

Inductors

NRS4010T220MDGGV



■ Features

- Item Summary
22uH±20%, 0.45A, 4.0x4.0x1.0mm
- Lifecycle Stage
New PN available
- AEC-Q200 qualified
- Standard packaging quantity (minimum)
Taping Embossed 5000pcs

■ Products characteristics table

Inductance	22 uH ± 20 %
Case Size (mm)	4.0x4.0
Rated Current (max)	0.45 A
Saturation Current (max)	0.45 A (ΔL=30%)
Saturation Current (typ)	0.54 A (ΔL=30%)
Temperature Rise Current (max)	0.5 A (ΔT=40°C)
Temperature Rise Current (typ)	0.6 A (ΔT=40°C)
DC Resistance (max)	0.684 Ω
DC Resistance (typ)	0.57 Ω
LQ Measuring Frequency	100 kHz
Self Resonant Frequency (min)	19 MHz
Operating Temp. Range	-40 to +125 °C (Including-self-generated heat)
Temperature characteristic (Inductance change)	± 20 %
RoHS Compliance (10 subst.)	Yes
REACH Compliance (223 subst.)	Yes
Halogen Free	Yes
Soldering	Reflow

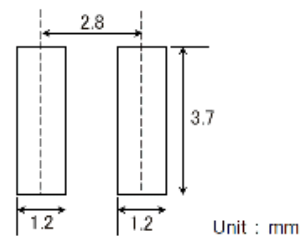
■ External Dimensions

Dimension L	4.0 ± 0.2 mm
Dimension W	4.0 ± 0.2 mm
Dimension H	Max 1.0 mm
Dimension e	1.1 ± 0.2 mm
Dimension f	2.5 ± 0.2 mm

■ Recommended Land Patterns

【推奨のランドパターン】
 二層基板推奨
 ・銅箔厚さ0.035mm以上0.05mm以下を推奨（銅箔厚さ0.035mm以下の場合、銅箔厚さを0.05mmとします）
 ・銅箔厚さ0.035mm以下の場合、銅箔厚さを0.05mmとします。

【Printable Land Pattern】
 ・Hole diameter for mounting is 0.4mm (0.0157 inch) (0.4mm diameter hole is not included).
 ・Apply the soldering process to these products in reflow soldering only.



SMD Power Inductors for Industrial / Automotive Comfort and Safety Applications
(NR series S type)(AEC-Q200 qualified)

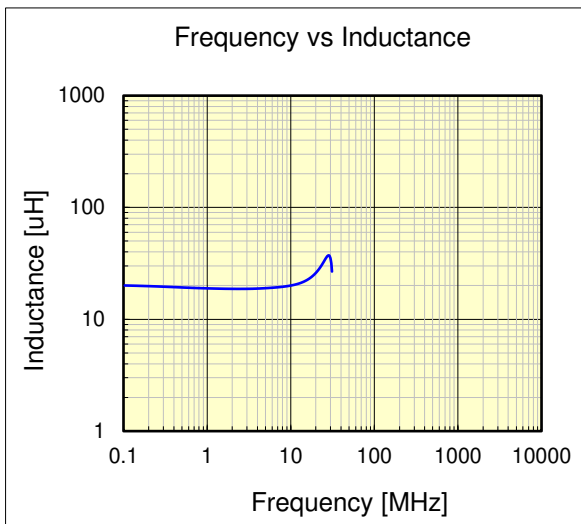
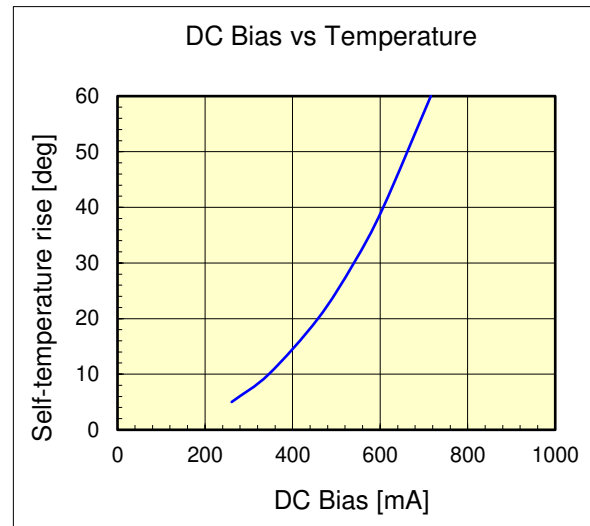
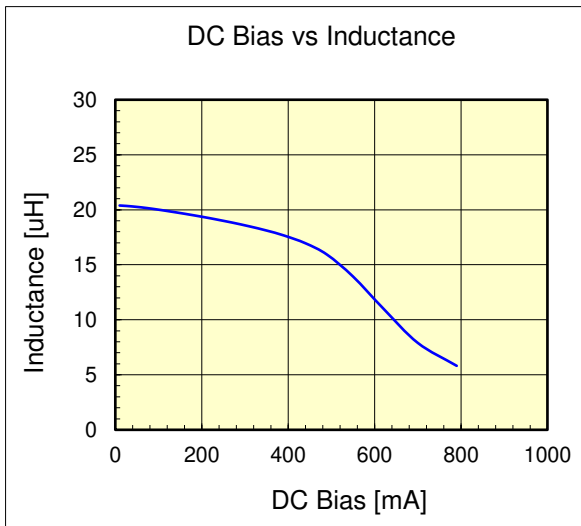
NRS4010T220MDGGV



AEC-Q200 qualified

Dimension	unit : mm	unit : inch
Length :	4.0 +/- 0.2	(0.157 +/- 0.008)
Width :	4.0 +/- 0.2	(0.157 +/- 0.008)
Height :	1.0 max.	(0.039 max.)

Inductance :	22	uH (test freq at 0.1MHz)
DC Resistance :	0.57 / 0.684	ohm (typ / max)
Saturation Current :	450	mA (max)
Temp. rise Current :	500	mA (max)
Saturation current typical : 30% reduction from initial L value.		
Temp rise Current typical : Temperature will rise by 40 deg C		



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.

The products are tested based on the test conditions and methods defined in AEC-Q200. Please consult with TAIYO YUDEN for the details of the product specification and AEC-Q200 test results, etc., and please review and approve TAIYO YUDEN's product specification before ordering.

Please read this notice before using the TAIYO YUDEN products.



REMINDERS

- Please conduct validation and verification of our products in actual condition of mounting and operating environment before using our products.
- The product listed in this spec sheet is intended for use in general electronic equipment (e.g., AV equipment, OA equipment, home electric appliances, office equipment, information and communication equipment including, without limitation, mobile phone, and PC). Please be sure to contact TAIYO YUDEN for further information before using the products for any equipment which may directly cause loss of human life or bodily injury (e.g., transportation equipment including, without limitation, automotive powertrain control system, train control system, and ship control system, traffic signal equipment, disaster prevention equipment, medical equipment classified as Class I, II or III by IMDRF, highly public information network equipment including, without limitation, telephone exchange, and base station).
Please do not incorporate our products into any equipment requiring high levels of safety and/or reliability (e.g., aerospace equipment, aviation equipment, medical equipment classified as Class IV by IMDRF, nuclear control equipment, undersea equipment, military equipment).
When our products are used even for high safety and/or reliability-required devices or circuits of general electronic equipment, it is strongly recommended to perform a thorough safety evaluation prior to use of our products and to install a protection circuit as necessary.
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 product listed in this spec sheet for any equipment requiring inquiry to TAIYO YUDEN or prohibited for use by TAIYO YUDEN as described above.
- Information contained in this spec sheet 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.
- Please note that the scope of warranty for our products is limited to the delivered our products themselves and TAIYO YUDEN shall not be in any way responsible for any damages resulting from a fault 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.
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- Caution for Export
The product listed in this spec sheet 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.