

# HF RFID Tag Data sheet

## LXMS33HCNK-171



### Scope

This Data sheet, is applied to passive HF tag.

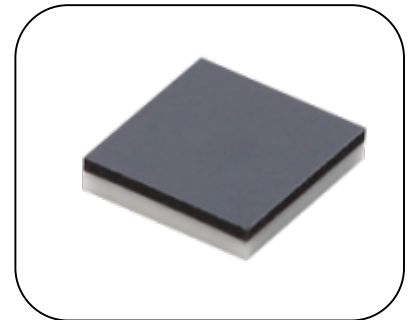
-Specific applications: To give ID (identification) to consumer product, consumer equipment, industrial equipment and medical equipment (GHF Class A and B) or its consumables for individual management by using radio waves.

-Unsuitable Application: Applications listed in "Limitation of applications" in this Data sheet.

### 1. General Descriptions

LXMS33HCNK-171 is passive HF tag that complies with ISO14443 TypeA /NFC Forum type2.

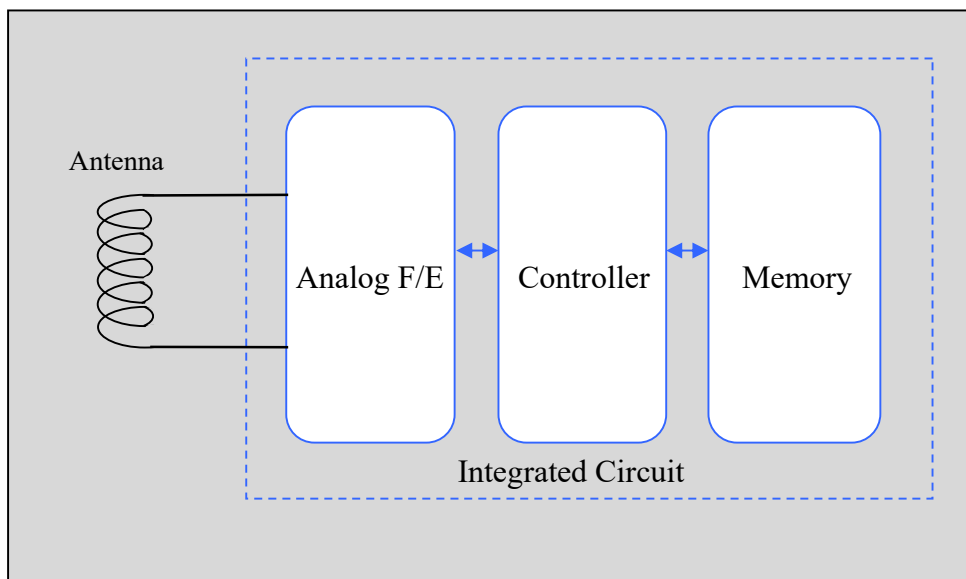
It is small and robust that allows to embed into customer application.



#### [Features]

- Small and Robust package design
- HF band (13.56MHz)
- ISO14443 TypeA / NFC Forum Type2 compliant
- Size is 3.2 x 3.2 x 0.75mm
- Using NXP NTAG210
- Read range:15mm \*Reference
- RoHS compliant

### 2. Block Diagram

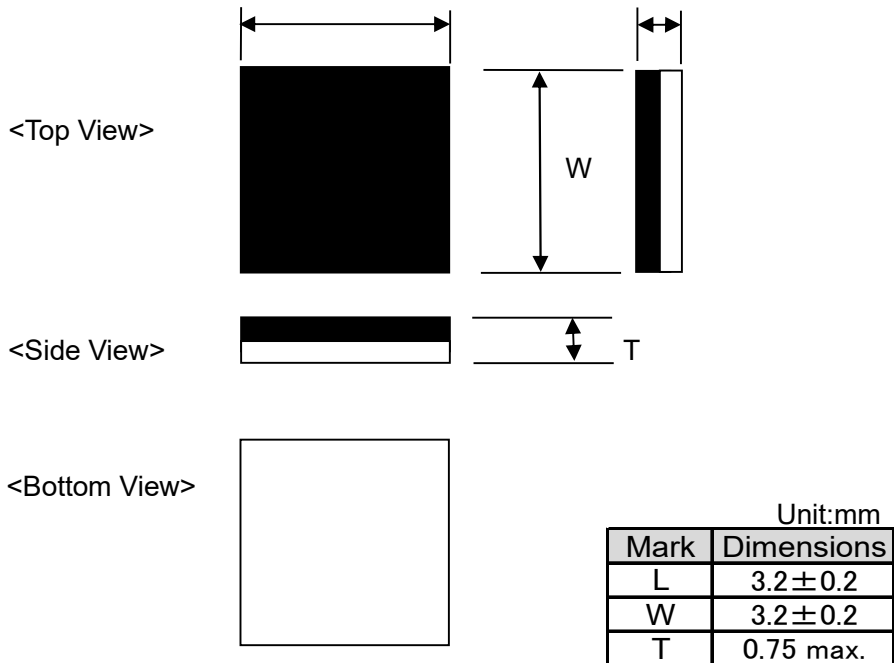


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**3. Mechanical Information**

[Dimension]



**4. Electrical Performance**

**4-1. Frequency**

13.56MHz

**4-2. IC/Memory size**

Parameter		Description	Remarks
IC		NXP NTAG210	
Protocol		ISO14443 TypeA	
		NFC Forum Type2	
Memory	UID	7-byte serial	Read Only
	User	384bit	Read/Write
Data retention Time		※10 years	Tamb=22°C

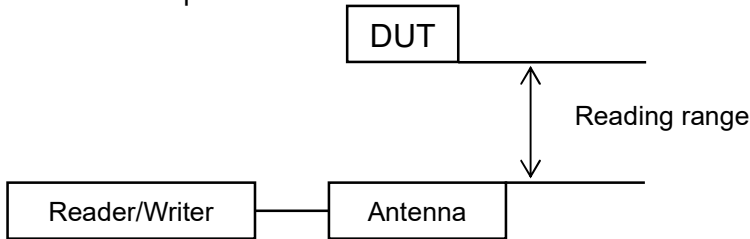
※Reference value

**5. Reading range (reference only)**

Reading range varies by Output Power of Reader/Writer and an antenna.

**HF band(13.56MHz) : 15mm**

\*Measurement setup

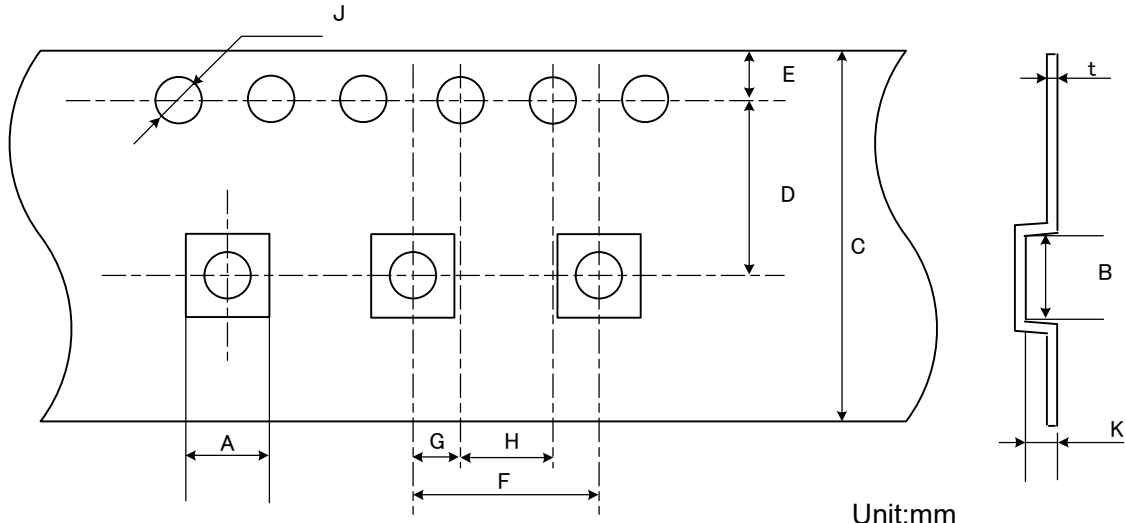


**6. Absolute maximum ratings**

Symbol	Parameter	Min	Max	Unit
T <sub>stg</sub>	Storage temperature	-40	+85	°C
T <sub>amb</sub>	Operating temperature	-25	+70	°C

**7. Packaging**

**7-1. Dimensions of tape**

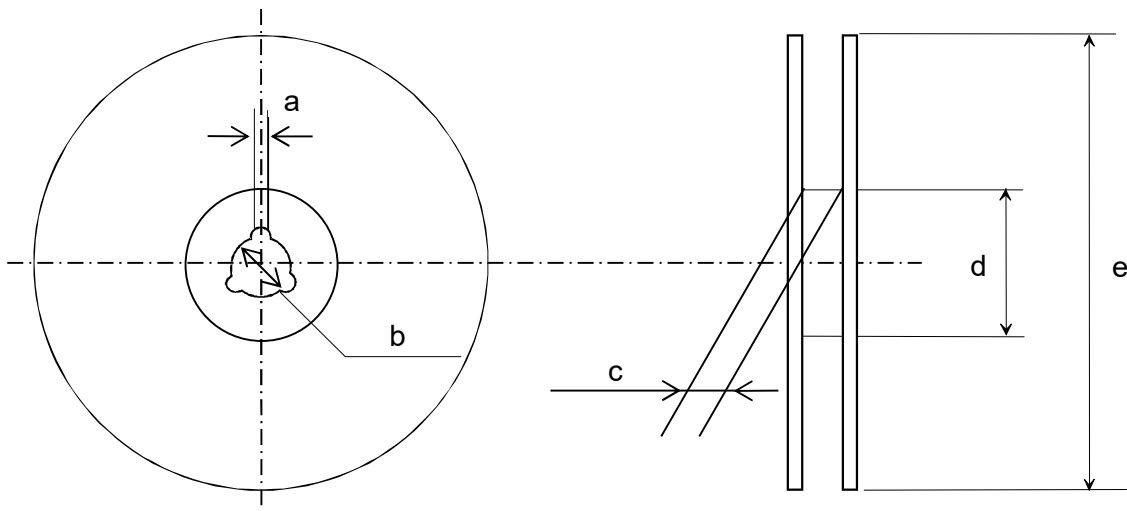


Unit:mm

Symbol	A	B	C	D	E	F
Dimensions	3.6±0.1	3.6±0.1	12.0±0.2	5.5±0.05	1.75±0.1	8.0±0.1

Symbol	G	H	J	K	t
Dimensions	2.0±0.05	4.0±0.1	1.5±0.1	0.85±0.1	0.3±0.05

**7-2. Dimensions of reel**



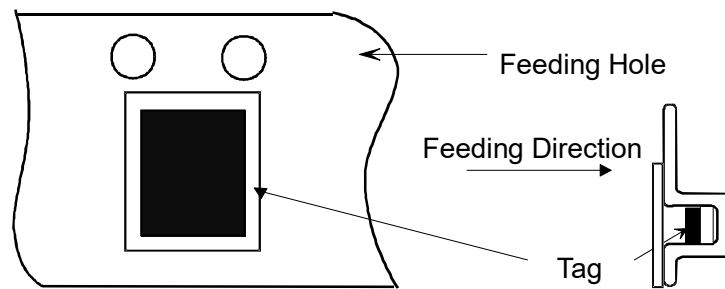
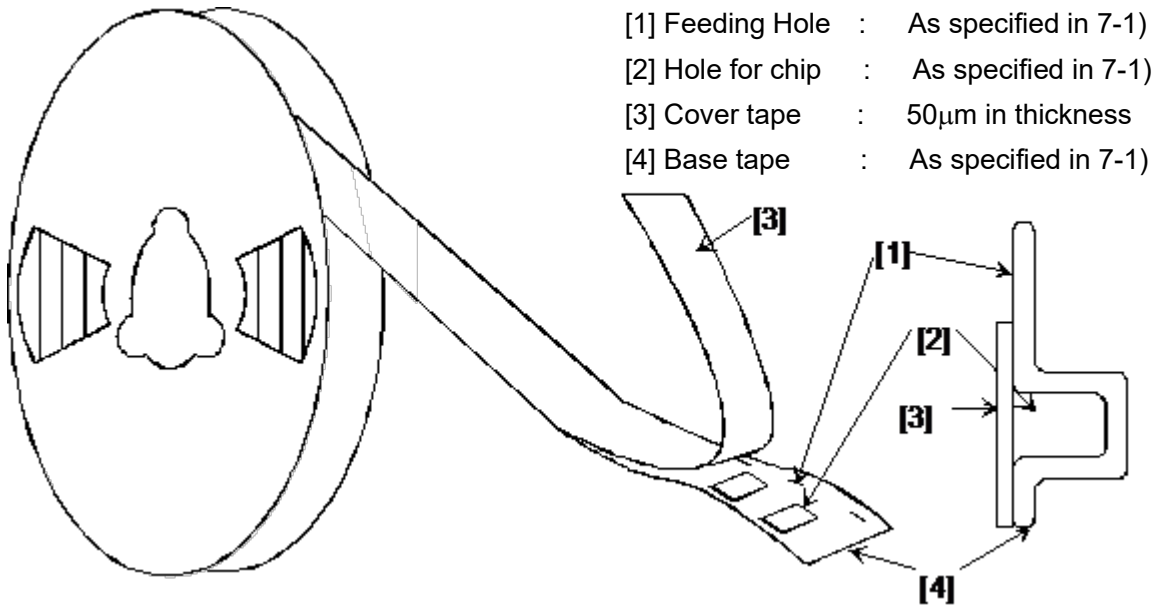
Unit: mm

Symbol	a	b	c	d	e
Dimension	2.0+/-0.5	Φ13.0+/-0.2	13.5+/-0.5	(Φ100)	(Φ330)

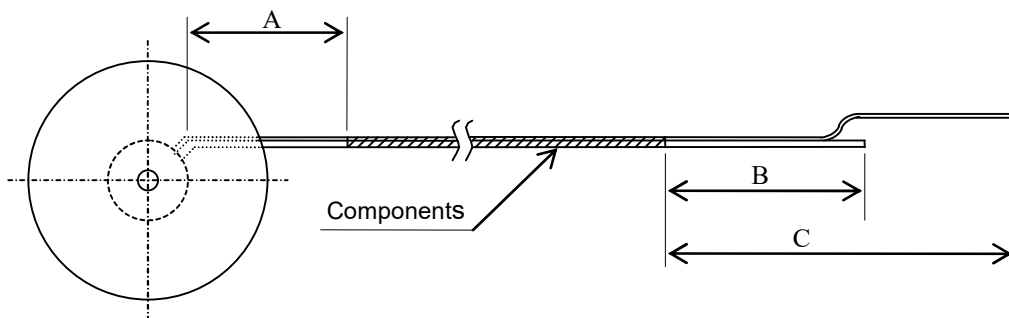
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7-3. Taping Diagrams



7-4. Leader and Tail tape



Symbol	Item	Minimum length
A	Tail	160
B	Leader no components	100
C	Leader with cover tape	400

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### 7-5. Taping direction

The tape for chips are wound clockwise.

The feeding holes will come on the right side when the tape is pulled to a user's direction.

### 7-6. Quantity per reel

6,000 pcs

### 7-7. Minimum order quantity

6,000pcs

### 7-8. Material

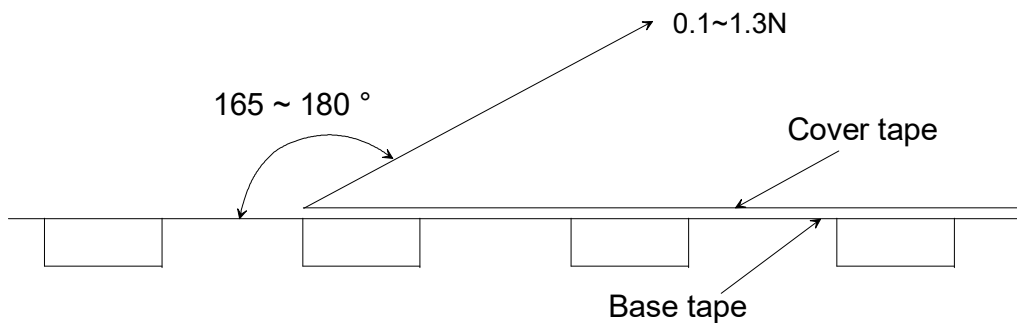
Base and Cover tape : Plastic

Reel : Plastic

Base and Cover tape, Reel have an anti-ESD function.

### 7-9. Peeling strength

0.1-1.3N when peeled in the direction below.



## 8. Contact window

URL: <http://www.murata.com/products/rfid>

Email: [magicstrap@murata.com](mailto:magicstrap@murata.com)

For any inquiries/queries, please feel free to contact us.

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## NOTICE

### 1. Storage Conditions:

To avoid damaging, be sure to observe the following points.

- Store products where the ambient temperature is 15 to 35 °C and humidity 45 to 75% RH.  
(Packing materials, In particular, may be deformed at the temperature over 40 °C.).
- Store products in non corrosive gas (Cl<sub>2</sub>, NH<sub>3</sub>, SO<sub>2</sub>, NO<sub>x</sub>, etc.).
- Stored products should be used within 6 months of receipt.

### 2. Handling Conditions:

Be careful in handling or transporting products because excessive stress or mechanical shock may break products.

### 3. Operational Environment Conditions:

Products are designed to work under normal environmental conditions (ambient temperature, humidity and pressure). Therefore, products have no problems to be used under the similar conditions to the above-mentioned. However, if products are used under the following circumstances, it may damage products and leakage of electricity and abnormal temperature may occur.

- In an atmosphere containing corrosive gas ( Cl<sub>2</sub>, NH<sub>3</sub>, SO<sub>x</sub>, NO<sub>x</sub> etc.).F
- In an atmosphere containing combustible and volatile gases.
- In a dusty environment.
- Direct sunlight
- Water splashing place.
- Humid place where water condenses.
- In a freezing environment.

If there are possibilities for products to be used under the preceding clause, consult with Murata before actual use.

If static electricity is added to this product, degradation and destruction may be produced.

Please use it after consideration enough so that neither static electricity nor excess voltage is added at the time of an assembly and measurement.

If product malfunctions may result in serious damage, including that to human life, alternative measures of the operation and design must be taken to secure the safety.

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**4. Cleaning Conditions:**

If the cleaning will be applied, please check with Murata in advance since the product may degrade or get broken.

**5. Limitation of Applications:**

The products listed in the Data sheet (hereinafter the product(s) is called as the “Product(s)”) are designed and manufactured for applications specified in the Data sheet. (hereinafter called as the “Specific Application”).

We shall not warrant anything in connection with the Products including fitness, performance, adequateness, safety, or quality, in the case of applications listed in from (1) to (11) written at the end of this precautions, which may generally require high performance, function, quality, management of production or safety. Therefore, the Product shall be applied in compliance with the specific application.

WE DISCLAIM ANY LOSS AND DAMAGES ARISING FROM OR IN CONNECTION WITH THE PRODUCTS INCLUDING BUT NOT LIMITED TO THE CASE SUCH LOSS AND DAMAGES CAUSED BY THE UNEXPECTED ACCIDENT, IN EVENT THAT (i) THE PRODUCT IS APPLIED FOR THE PURPOSE WHICH IS NOT SPECIFIED AS THE SPECIFIC APPLICATION FOR THE PRODUCT, AND/OR (ii) THE PRODUCT IS APPLIED FOR ANY FOLLOWING APPLICATION PURPOSES FROM (1) TO (11) (EXCEPT THAT SUCH APPLICATION PURPOSE IS UNAMBIGUOUSLY SPECIFIED AS SPECIFIC APPLICATION FOR THE PRODUCT IN OUR CATALOG SPECIFICATION FORMS, DATASHEETS, OR OTHER DOCUMENTS OFFICIALLY ISSUED BY US\*).

- (1) Aircraft equipment
- (2) Aerospace equipment
- (3) Undersea equipment
- (4) Power plant control equipment
- (5) Medical equipment
- (6) Transportation equipment
- (7) Traffic control equipment
- (8) Disaster prevention/security equipment
- (9) Industrial data-processing equipment
- (10) Combustion/explosion control equipment
- (11) Equipment with complexity and/or required reliability equivalent to the applications listed in the above.

For exploring information of the Products which will be compatible with the particular purpose other than those specified in the Data sheet, please contact our sales offices, distribution agents, or trading companies with which you make a deal, or via our web contact form.

Contact form: <https://www.murata.com/contactform>

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\*We may design and manufacture particular Products for applications listed in (1) to (11). Provided that, in such case we shall unambiguously specify such Specific Application in the Data sheet without any exception. Therefore, any other documents and/or performances, whether exist or non-exist, shall not be deemed as the evidence to imply that we accept the applications listed in (1) to (11).



**Note:**

Please make sure that your product has been evaluated and confirmed against your specifications when our product is attached to your product.

All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose, under the condition and in the environment agreed upon between you and us. You are requested not to use our product deviating from such agreement.