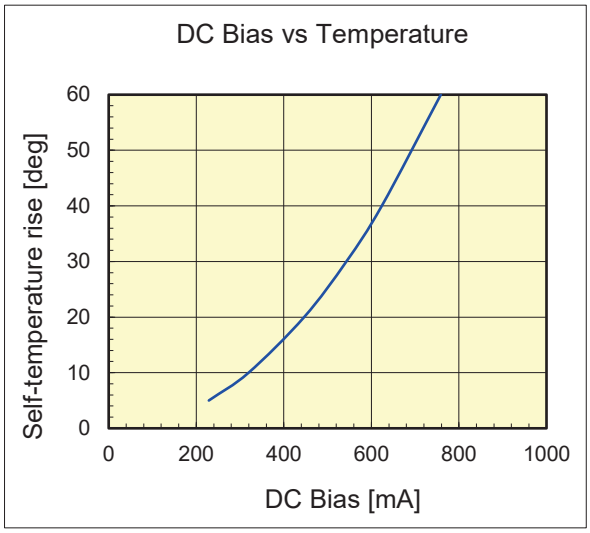


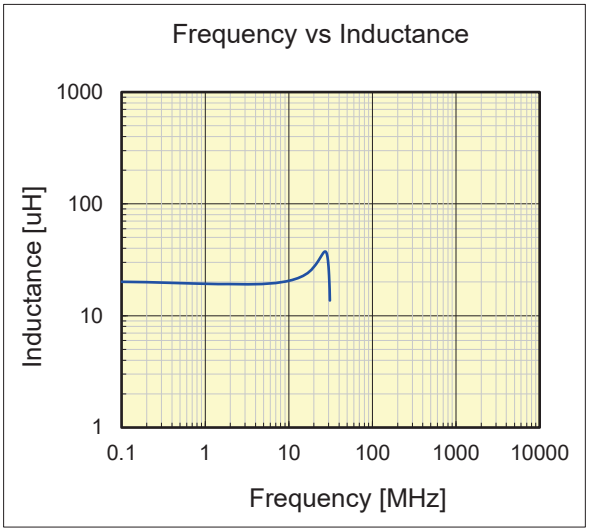
Dimension	unit : mm	unit : inch
Length :	4.0 +/- 0.2	(0.157 +/- 0.008)
Width :	4.0 +/- 0.2	(0.157 +/- 0.008)
Height :	1.2 max.	(0.047 max.)

Inductance :	22 uH	(test freq at 0.1MHz)
DC Resistance :	0.48 / 0.576	ohm (typ / max)
Saturation Current :	510 mA (max)	
Temp. rise Current :	540 mA (max)	

Saturation current typical : 30% reduction from initial L value.
Temp rise Current typical : Temperature will rise by 40 deg C







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■ 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 January 2026. 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.

■ Limited Application

1. Equipment Intended for Use

The products listed in this catalog are intended for general-purpose and standard use in the 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 each equipment. Therefore, when using our products for each equipment, please check available applications specified in this catalog or the individual product specification sheets and use the corresponding products. Please be sure to contact TAIYO YUDEN before using our products for equipment other than those specified in this catalog or the individual product specification sheets.

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) Aviation equipment
(2) Aerospace equipment (artificial satellite, rocket, etc.)
(3) Undersea equipment (submarine repeating equipment, etc.)
(4) Power generation control equipment (nuclear power, hydroelectric power, thermal power plant control system, etc.)
(5) Transportation equipment (train control system, and ship control system, etc.)
(6) Traffic signal equipment
(7) Disaster prevention equipment, crime prevention equipment
(8) Combustion control equipment, explosion control equipment
(9) Military equipment (excluding lethal weapons, weapons of mass destruction and conventional weapons)
(10) 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 (i) the following equipment requiring extremely high levels of safety and/or reliability, and/or (ii) the following equipment that may hinder the maintenance of international peace and security.

(1) Medical devices classified as GHTF Class D (Japan Class IV), implantable medical devices *
(2) lethal weapons, weapons of mass destruction, conventional weapons
(3) Any other equipment requiring extremely high levels of safety and/or reliability equal to the equipment listed in (1) above

*Notes: 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.

■ 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.