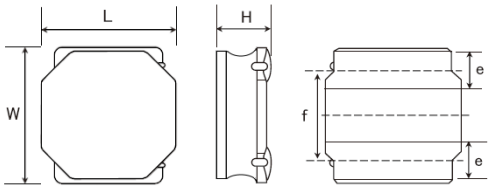
Spec Sheet

SMD Power Inductors (NR series S type)

NRS4010T220MDGG



Features

- Item Summary

  22uH±20%, 0.45A, 4.0x4.0x1.0mm

- Lifecycle Stage

  Mass Production (Preferred)

- Standard packaging quantity (minimum)

  Taping Embossed 5000pcs

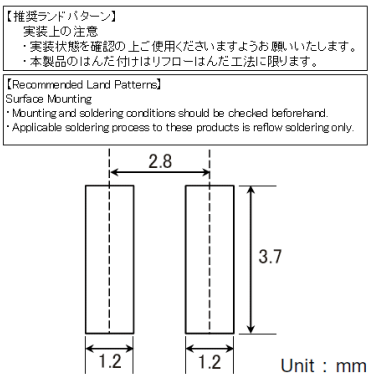
Products characteristics table

Inductance	22 uH ± 20 %
Case Size (mm)	4.0x4.0
Rated Current (max)	0.45 A
Saturation Current (max)	0.45 A (⊿L=30%)
Saturation Current (typ)	0.54 A (⊿L=30%)
Temperature Rise Current (max)	0.5 A (⊿T=40℃)
Temperature Rise Current (typ)	0.6 A (⊿T=40℃)
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	-25 to +125 ℃ (Including-self-generated heat)
Temperature characteristic (Inductance change)	± 20 %
RoHS Compliance (10 subst.)	Yes
REACH Compliance (209 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



2021.09.16

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.

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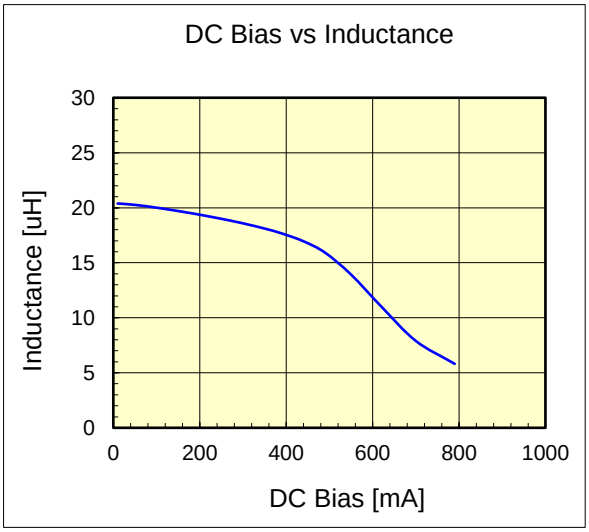
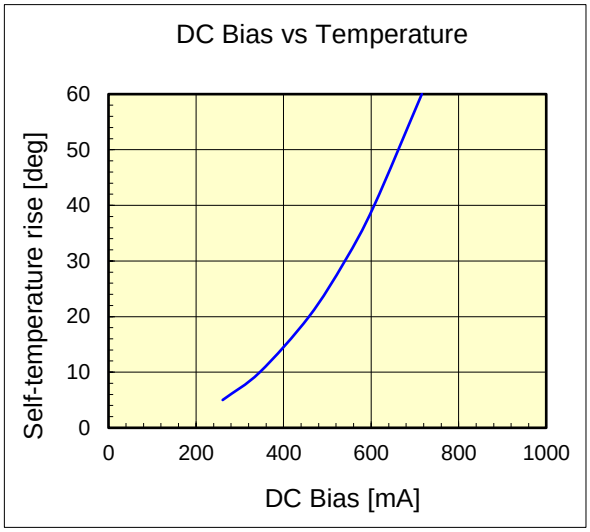
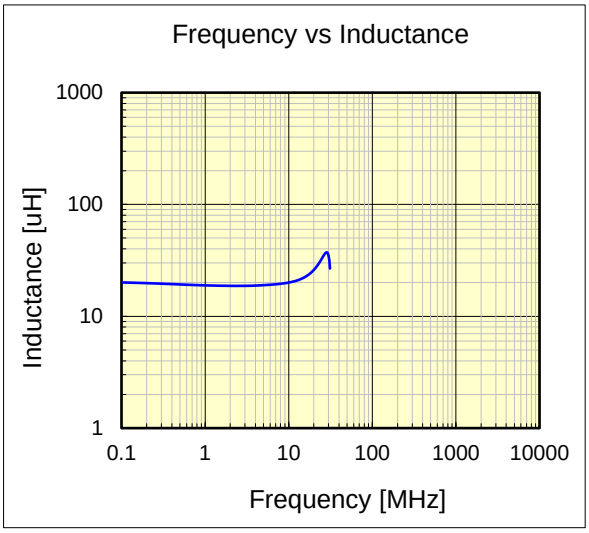
Dimension	unit : mm	unit : inch
Length :	4.0 + / - 0.2	(0.157 + / - 0.008)
Width :	4.0 + / - 0.2	(0.157 + / - 0.008)
Height :	1.0 max.	(0.039 max.)

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







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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) and medical equipment classified as Class I or II by IMDRF. 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 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).

  *Note: 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.

  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.
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