

MAGICSTRAP® Preliminary Data Sheet

LXMS21ACNE-132



1. General descriptions

Murata MAGICSTRAP® is an innovative RFID module designed to operate in electronic products/applications. It incorporates an industry standard IC.



[Features]

- EPC global Class1 Gen2 Compliant
- Reflow SMT compatible
- Ultra small package (2.0 x 1.2 x 0.5 typ.)
- RoHS compliant

2. Part number / IC / Memory

P/N	IC	TID
LXMS21ACNE-132	NXP G2iL	64bits

3. Block diagram

Fig. 1 shows MAGICSTRAP® block diagram.

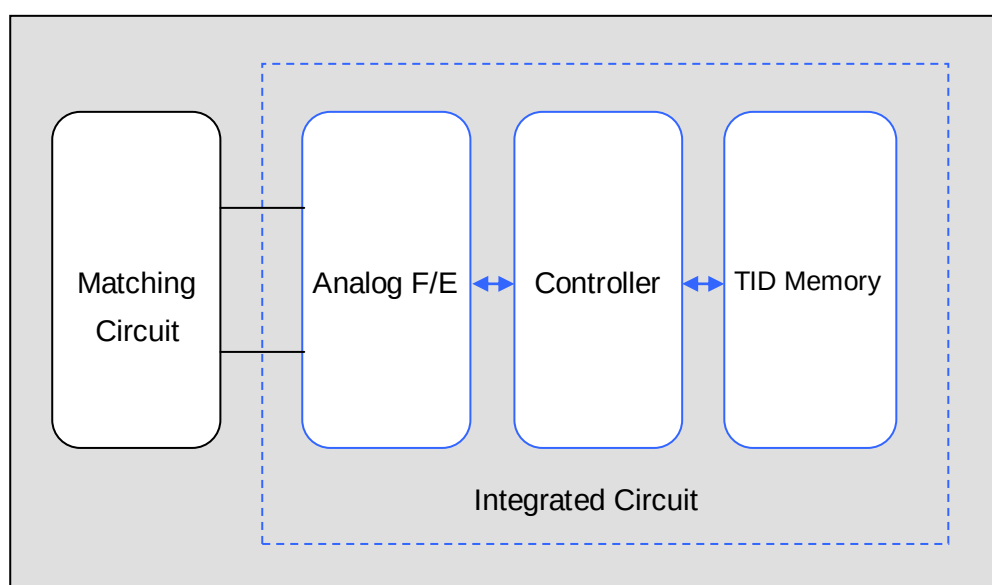


Fig. 1 MAGICSTRAP® Block Diagram

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4. Mechanical information

4-1. Dimensions

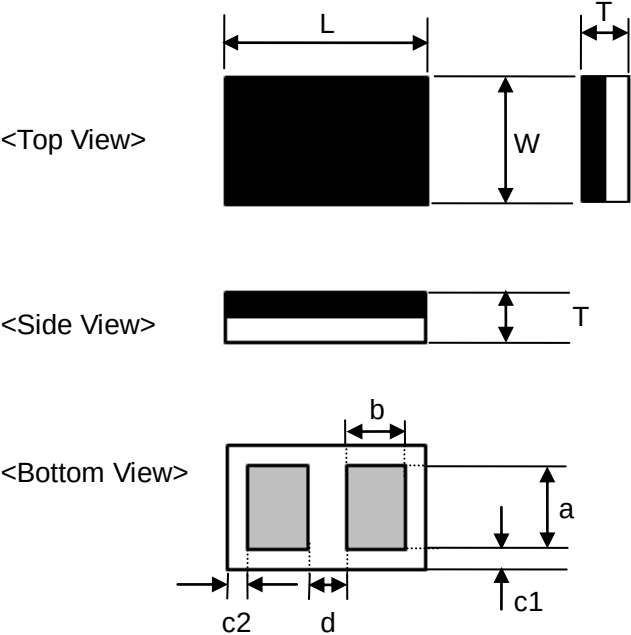


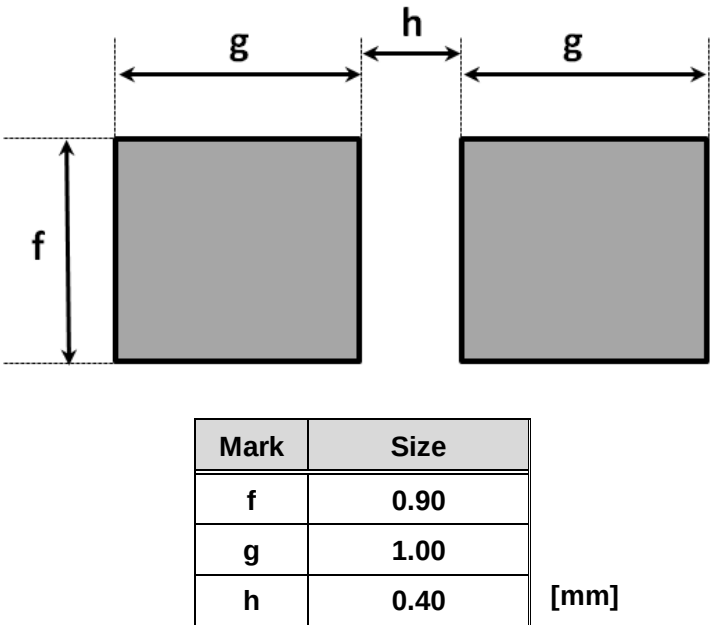
Fig. 2 MAGICSTRAP® Package Dimension

Mark	Dimension
L	2.00 ± 0.20
W	1.20 ± 0.20
T	0.55max
a	0.85 ± 0.10

Mark	Dimension
b	0.6 ± 0.1
c1	0.2 ± 0.2
c2	0.2 ± 0.2
d	0.4 ± 0.1

[mm]

4-2. Recommended land pattern



Mark	Size
f	0.90
g	1.00
h	0.40

[mm]

Fig. 3 Land Pattern

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5. Electrical performance

5-1. Frequency range

865 – 928MHz

5-2. Minimum operating power

-10dBm

5-3. Impedance value at minimum operating power (Ta=25°C, Unit: Ohm)

Parameter		P/N	LXMS21ACNE-132
Impedance value	@866.5MHz	R	4.05
		X	-47.05
	@915.0MHz	R	3.65
		X	-44.75

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6. Absolute rating

Storage Temperature: -40°C ~ +85°C

Operating Temperature: -40°C ~ +85°C

MSL Rating: MSL1

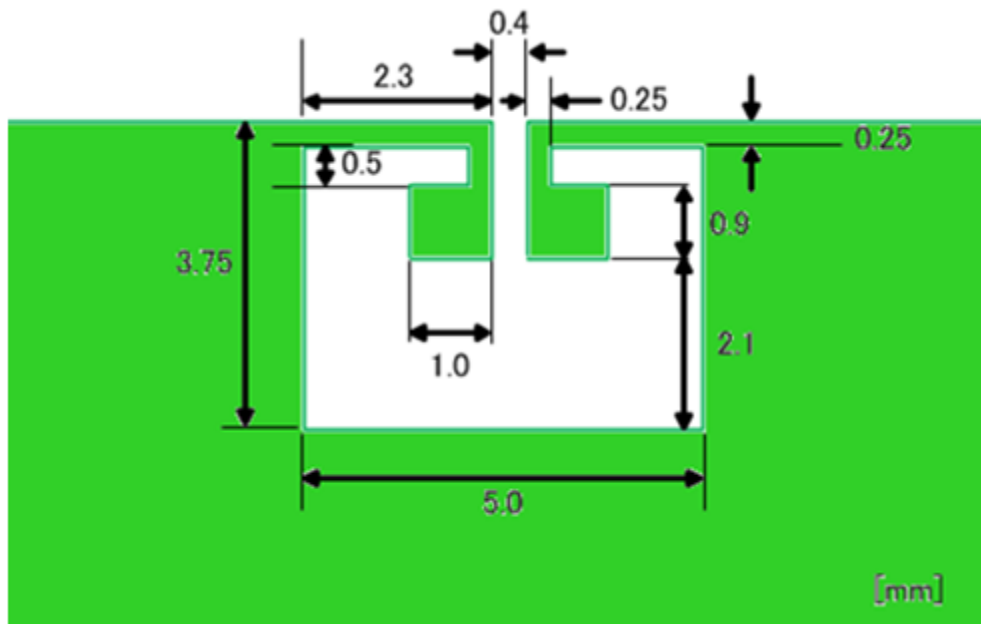
ESD: 2kV (Human Body Model, JESD22-A114-B)

7. RoHS compliance

MAGICSTRAP® is compliant with RoHS directive.

8. Reference antenna design on PCB

8-1. Top layer



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8-2. How to design layers below the mounting pattern

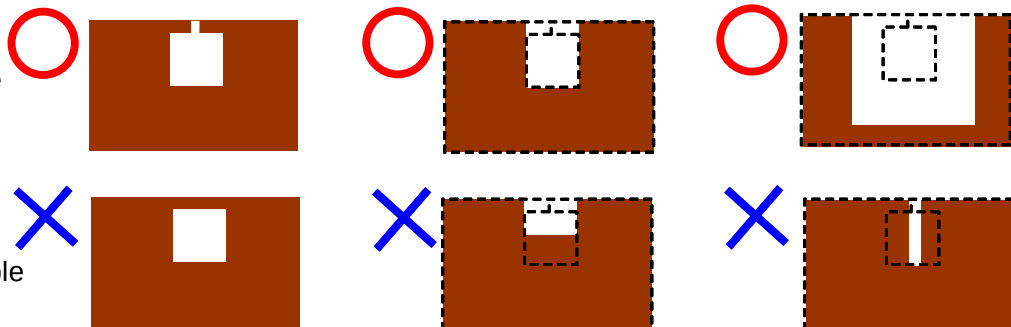
Please remove all the copper pattern area from all layers of the PCB, if it is located under mounting pattern on surface layer.

Surface Layer

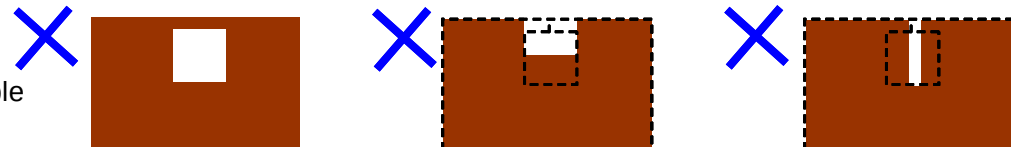


Other Layers

Acceptable



Not Acceptable



8-3. Read range

Max. 1.5 meter (at 4wEIRP, with 10cm length of PCB)

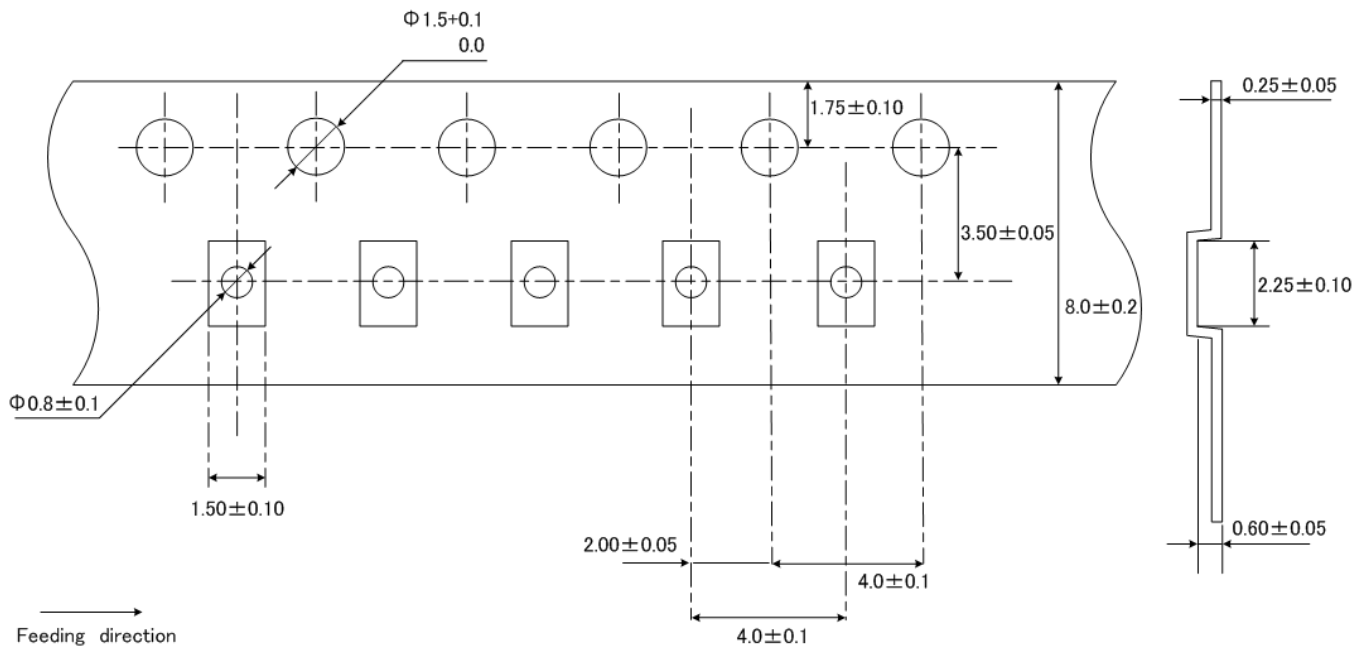
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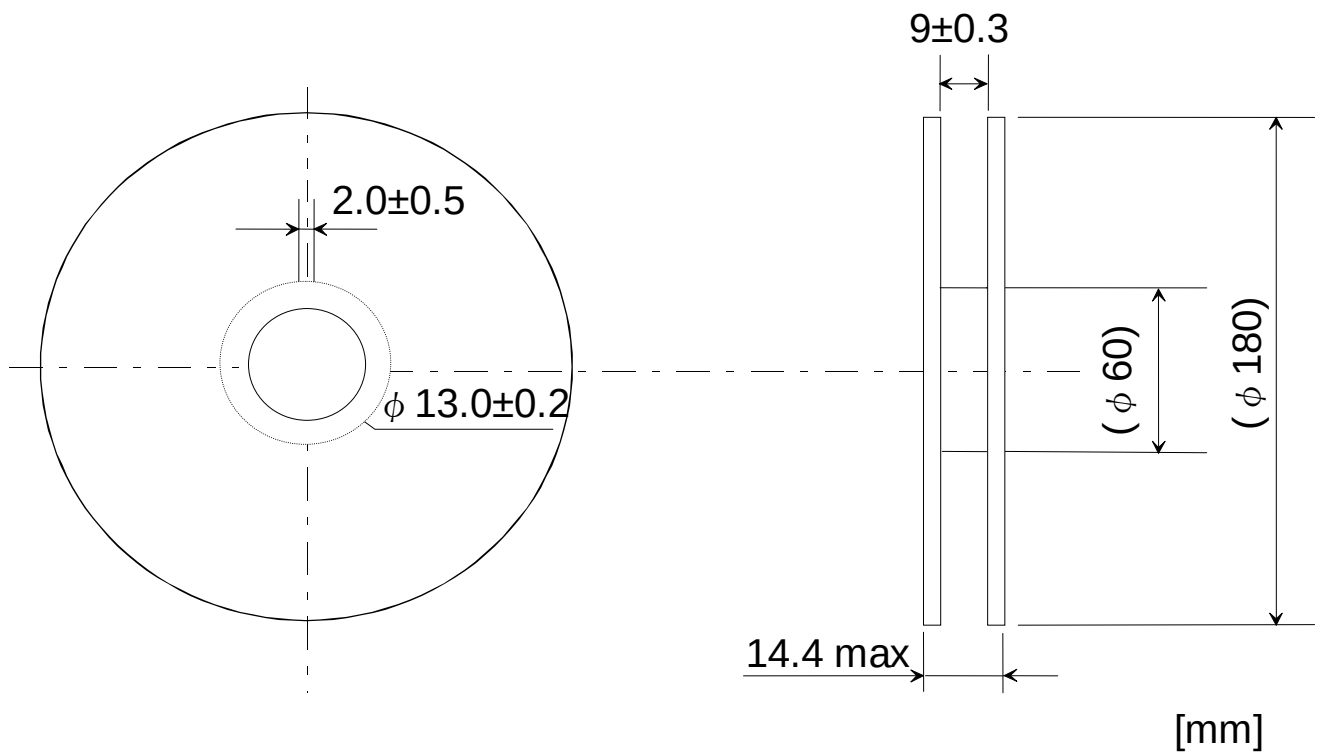


9. Tape and Reel Packing

9-1. Dimensions of Tape (Plastic tape)



9-2. Dimensions of Reel



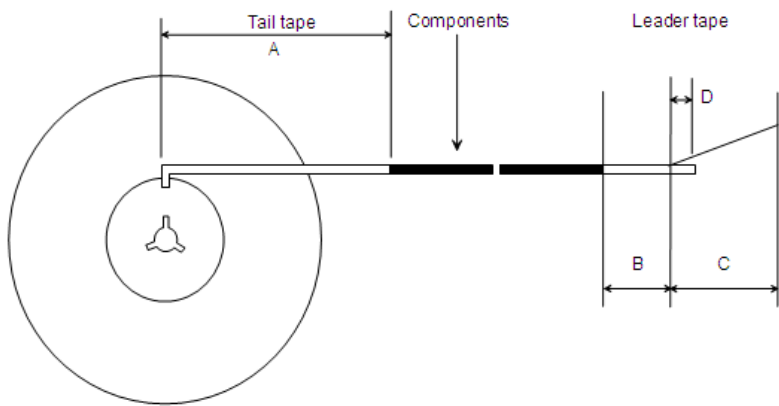
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9-3. Leader and Tail tape



[mm]

Tail tape Part	A	No components	160 ~ 190
Leader tape part	B	No components (adhered cover tape)	150 ~ 200
	C	Cover tape part (including D)	250 ~ 300
	D	Not adhered cover tape	20 ~ 40

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9-4. Taping direction

The tape for chips are wound clockwise, the feeding holes to the right side as the tape is pulled toward the user.

9-5. Quantity per reel

Packaging unit: 5,000 pcs / reel

9-6. Material

Base tape.....Plastic

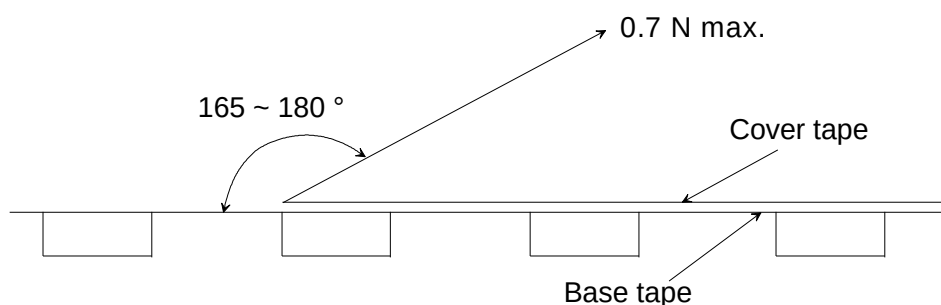
Reel.....Plastic

Cover tape and cavity tape are made with anti-static processing.

9-7. Strength/Peeling force

Tear off strength against pulling of cover tape: 5N min.

Peel off force: 0.7N max., in the direction as shown below.



9-8. Other packaging options

Other packaging options, such as FFC (Free Film Carrier) will be considered based upon customers' request.

10. Contact window / the latest data about MAGICSTRAP®

Email : magicstrap@ml.murata.co.jp

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

<Note>

This document is tentative version. The content is under development for improvement and may subject to change without notice. When we submit specification and/or approval sheet, these document should replace this technical data.

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