

UHF RFID Tag Data sheet

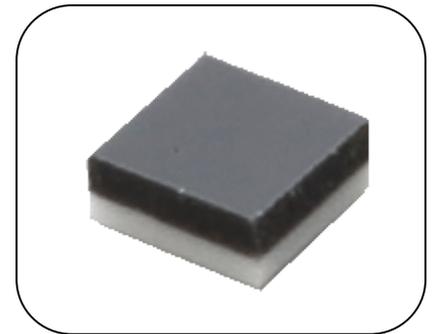
LXMSJZNCMF-210

1. General Descriptions

LXMSJZNCMF-210 is an innovative RFID module which complies ISO18000-63 / EPC Global Gen2v2.

This product can be used as an ultra small tag and this can be fit on any metal objects, non-metal objects, as well as embedding into any objects by glue or adhesive and so on.

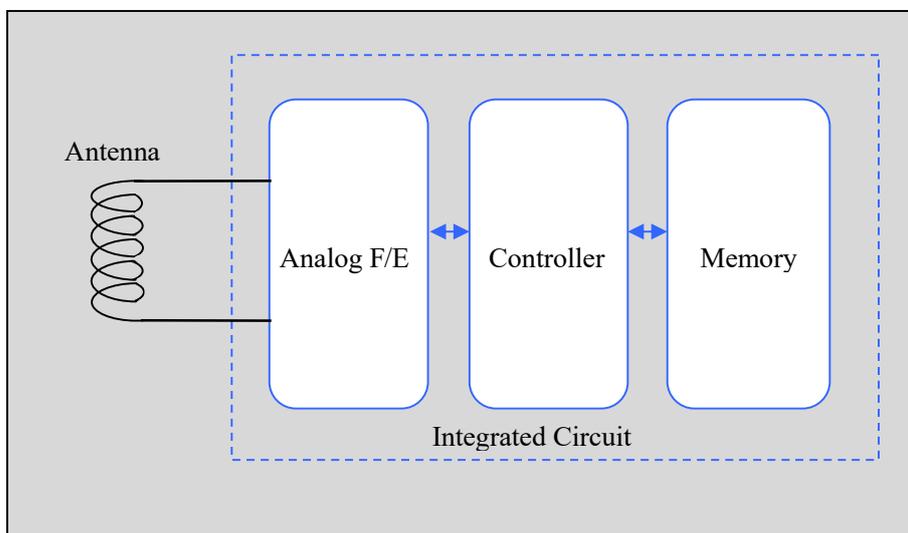
This can be used globally with high performance and reliability.



[Features]

- Small and Robust package design
- UHF band (865~928MHz)
- ISO18000-63 / EPC Global Gen2v2 Compliant
- Size is 1.2 x 1.2 x 0.55mm
- Using impinj MonzaR6
- Read range:10mm *Reference
- RoHS compliant

2. Block Diagram

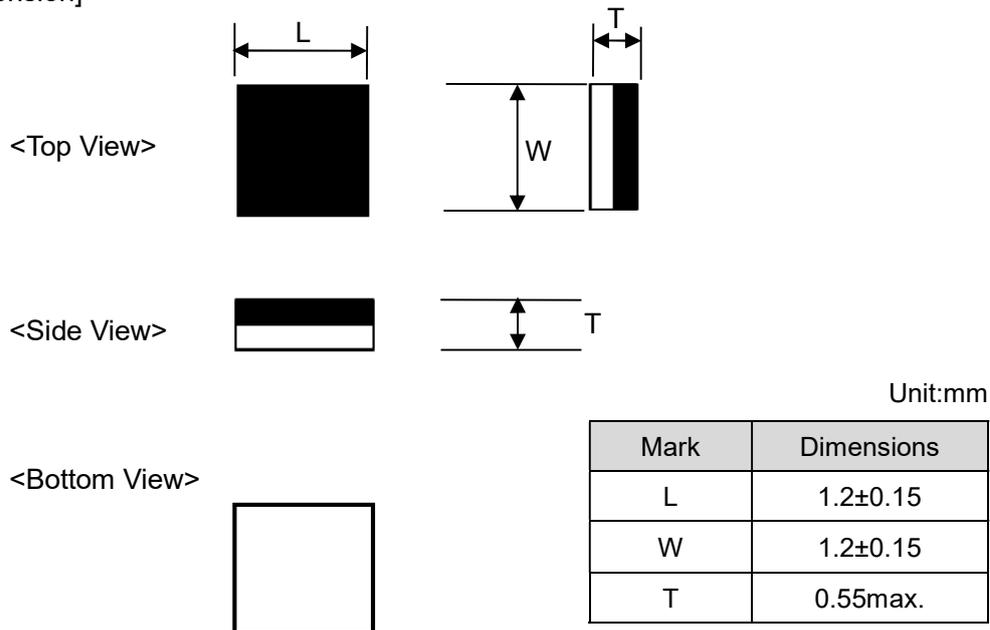


UHF RFID Tag Data sheet

LXMSJZNCMF-210

3. Mechanical Information

[Dimension]



4. Electrical characteristics

4-1. Frequency range

865 – 928 MHz

4-2. IC / Memory size

Parameter		Description	Remarks
IC		Impinj Monza R6	
Protocol		ISO/IEC 18000-63	
		EPC global Gen2 V2	
Memory	EPC	Max 96 bit	Read & Write
	TID	96 bit	Read Only
	Reserved memory	N/A	
	User	N/A	
Data Retention Time		※50years	Tamb = 22°C

※Reference value

UHF RFID Tag Data sheet

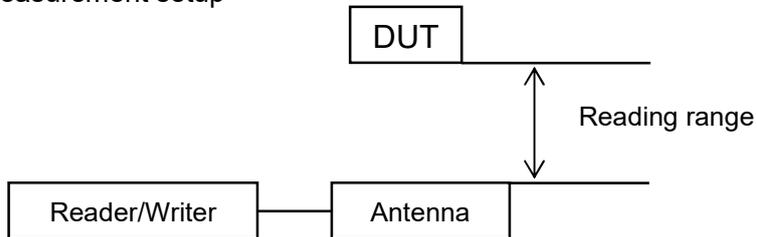
LXMSJZNCMF-210

5. Reading range (reference only)

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

UHF band(865~928MHz): 10mm

*Measurement setup



6. Absolute maximum ratings

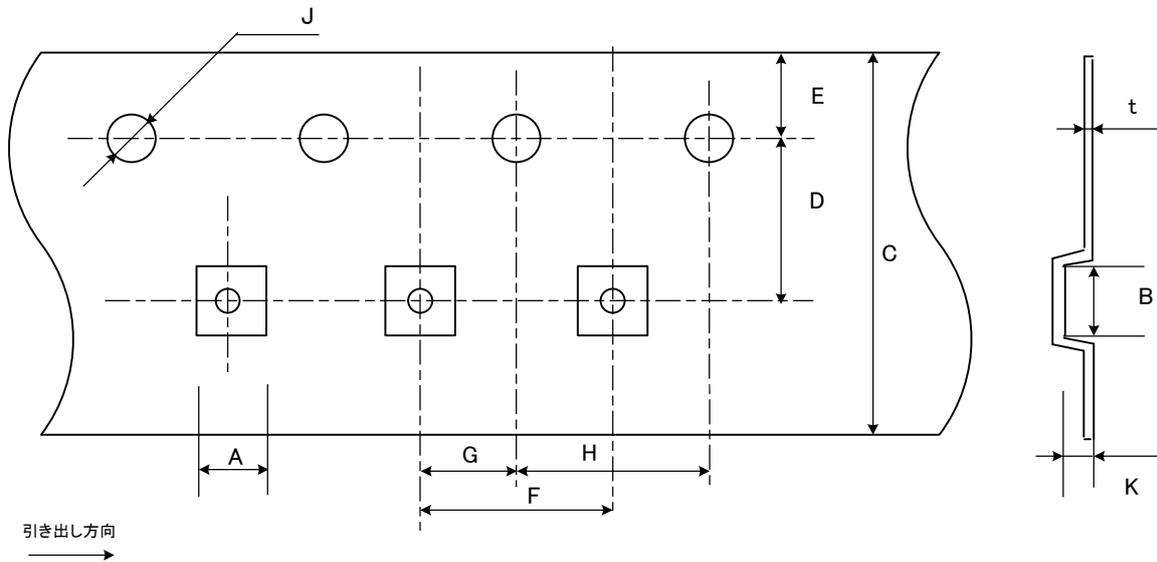
Symbol	Parameter	Min	Max	Unit
T _{stg}	Storage temperature	-40	+85	°C
T _{amb}	Operating temperature	-40	+85	°C

UHF RFID Tag Data sheet

LXMSJZNCMF-210

7. Packaging

7-1. Dimensions of tape

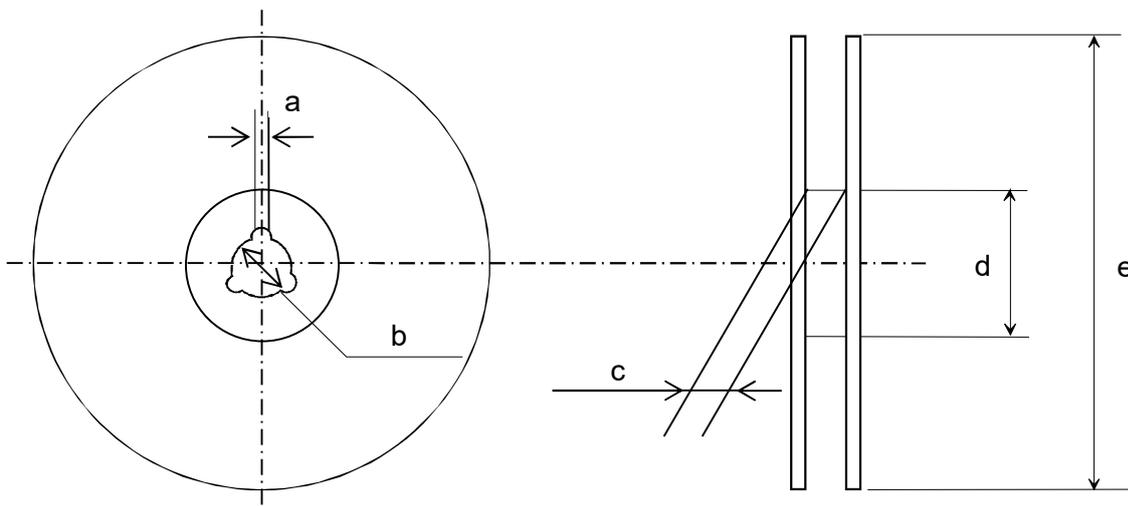


Unit: mm

Symbol	A	B	C	D	E	F
Dimension	1.45±0.1	1.45±0.1	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1

Symbol	G	H	J	K	t
Dimension	2.0±0.05	4.0±0.1	1.5±0.1	0.60±0.05	0.25±0.05

7-2. Dimensions of reel



Unit: mm

Symbol	a	b	c	d	e
Dimension	2.0+/-0.5	Φ13.0+/-0.2	9.0+/-0.3	(Φ60)	(Φ180)

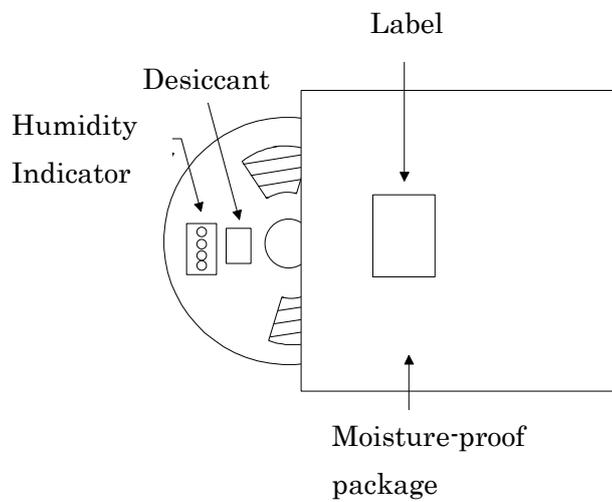
All Rights Reserved, Copyright© Murata Manufacturing Co., Ltd.

< Specification is subject to change without notice >

UHF RFID Tag Data sheet

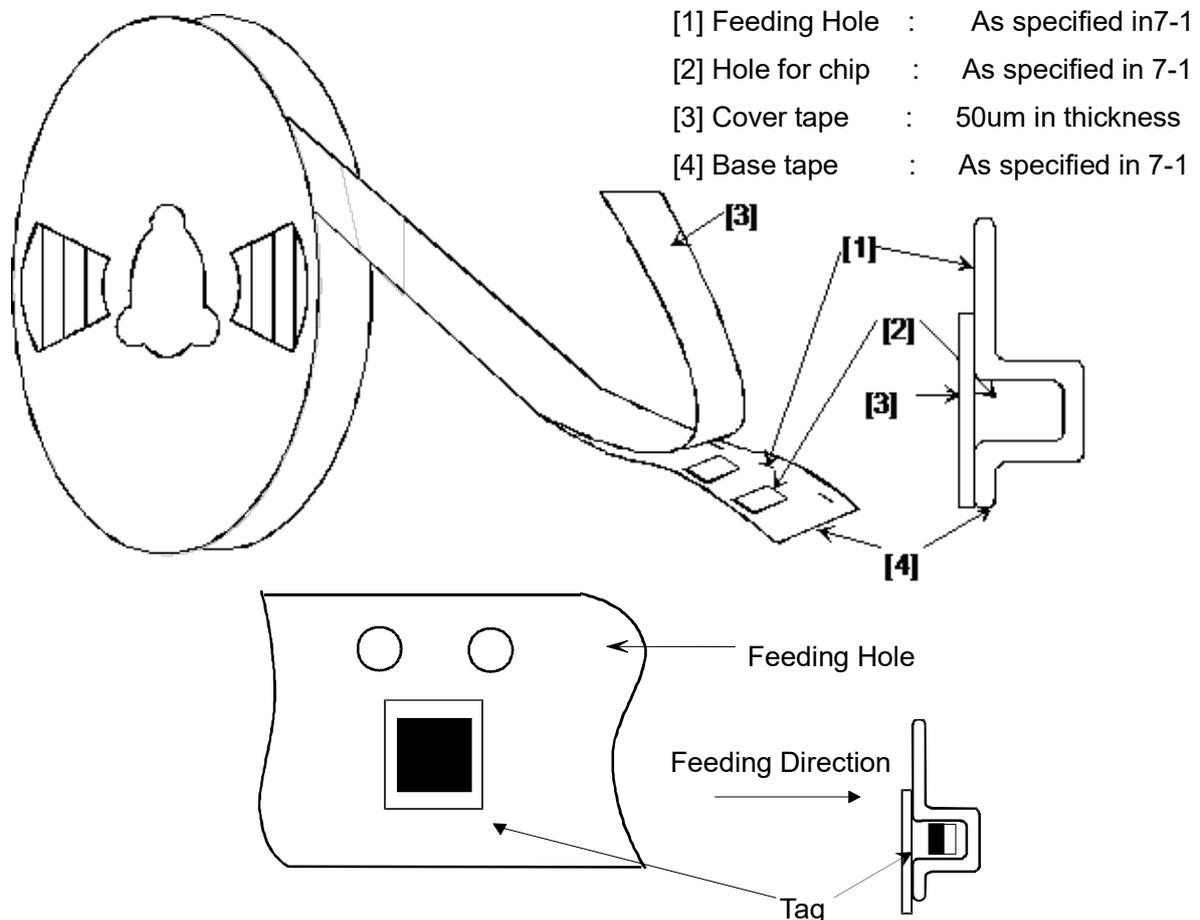
LXMSJZNCMF-210

7-3. Packing (Moisture-proof package)



Reel will be packed in moisture-proof package together with desiccant and humidity indicator. After packing, the package will be heat-sealed.

7-4. Taping Diagrams



All Rights Reserved, Copyright© Murata Manufacturing Co., Ltd.

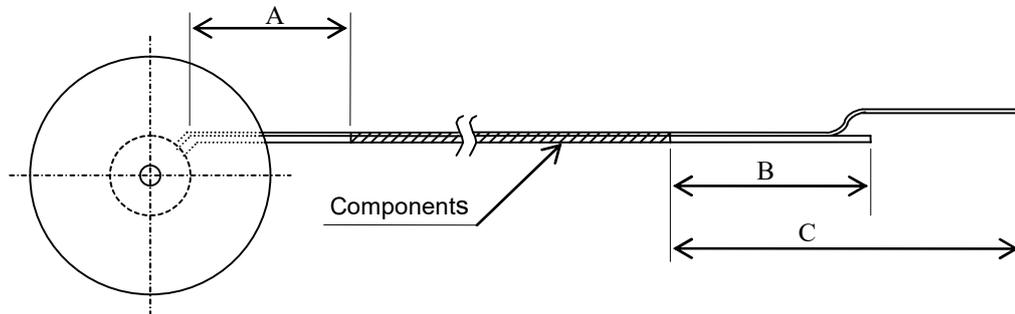
< Specification is subject to change without notice >

UHF RFID Tag Data sheet

LXMSJZNCMF-210

Package chips

7-5. Leader and Tail tape



Unit : mm

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

UHF RFID Tag Data sheet

LXMSJZNCMF-210

7-6 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.

7-7. Quantity per reel

5,000 pcs

7-8. Minimum order quantity

5,000pcs

7-9. Material

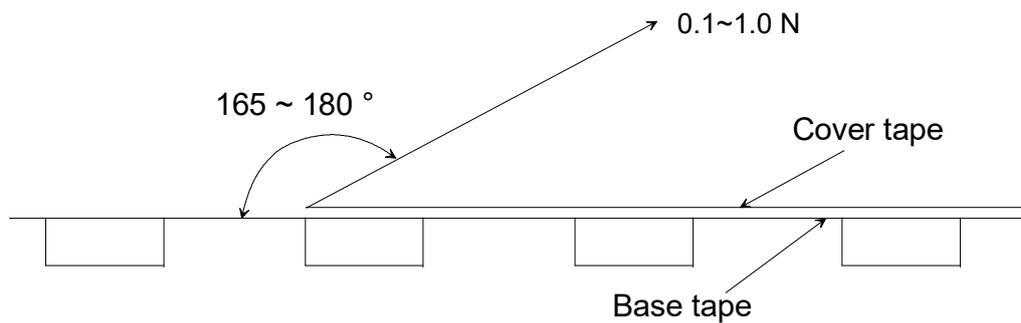
Base and Cover tape : Plastic

Reel : Plastic

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

7-10. Peeling force

0.1~1.0 N in the direction of peeling as shown below.



8. Contact window

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

Email: magicstrap@murata.com

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

UHF RFID Tag Data sheet

LXMSJZNCMF-210

NOTICE

1. Storage Conditions:

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

- The product shall be stored without opening the packing under the ambient temperature from 5 to 35 deg.C and humidity from 20 to 70%RH.
(Packing materials, in particular, may be deformed at the temperature over 40 deg.C.)
- The product left more than 6 months after reception, it needs to be baked before use.
(Since adhesive tape, tape, and reel are not resistant to heat, baking with tape and reel is not possible. In case baking is necessary, please place the product into a heat resistant container. Baking condition should be 125deg.C, 24hours, once.)
- The product shall be stored in non corrosive gas (Cl₂, NH₃, SO₂, No_x, etc.).
- Environment with high temperature or excessive temperature shift might cause dew condensation and deterioration of product performance.
- After the packing is opened, the product shall be stored at ≤ 30 deg.C / ≤ 60 %RH.
- When the color of the indicator in the packing changed, the product shall be baked before use.
- This product is applicable to MSL2 (Based on IPC/JEDEC J-STD-020)

2. Handling Conditions:

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

Please see Appendix 1 for reference attachment condition in detail.

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 (Cl₂, NH₃, SO_x, NO_x etc.).

All Rights Reserved, Copyright© Murata Manufacturing Co., Ltd.

< Specification is subject to change without notice >

UHF RFID Tag Data sheet LXMSJZNCMF-210

- 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.

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:

Please contact us before using our products for the applications listed below which require especially high reliability for the prevention of defects which might directly cause damage to the third party's life, body or property.

- (1) Aircraft equipment
- (2) Aerospace equipment
- (3) Undersea equipment
- (4) Power plant control equipment
- (5) Medical equipment
- (6) Transportation equipment (vehicles, trains, ships, etc.)
- (7) Traffic signal equipment
- (8) Disaster prevention / crime prevention equipment
- (9) Data-processing equipment
- (10) Application of similar complexity and/or reliability requirements to the application listed in the above.

UHF RFID Tag Data sheet LXMSJZNCMF-210

**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.

UHF RFID Tag Data sheet

LXMSJZNCMF-210

Appendix 1

< High temperature process >

Please make sure to avoid more than 2 times of heating process when this product is attached with high temperature process.

Temperature profile of the attaching process should not exceed below reflow mounting process.

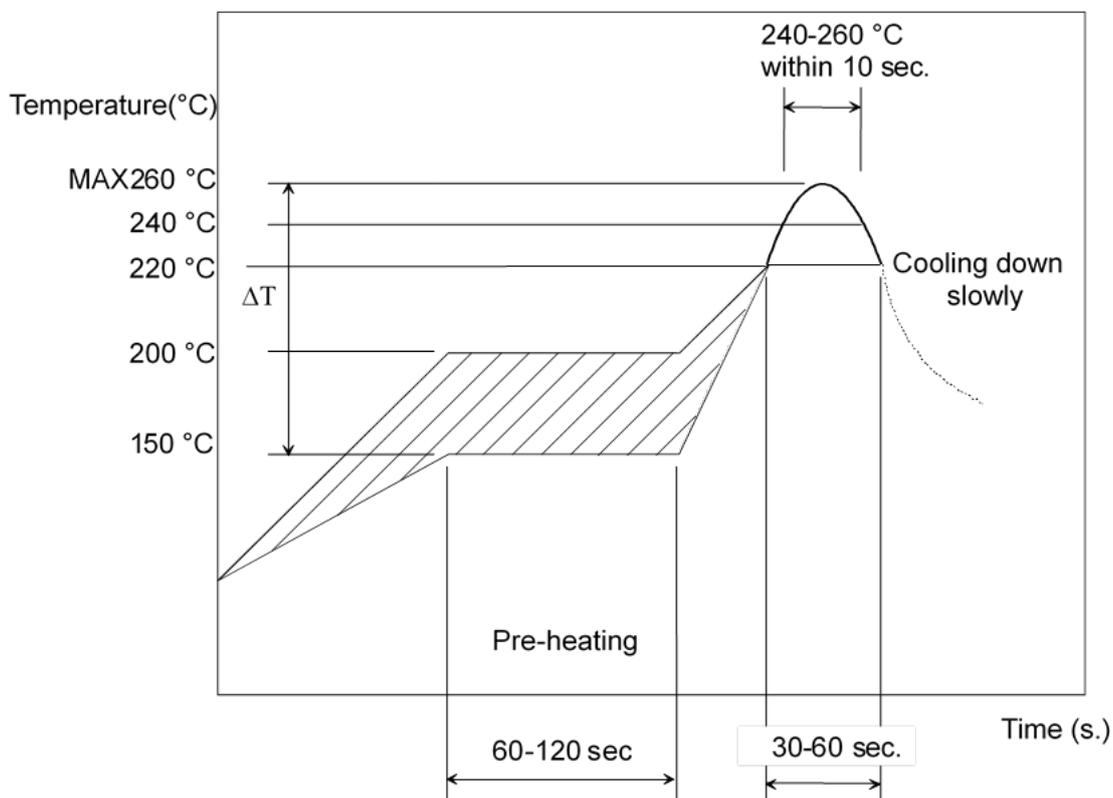
Excessive heating process might damage this product.

The impact of heating process should be evaluated to confirm the reliability based on customers' use case.

Please consult with Murata in case heating process exceeds 217°C(solder paste melting point).

Reference: Reflow profile

Reflow profile



UHF RFID Tag Data sheet

LXMSJZNCMF-210

<Injection mold test>

Murata conducted the injection mold test, with the condition in table 1 and the result is shown in the table 2. This test is conducted with Murata test condition as a reference and not as a recommendation of attachment process.

Please make sure to conduct test with actual condition to confirm the reliability before use.

Table 1: Injection mold test

Plastic type	PP
Plastic grade	J106-GOS
Mold temperature[°C]	Upper mold : 40
	Lower mold : 40
Plastic temperature[°C]	Plastic material : 180
	Nozzle : 200
Injection time[Sec]	1.9
Chilling time[Sec]	15
First Pressure[MPa]	224
Holding Pressure[MPa]	224

Table 2: Test result

Item	Specification	Test method	Qty	Result (NG)
Injection mold	Satisfy specification listed in paragraph 5.	In Table 1	30	30 (0)