

Manufacturer : Anshan Keifat Electronic Ceramic Technical Co.,Ltd.

No:

Approval Sheet for Product Specification

Customer:

Product: Capacitor Ceramic Powder

PART No.:

Mfr. P/N:

Date: 年 月 日

Manufacturer		Customer Confirm	
Prepared by	刘春鹏	合 格 OK <input type="checkbox"/>	
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■ **Application**

- Used to make wafer ceramic capacitors (such as: medium, high voltage, safety capacitors, etc.), capacitors are widely used in blocking, coupling, bypass, filtering, tuning loops, energy conversion, control circuits, etc.

■ **Specifications (Y5P series)**

Name	Dielectric constant	Dielectric loss $\leq (X10^{-4})$	Resistance $\geq (G \Omega)$	Electric strength $\geq (AC)$	Firing temperature ($^{\circ}C$)
Y5P-800	950 ± 50	100	100	7.5KV/mm	1300~1330
Y5P-132	1350 ± 100	120	100	6.8KV/mm	1300~1330
Y5P-162	1600 ± 100	100	100	7.0KV/mm	1300~1330
Y5P-242	2350 ± 100	150	100	7.2KV/mm	1330~1370



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■ **Test items and test methods**

Test items	testing method															
Sieve analysis test	Use standard sieves of different meshes, stack up from large to small, then pour the weighed porcelain powder onto the standard sieve, place the experimental vibrating machine on the shaker for 10 minutes, and weigh the weights of different meshes respectively , Calculate the weight percentage content of each section of porcelain powder.															
Water content test	Use a multifunctional infrared moisture analyzer, weigh $12 \pm 2g$ on the moisture analyzer, set $100^{\circ}C \times 10min$, turn on the test switch, and read the water content when the time is up.															
Dielectric constant Dielectric loss	Place the reduced copper sheet flake sample for 24 hours to measure the capacity and loss, and then calculate the dielectric constant based on the size, as follows: <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>ϕ (mm)</th> <th>t (mm)</th> <th>Cp (pF)</th> <th>$\tan \delta (X10^{-4})$</th> <th>ϵ</th> </tr> </thead> <tbody> <tr> <td>12.41</td> <td>2.15</td> <td>470</td> <td>80</td> <td>945</td> </tr> <tr> <td>12.42</td> <td>2.14</td> <td>475</td> <td>78</td> <td>948</td> </tr> </tbody> </table>	ϕ (mm)	t (mm)	Cp (pF)	$\tan \delta (X10^{-4})$	ϵ	12.41	2.15	470	80	945	12.42	2.14	475	78	948
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Temperature characteristic test	Use the "ultra-low thermostat" to measure the capacity and loss of the experimental sample at different temperature points, and calculate the capacity change rate.															
Withstand voltage test	Place the reduced copper sheet flake sample for 24 hours and then use a withstand voltage tester to measure the AC and DC of the sample, for example <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>t (mm)</th> <th>AC(kv)</th> <th>Eac(kv/mm)</th> </tr> </thead> <tbody> <tr> <td>1.08</td> <td>8.86</td> <td>8.20</td> </tr> <tr> <td>1.12</td> <td>8.78</td> <td>7.83</td> </tr> <tr> <td>1.07</td> <td>9.14</td> <td>8.54</td> </tr> </tbody> </table>	t (mm)	AC(kv)	Eac(kv/mm)	1.08	8.86	8.20	1.12	8.78	7.83	1.07	9.14	8.54			
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Insulation resistance test	Place the restored copper sheet flake sample for 24 hours and then use an insulation resistance tester to measure the insulation resistance value of the sample.															

■ **Test conclusions and standards**

Project	Specifications
Sieve analysis	D50: $89.5 \pm 5.5 \mu m$, -320 Mesh $\leq 9.0\%$
Water content	0.15~0.35%
Dielectric constant	$900 \pm 100, 1350 \pm 100, 1600 \pm 100, 2350 \pm 100$ (Test conditions: 24h, $20^{\circ}C$)
Dielectric loss	$< 200 \times 10^{-4}$
Temperature characteristics	$-25^{\circ}C / 20^{\circ}C / 85^{\circ}C: \pm 10\%$
Withstand voltage	AC (MIN) : $> 3.0KV/mm$, DC (MIN) : $> 6.5KV/mm$
Insulation resistance	$> 10^{11} \Omega$



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■ Packaging label

1. Use a self-adhesive label on the front of the carton, including: manufacturer, product model, product batch number, production date, weight, inspection status and inspector, etc.

2. The inner packaging of the same batch of capacitor ceramics should be accompanied by an "electronic ceramic material inspection report" and a "delivery note".

■ Storage environment and storage period

Can be placed at room temperature, and a pallet should be placed at the bottom of the product to prevent moisture and extrusion; it can be stored for two years.

■ Quality Assurance

The company establishes a quality management system in accordance with the requirements of the ISO9001:2015 version standard, and produces high-quality products with the spirit of "quality first, customer first" to achieve customer satisfaction.

■ Environmental protection projects

The company produces all environmentally friendly products, accord with EU RoHS and REACH standards.