



Test Report

Sample Name: _____ Discrete components _____

Sample Type: _____ LQH32PN100MNCL _____

Manufacturer: _____ MURATA _____

Customer: _____

Chuangxin Online Test Center Laboratory

February 01, 2024

Test Report

Customer:

Customer Address:

Sample Name: Discrete components

Sample Type: LQH32PN100MNCL

Manufacturer: MURATA

Date Code: 2340 / 2344 / 22+

Package Type: 1210

Sample Amount: 5 PCS

Check Amount: 5 PCS

Arrived Date: 01/26/2024

Testing Date: 01/26/2024/14: 40 - 01/31/2024/17: 30

Issued by
创芯在线
国际检测中心
(Stamp)



Tested by _____

Inspected by _____

Approved by _____

Test Item

External visual inspection

Pin correlation test

Programming test

Solderability analysis

Radiography(X-ray)

XRF test

Key functional test(KFT)

Baking

Tape and reel

Top permanency test

Internal visual inspection

SAT test

Cross section

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检测

Methods & Equipment

1.1 Test standard:

- **AS6081A-2023**
- **GJB 4027A-2006**

1.2 Optical microscope:

- Equipment spec:

Optical microscope: SEZ-260 X7-X45(Due date: 7/18/2024)

1.3 Digital caliper:

- Equipment spec:

Digital caliper: (0~150) mm(Due date: 7/18/2024)

1.4 Functional test equipment:

- Equipment spec:

Precision LCR meter: TH2838A(Due date: 7/18/2024)

DC resistance tester: ZX5512F(Due date: 7/18/2024)

1.5 Metallographic grinding and polishing machine:

- Equipment spec:

Metallographic grinding and polishing machine: JMP-2AW(Due date: 7/18/2024)

1.6 Product datasheet:

- 《MURATA LQH32PN100MNCL》:

<https://search.murata.co.jp/Ceramy/image/img/P02/JELF243A-0091.pdf>



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Analysis Summary

External visual inspection:

Applicable standard: [AS6081A-2023](#)

External visual inspection on 5 PCS samples(2 PCS D/C 2340, 1 PCS of D/C 22+ and 2 PCS of D/C 2344). No secondary coating, sanding marks, crack or chips were observed on all inspected. No abnormalities were found during comparison.

Devices package and dimension matched to manufacturer's specification.

All devices passed the external visual inspection.

(1) Specification dimension:

- L: 3.20 ± 0.30 mm
- W: 2.50 ± 0.20 mm
- H: 1.55 ± 0.15 mm

(2) Measurement dimension(D/C 2340):

- L: 3.24 mm
- W: 2.55 mm
- H: 1.63 mm

(3) Measurement dimension(D/C 22+):

- L: 3.24 mm
- W: 2.56 mm
- H: 1.62 mm

(4) Measurement dimension(D/C 2344):

- L: 3.24 mm
- W: 2.60 mm
- H: 1.62 mm

External visual criteria	Yes/No	Result
Mix-up	No	Pass
Top scratches	No	Pass
Bottom scratches	No	Pass
Chips	No	Pass
Residues	No	Pass
Indentation	No	Pass
Contamination	No	Pass
Cracks	No	Pass
Copper defect	No	Pass
Oxidization	No	Pass
Coplanarity	Yes	Pass

Sanding marks	No	Pass
Secondary coating	No	Pass
Top permanency test	N/A	N/A

Key functional test(KFT) results:

Key functional test(KFT)	Results:
Total quantity tested	5 PCS(2 PCS of D/C 2340, 1 PCS of D/C 22+ and 2 PCS of D/C 2344)
Total quantity passed	5 PCS
Total quantity failed	0 PCS
Note	All devices passed the parameter test.
Key functional test(KFT) results:	
Tested parameters	Results
Inductance	Pass
DC resistance	Pass

Cross section:

Applicable standard: GJB 4027A-2006

The internal structure of the 2 PCS samples(1 PCS D/C 2340, 1 PCS of D/C 2344)was consistent in the slice test.

1. Golden sample(D/C 2340)

End electrode copper wire diameter : 0.10 mm

Internal winding coil diameter : 0.12 mm

Internal medium thickness : 0.75 mm

Plastic sealing thickness : 0.37 mm

2. Test sample(D/C 2344)

End electrode copper wire diameter : 0.10 mm

Internal winding coil diameter : 0.13 mm

Internal medium thickness : 0.75 mm

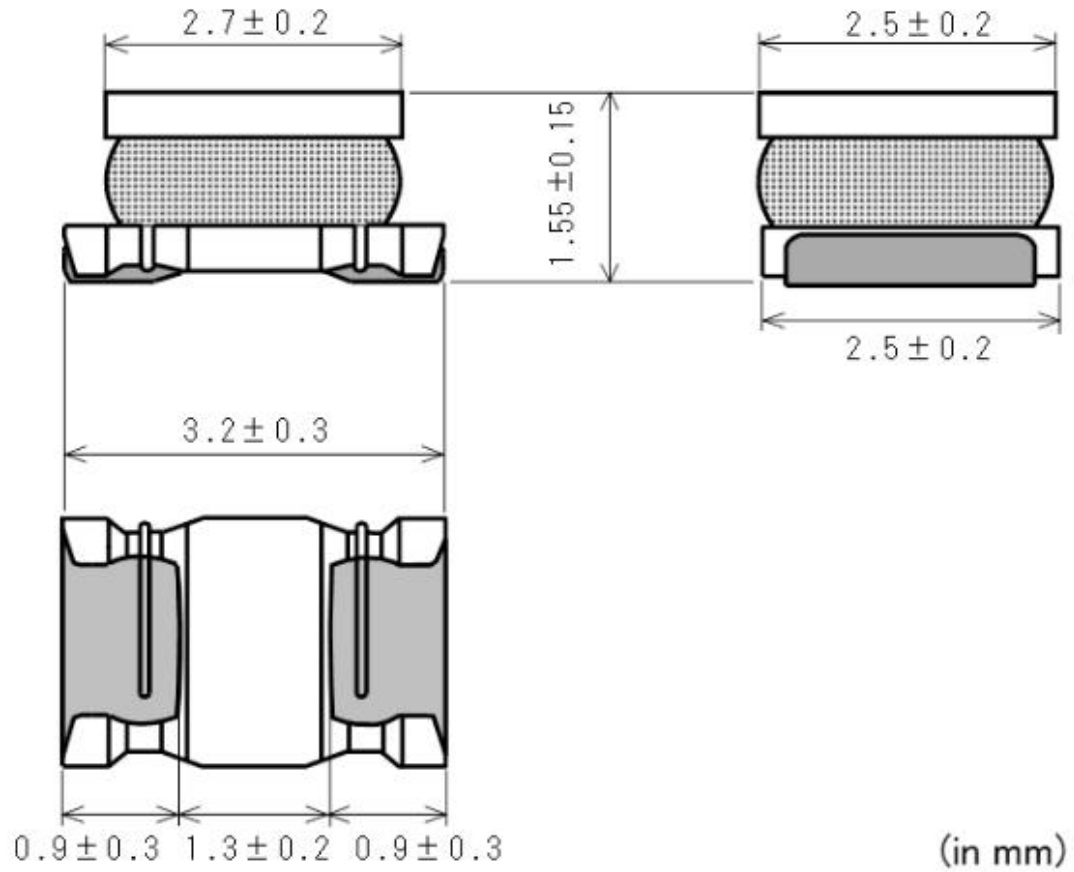
Plastic sealing thickness : 0.35 mm

Summarize : Slice comparison reveals consistent structure between two pieces.

1. Device description:

No device description was found.

2. Package dimension:

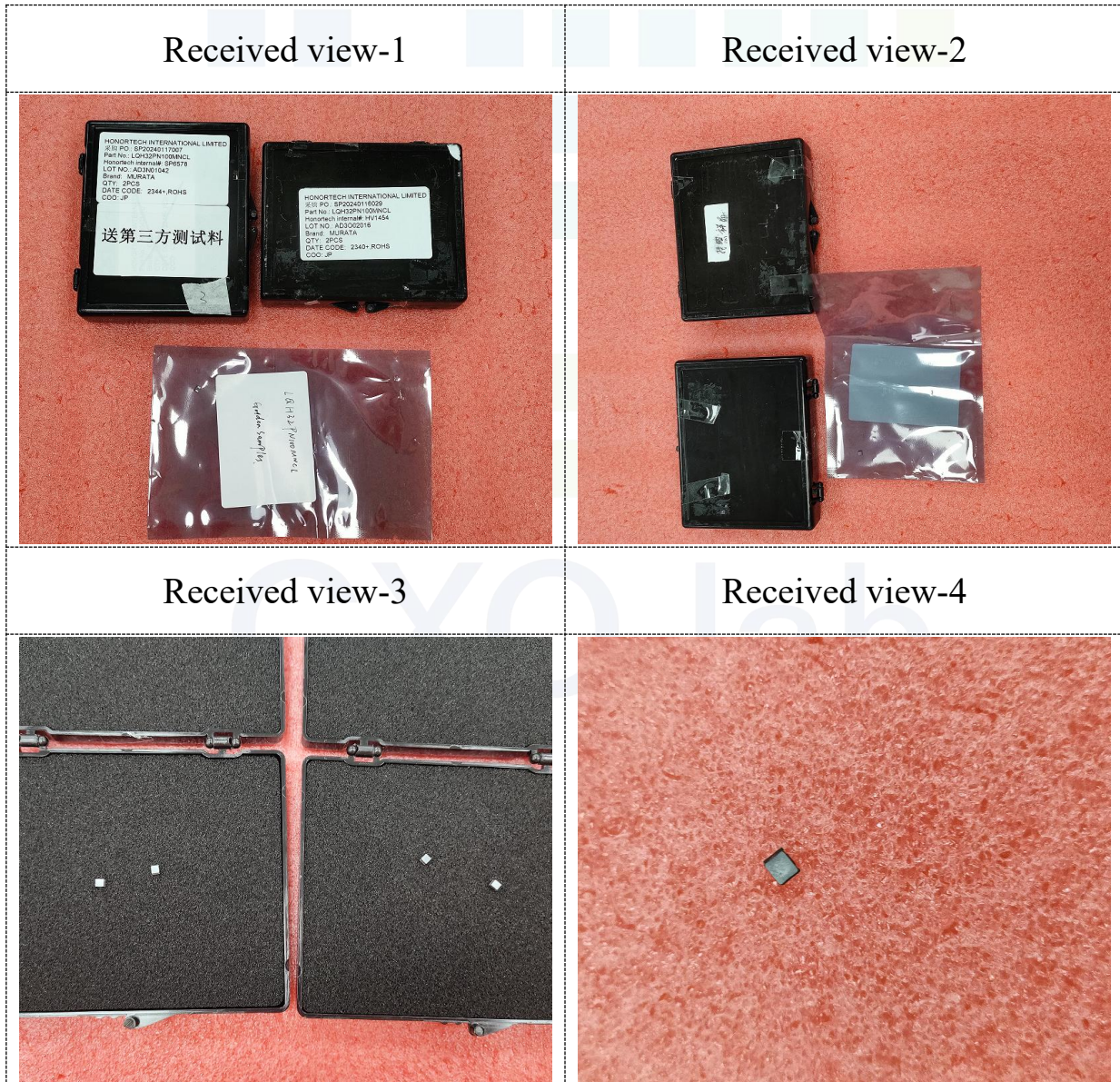


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3. Receiving inspection:

Gross Weight	96 g	Parts Total	5 PCS
Number of Boxes	N/A	Full Label	N/A
Package Type	Bulk	Moisture Protection	N/A
MSL	N/A	ESD Protection	Exist

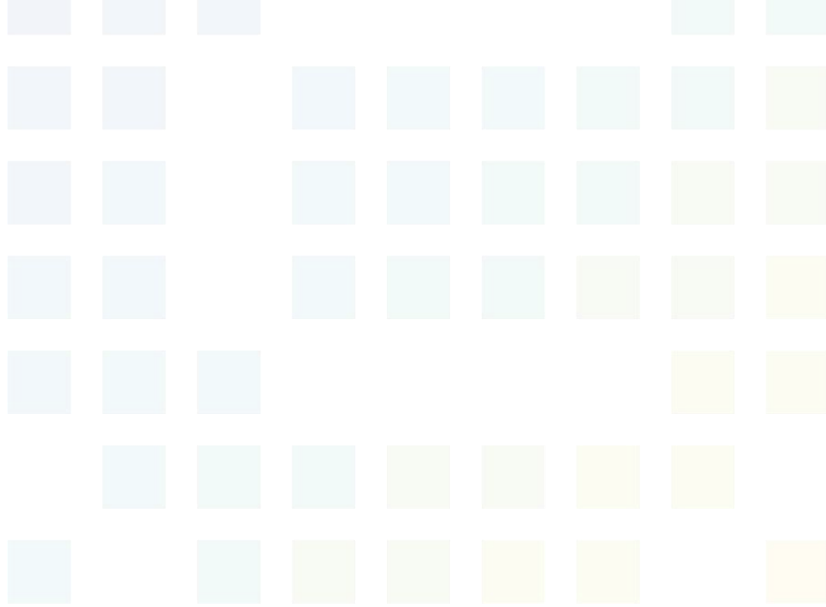
Note: All devices contain 5 PCS samples.



Received view-5



Received view-6



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4. External visual inspection:

Applicable standard: **AS6081A-2023**

Ambient temperature: 23.6 °C Relative humidity: 57.5 % RH

External visual inspection on 5 PCS samples(2 PCS D/C 2340, 1 PCS of D/C 22+ and 2 PCS of D/C 2344). No secondary coating, sanding marks, crack or chips were observed on all inspected. No abnormalities were found during comparison.

Devices package and dimension matched to manufacturer's specification.

All devices passed the external visual inspection.

(1) Specification dimension:

- L: 3.20 ± 0.30 mm
- W: 2.50 ± 0.20 mm
- H: 1.55 ± 0.15 mm

(2) Measurement dimension(D/C 2340):

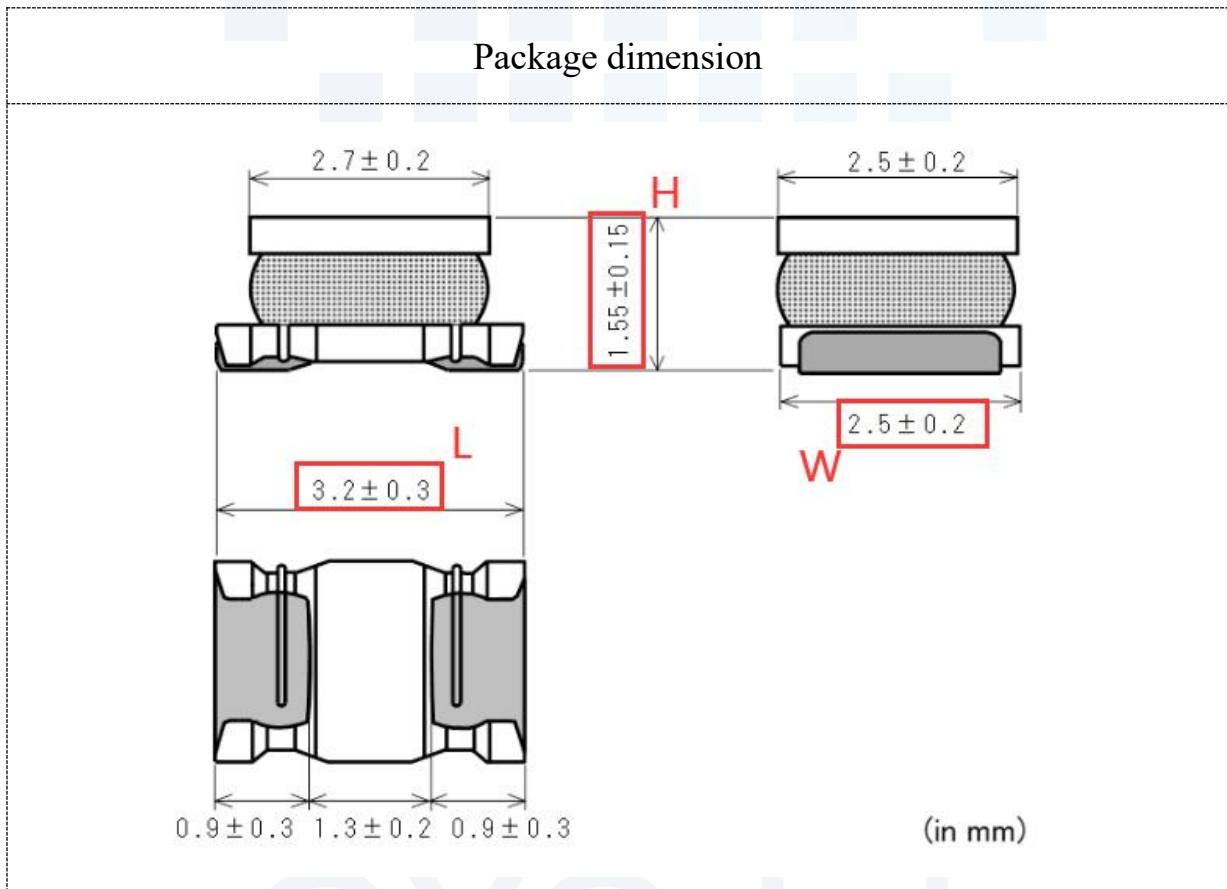
- L: 3.24 mm
- W: 2.55 mm
- H: 1.63 mm

(3) Measurement dimension(D/C 22+):

- L: 3.24 mm
- W: 2.56 mm
- H: 1.62 mm

(4) Measurement dimension(D/C 2344):

- L: 3.24 mm
- W: 2.60 mm
- H: 1.62 mm

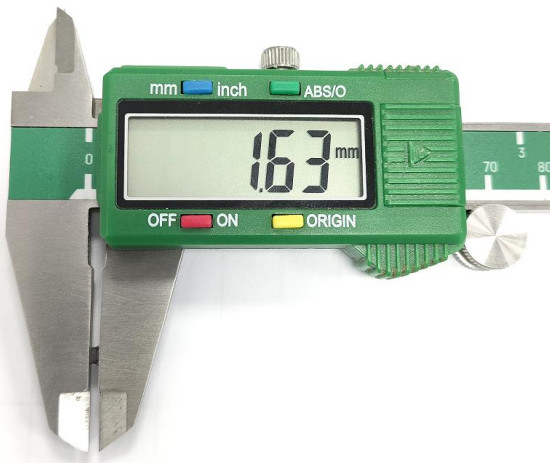


D/C 2340 L = 3.24 mm

D/C 2340 W = 2.55 mm



D/C 2340 H = 1.63 mm



D/C 22+ L = 3.24 mm



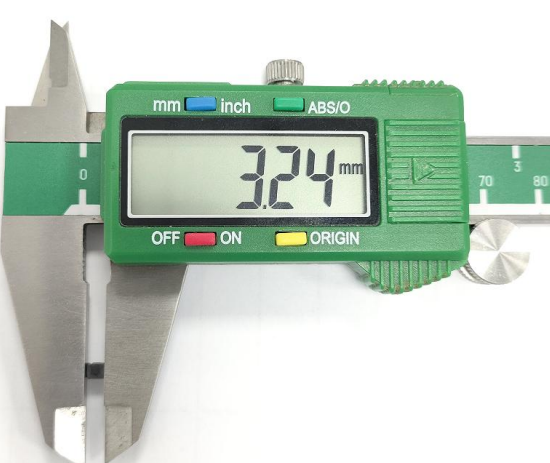
D/C 22+ W = 2.56 mm



D/C 22+ H = 1.62 mm



D/C 2344 L = 3.24 mm



D/C 2344 W = 2.60 mm

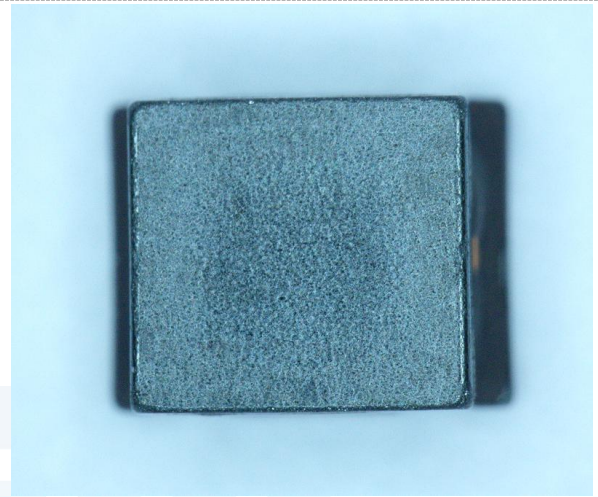


D/C 2344 H = 1.62 mm

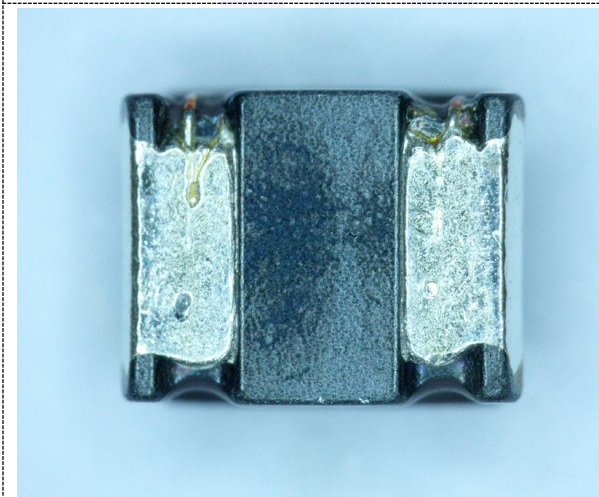
D/C 2340 Top



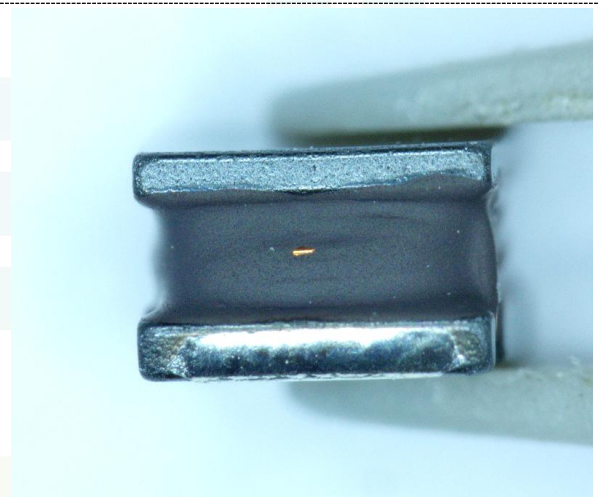
D/C 2340 Bottom



D/C 2340 Side-1



D/C 2340 Side-2



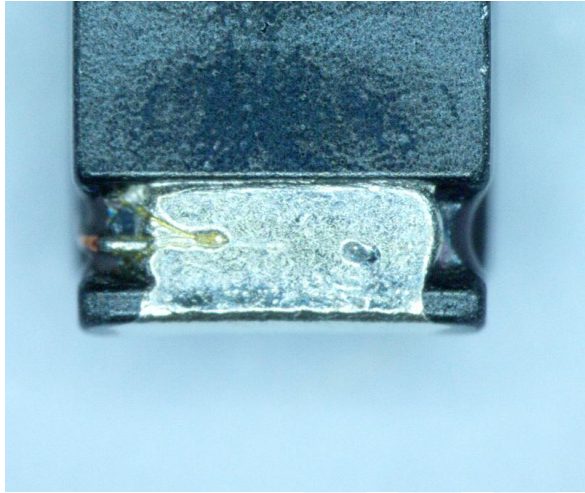
D/C 2340 Bottom leads-1



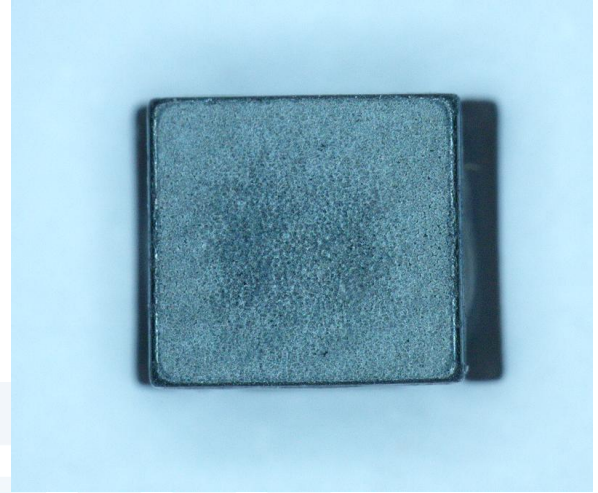
D/C 2340 Bottom leads-2



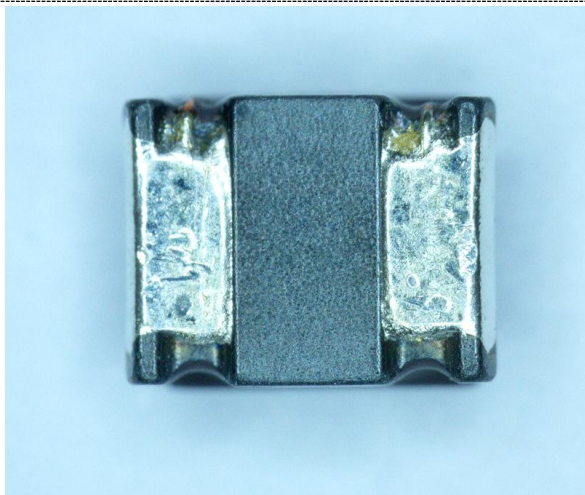
D/C 22+ Top



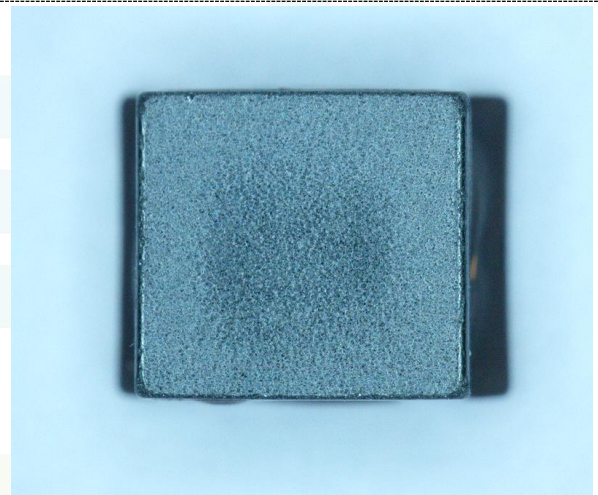
D/C 22+ Bottom



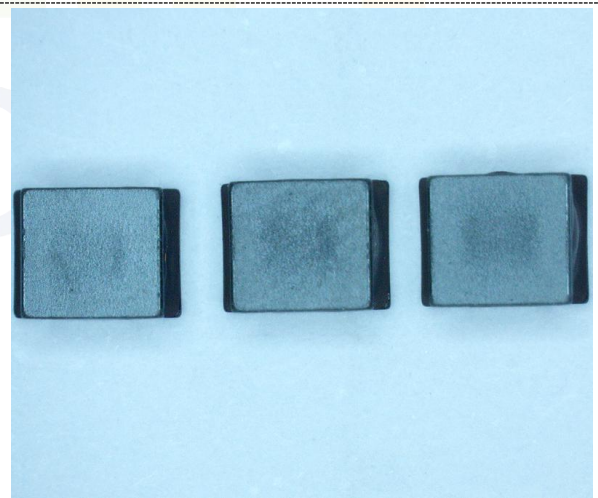
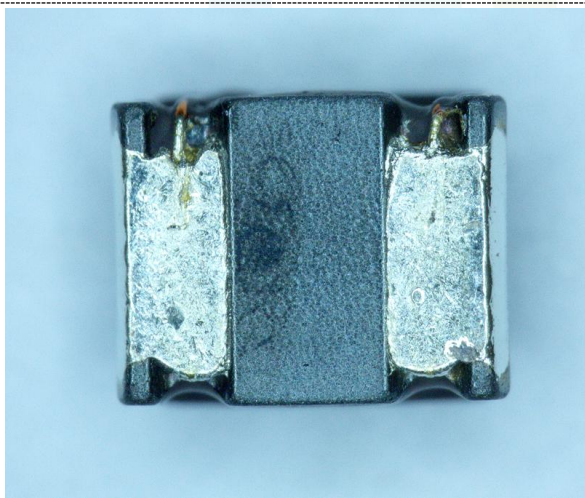
D/C 2344 Top



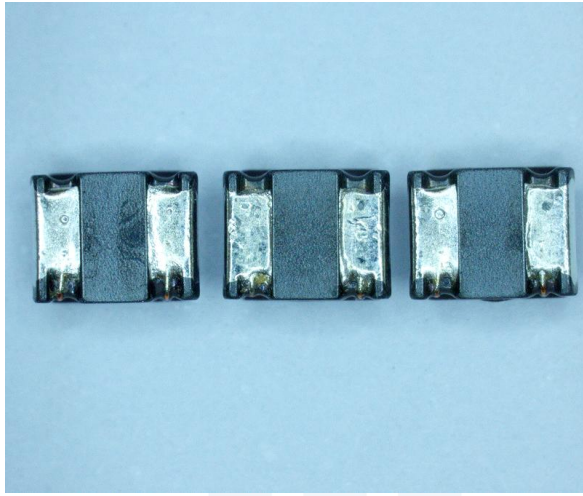
D/C 2344 Bottom



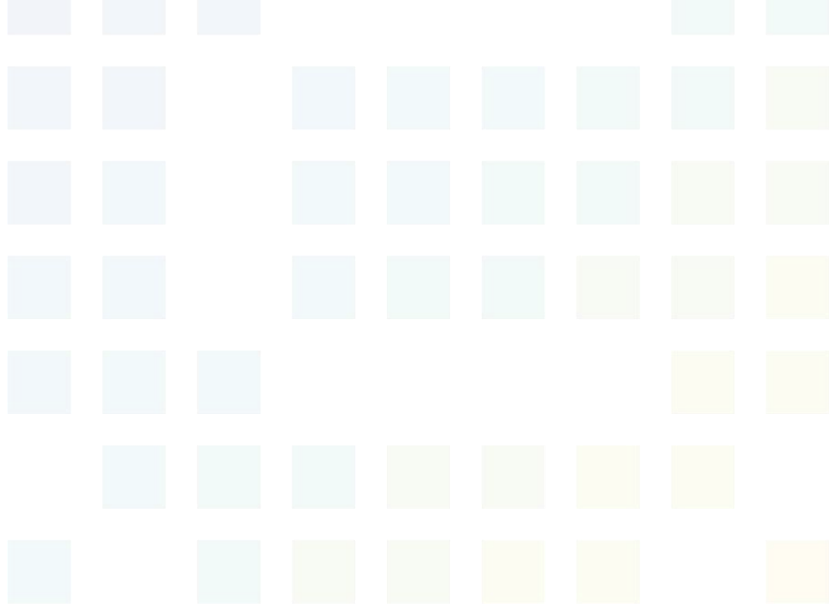
Compare-1



Compare-2



Compare-3



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5. Key functional test(KFT):

Applicable standard: **AS6081A-2023**

Ambient temperature: 24.2 °C Relative humidity: 56.8 % RH



Using Precision LCR meter and DC resistance tester verified the following

parameters:

-Inductance: $L = 10 \mu\text{H} \pm 20\% @ 1 \text{ MHz}$;

-DC resistance: $0.295 \Omega \pm 20\%$;

<p style="text-align: center;">D/C 22+</p> <p style="text-align: center;">L = 9.9908 μH</p> 	<p style="text-align: center;">D/C 22+</p> <p style="text-align: center;">DC resistance = 0.28687 Ω</p> 
<p style="text-align: center;">D/C 2340</p> <p style="text-align: center;">L = 9.6742 μH</p> 	<p style="text-align: center;">D/C 2340</p> <p style="text-align: center;">DC resistance = 0.28525 Ω</p> 

D/C 2344	D/C 2344
L = 10.0803 μ H	DC resistance = 0.28257 Ω
	

Detailed data

Parameter		L	DC resistance
Sample		(μ H)	(m Ω)
D/C 22+		9.9908	0.28687
D/C 2340	A1	9.6742	0.28525
	A2	9.6671	0.27945
D/C 2344	B1	10.0803	0.28257
	B2	10.0893	0.28426

Key functional test(KFT)	Results:
Total quantity tested	5 PCS(2 PCS of D/C 2340, 1 PCS of D/C 22+ and 2 PCS of D/C 2344)
Total quantity passed	5 PCS
Total quantity failed	0 PCS
Note	All devices passed the parameter test.



6. Cross section:

Applicable standard: **AS6081-2012**

Ambient temperature: 23.2 °C Relative humidity: 56.5 % RH

The internal structure of the 2 PCS samples(1 PCS D/C 2340, 1 PCS of D/C 2344)was consistent in the slice test.

3. Golden sample(D/C 2340)

End electrode copper wire diameter : 0.10 mm

Internal winding coil diameter : 0.12 mm

Internal medium thickness : 0.75 mm

Plastic sealing thickness : 0.37 mm

4. Test sample(D/C 2344)

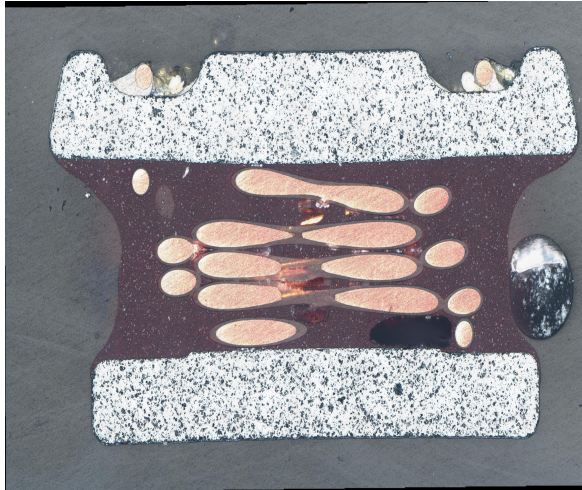
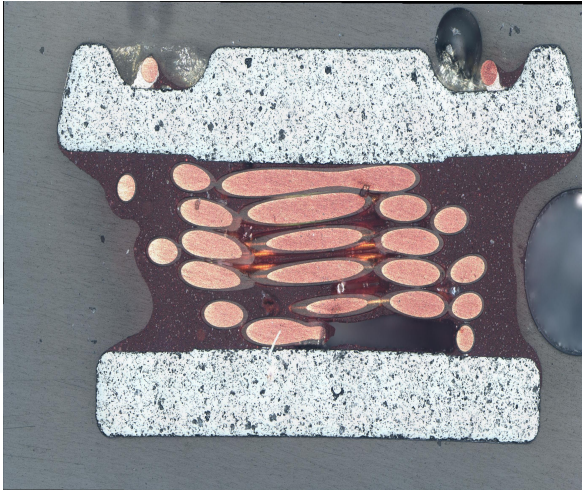
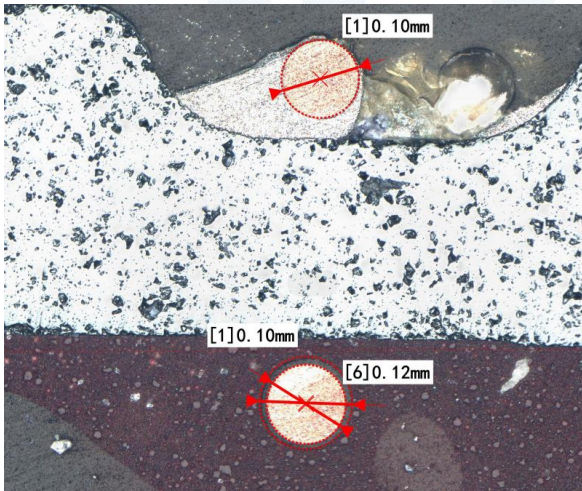
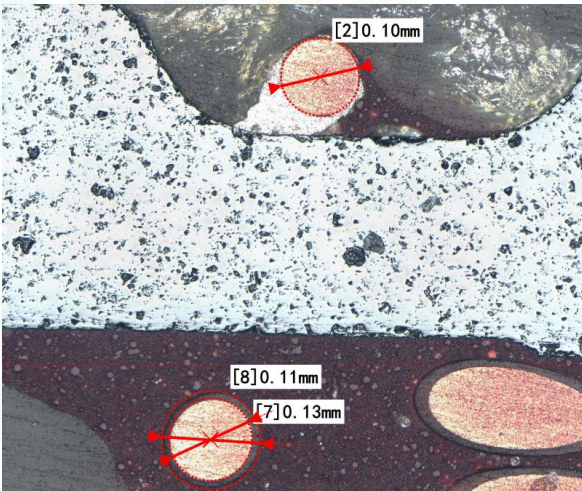
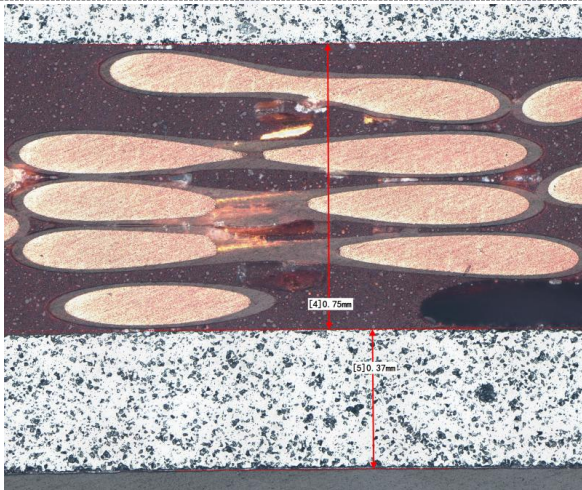
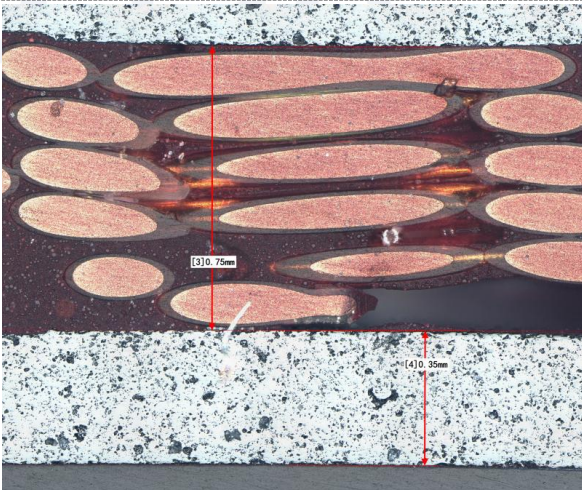
End electrode copper wire diameter : 0.10 mm

Internal winding coil diameter : 0.13 mm

Internal medium thickness : 0.75 mm

Plastic sealing thickness : 0.35 mm

Summarize : Slice comparison reveals consistent structure between two pieces.

<p>D/C 2340 Metallographic profile topography</p>	<p>D/C 2344 Metallographic profile topography</p>
	
<p>D/C 2340 Size-1</p>	<p>D/C 2344 Size-1</p>
	
<p>D/C 2340 Size-2</p>	<p>D/C 2344 Size-2</p>
	

-End of Report-

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