



Low voltage ceramic capacitors up to 500V

| | | | |
|------|---------------|------|--------------|
| NO. | STE-WI-001-01 | Date | 2019-01-21 |
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Change record table

| NO. | Date | Edition | The reasons of change | Description |
|-----|------------|----------|-----------------------|----------------|
| 1 | 2019.01.21 | Original | / | The first time |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

| | | | |
|--|-------------|--------------|--------------|
|  <p>头高新区松田实业有限公司 SHANTOU HIGH-NEW ZONE SONGTIAN ENTERPRISE CO., LTD 汕头保税区松田电子科技有限公司 Shantou Bonded Area Songtian Electronics Technology Ltd. Add:No.9,kejixi Rd,GaoXinQu,Shantou City,Guangdong,CHINA. Shantou Free Trade Zone Songtian Technology Park East area , Songtian Technology Park West area. P.O.BOX:515041 Tel: 86-754-88266532 Fax: 86-754-88266546 E-mail:888@songtian.cn</p> | Modify | Checked | Approval |
| | Jiali Zheng | Xiaokui Chen | Minghui Zhao |





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Attachment:

Product specification

| No. | Part No. | Part No. Of STE | Specs Of STE | Note* |
|-----|----------|--------------------|--------------|-------|
| 1 | | F05S1B101KN0B0SHN0 | 50V-SL-101K | CC1 |
| 2 | | F05B1B221KN0B0SHN0 | 50V-Y5P-221K | CT1 |
| 3 | | F05B1B331KN0B0SHN0 | 50V-Y5P-331K | CT1 |
| 4 | | F05B1B471KN0B0SHN0 | 50V-Y5P-471K | CT1 |
| 5 | | F05B1B681KN0B0SHN0 | 50V-Y5P-681K | CT1 |
| 6 | | F05B1B102KN0B0SHN0 | 50V-Y5P-102K | CT1 |
| 7 | | F05B1B222KN0B0SHN0 | 50V-Y5P-222K | CT1 |
| 8 | | F05F1B472MN0B0SHN0 | 50V-Y5V-472M | CT1 |
| 9 | | F05B1B472KN0B0SHN0 | 50V-Y5P-472K | CT1 |
| 10 | | F05F1B103MN0B0SHN0 | 50V-Y5V-103M | CT1 |
| 11 | | F05B1B103KN0B0SHN0 | 50V-Y5P-103K | CT1 |
| 12 | | F05F1B473ZN0B0SHN0 | 50V-Y5V-473Z | CS1 |
| 13 | | F05F1B473MN0B0SHN0 | 50V-Y5V-473M | CS1 |
| 14 | | FC6F1B104ZN0B0SHN0 | 50V-Y5V-104Z | CS1 |
| 15 | | FC6F1B104MN0B0SHN0 | 50V-Y5V-104M | CS1 |
| 16 | | F06F1B104ZN0B0SHN0 | 50V-Y5V-104Z | CS1 |
| 17 | | F06F1B104MN0B0SHN0 | 50V-Y5V-104M | CS1 |
| 18 | | F08F1B224ZN0B0SHN0 | 50V-Y5V-224Z | CS1 |
| 19 | | F08F1B224MN0B0SHN0 | 50V-Y5V-224M | CS1 |
| 20 | | F05S1B101KQ0T0SHN0 | 50V-SL-101K | CC1 |
| 21 | | F05B1B221KQ0T0SHN0 | 50V-Y5P-221K | CT1 |
| 22 | | F05B1B331KQ0T0SHN0 | 50V-Y5P-331K | CT1 |
| 23 | | F05B1B471KQ0T0SHN0 | 50V-Y5P-471K | CT1 |
| 24 | | F05B1B681KQ0T0SHN0 | 50V-Y5P-681K | CT1 |
| 25 | | F05B1B102KQ0T0SHN0 | 50V-Y5P-102K | CT1 |
| 26 | | F05B1B222KQ0T0SHN0 | 50V-Y5P-222K | CT1 |
| 27 | | F05F1B472MQ0T0SHN0 | 50V-Y5V-472M | |
| 28 | | F05B1B472KQ0T0SHN0 | 50V-Y5P-472K | |





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| | | | | |
|----|--|--------------------|--------------|-----|
| 29 | | FC0F1B103MQ0T0SHN0 | 50V-Y5V-103M | CT1 |
| 30 | | F05B1B103KQ0T0SHN0 | 50V-Y5P-103K | CT1 |
| 31 | | F05F1B473ZQ0T0SHN0 | 50V-Y5V-473Z | CS1 |
| 32 | | F05F1B473MQ0T0SHN0 | 50V-Y5V-473M | CS1 |
| 33 | | FC6F1B104ZQ0T0SHN0 | 50V-Y5V-104Z | CS1 |
| 34 | | FC6F1B104MQ0T0SHN0 | 50V-Y5V-104M | CS1 |
| 35 | | F06F1B104ZQ0T0SHN0 | 50V-Y5V-104Z | CS1 |
| 36 | | F06F1B104MQ0T0SHN0 | 50V-Y5V-104M | CS1 |
| 37 | | F08F1B224ZQ0T0SHN0 | 50V-Y5V-224Z | CS1 |
| 38 | | F08F1B224MQ0T0SHN0 | 50V-Y5V-224M | CS1 |

Model Description:

- CC1: Temperature Compensating Type, belong to category 1 Porcelain (25VDC~250VDC)。
- CT1: High Dielectric Constant Type, belong to category 2 Porcelain (25VDC~250VDC)。
- CS1: Semiconductor Type, belong to category 2 Porcelain (16VDC~50VDC)。





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1.Part NO.Explain

1.1.Part number eighteen

| | | | | | | | | | | | | | | |
|-------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|---|---|---|---|
| Coding 18 digits | F | 05 | B | 1 | B | 102 | K | N0 | B | 0 | S | H | N | 0 |
| Number of segments10 segments | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | | | | |

1.2.Coded representation meaning

(1) segment、No (1) code - Rated voltage

| code | Rated voltage | code | Rated voltage |
|------|---------------|------|---------------|
| D | 16VDC | H | 100VDC |
| E | 25VDC | K | 250VDC |
| F | 50VDC | L | 500VDC |
| J | 63VDC | | |

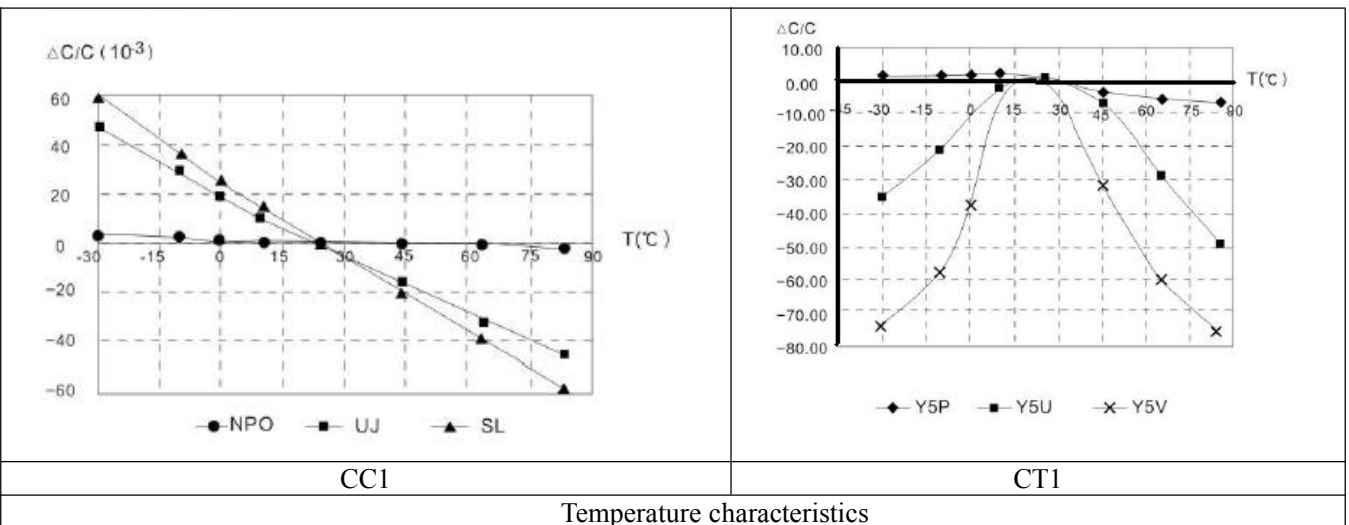
(2) Segment、No. (2、3) digits- Finished product diameter code

| | | | | | | | |
|-----------------------|---------|---------|---------|---------|--------|--------|---------|
| code | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| The finished diameter | 4.0 mm | 5.0mm | 6.0 mm | 7.0 mm | 8.0 mm | 9.0 mm | 10.0 mm |
| code | 11 | 12 | 13 | 14 | C0 | C4 | C6 |
| The finished diameter | 11.0 mm | 12.0 mm | 13.0 mm | 14.0 mm | 5.0mm | 5.4mm | 5.6mm |

Note: The size of the film is rounded to the rules of naming.

(3) Segment、No (4) digit - Temperature coefficient and temperature characteristics

| Code | A | S | B | E | F |
|-------------------------|-----|----|-----|---------|-----|
| Temperature coefficient | NPO | SL | Y5P | Y5U | Y5V |
| Note | CC1 | | CT1 | CT1、CS1 | |





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(4) Segment、No (5) digit- Lead type

| | | | | | |
|-----------------------------|--------------------|-------------------|---------------------|------------------|--------------------------|
| Schematic diagram of sample | | | | | |
| | Long straight lead | Outside kink lead | Short straight lead | inside kink lead | Front and rear feet lead |
| Code | 1 | 2 | 3 | 4 | 8 |

(5) Segment、No (6) digit - Lead spacing

| | | | | |
|-------------|-------|-------|-------|--------|
| code | A | B | E | D |
| Pin spacing | 2.5mm | 5.0mm | 7.5mm | 10.0mm |

(6) Segment、No (7、8、9) digit- Nominal capacitance

| | | | | | | | | |
|------------------|-------|-----|------|-------|-----|-------|------|-------|
| code | 4R7 | 1R0 | 470 | 471 | 102 | 472 | 103 | 104 |
| Nominal capacity | 4.7pF | 1pF | 47pF | 470pF | 1nF | 4.7nF | 10nF | 0.1μF |

Note: the nominal capacity is represented by three digits, and the unit is pF, and its significance for the first, two digits are significant, third said the first two digits of the number zero back; if the capacity is less than 10PF and the decimal, fractional R.

(7) Segment、No(10)digit - Capacitance tolerance

| | | | | | | | | | | |
|-------|------------|--------|--------|-------|-----|------------|------|----------|----------|----------|
| Code | C | D | F | G | J | K | M | S | Z | P |
| Tol. | ±0.25pF | ±0.5pF | ±1.0pF | ±2.0% | ±5% | ±10% | ±20% | -20/+50% | -20/+80% | -0/+100% |
| Scope | Below 10pF | | | | | Above 10pF | | | | |

(8) Segment、No(11、12)digit - Lead Length

| Code | Lead Length (mm) | Code | Lead Length (mm) | Remark |
|-------|------------------|-------|----------------------------------|--------|
| X0-X9 | 2.0-2.9 | F0-F9 | 8.0-8.9 | |
| A0-A9 | 3.0-3.9 | G0-G9 | 9.0-9.9 | |
| B0-B9 | 4.0-4.9 | H0-H9 | 10.0-10.9 | |
| C0-C9 | 5.0-5.9 | N0 | Bulk:16.0~27.0 Taping:H0=16.5 | |
| D0-D9 | 6.0-6.9 | P0 | H0=17 | Taping |
| E0-E9 | 7.0-7.9 | Q0 | H=20 | Taping |





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(9) Segment、No (13)digit- Packing way

| Code | Meaning |
|------|---------|
| B | bulk |
| T | tape |

(10) Segment、No (14、15、16、17、18) digit- Internal management code

2.Admit specifications

| NO. | Part No. | Part No. Of STE | Demension (mm) | | | | | | |
|-----|----------|--------------------|----------------|-------|-------|-------|--------|-------|---------|
| | | | D±1.0 | T±1.0 | L±0.5 | F±0.8 | d±0.05 | c Max | Packing |
| 1 | | F05S1B101KN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 2 | | F05B1B221KN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 3 | | F05B1B331KN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 4 | | F05B1B471KN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 5 | | F05B1B681KN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 6 | | F05B1B102KN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 7 | | F05B1B222KN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 8 | | F05F1B472MN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 9 | | F05B1B472KN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 10 | | F05F1B103MN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 11 | | F05B1B103KN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 12 | | F05F1B473ZN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 13 | | F05F1B473MN0B0SHN0 | 5.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 14 | | FC6F1B104ZN0B0SHN0 | 5.6 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 15 | | FC6F1B104MN0B0SHN0 | 5.6 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 16 | | F06F1B104ZN0B0SHN0 | 6.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 17 | | F06F1B104MN0B0SHN0 | 6.0 | 2.5 | 16.0 | 5.0 | 0.4 | 2.0 | Bulk |
| 18 | | F08F1B224ZN0B0SHN0 | 8.0 | 2.5 | 16.0 | 5.0 | 0.5 | 2.0 | Bulk |
| 19 | | F08F1B224MN0B0SHN0 | 8.0 | 2.5 | 16.0 | 5.0 | 0.5 | 2.0 | Bulk |
| 20 | | F05S1B101KQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 21 | | F05B1B221KQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 22 | | F05B1B331KQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 23 | | F05B1B471KQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 24 | | F05B1B681KQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 25 | | F05B1B102KQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 26 | | F05B1B222KQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |





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| | | | | | | | | |
|----|--------------------|-----|-----|---|-----|-----|-----|--------|
| 27 | F05F1B472MQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 28 | F05B1B472KQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 29 | FC0F1B103MQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 30 | F05B1B103KQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 31 | F05F1B473ZQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 32 | F05F1B473MQ0T0SHN0 | 5.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 33 | FC6F1B104ZQ0T0SHN0 | 5.6 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 34 | FC6F1B104MQ0T0SHN0 | 5.6 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 35 | F06F1B104ZQ0T0SHN0 | 6.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 36 | F06F1B104MQ0T0SHN0 | 6.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 37 | F08F1B224ZQ0T0SHN0 | 8.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |
| 38 | F08F1B224MQ0T0SHN0 | 8.0 | 2.5 | / | 5.0 | 0.5 | 2.0 | Taping |

3.Product description

| | |
|---|--------------------------|
| <p>Note: the encapsulation are of two ways: one is epoxy resin coating seal, color to yellow.</p> | |
| <p>Structure</p> | <p>Dimension diagram</p> |





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4. Marking

| Level | Example | Remarks | |
|-------|--------------------------------------|--|------|
| | ①Company logo | <250V P=2.5mm&P=5.0mm The following exceptions apply: 1、 103,104 (片径 5.6mm) 2、 222 (P≠2.5mm of Parts products) | |
| | ②indicates that the nominal capacity | | 104 |
| | ③indicates that the rated voltage | | - |
| | ①Company logo | 1、 103,104 (Trail 5.6mm) 2、 222 (P≠2.5mm of Parts products) | |
| | ②indicates that the nominal capacity | | 104 |
| | ①Company logo | >250V P=5.0mm | |
| | ②indicates that the nominal capacity | | 102 |
| | ③indicates that the rated voltage | | 250V |

Note: The above marked for the Division I regular printing, special requirements for marking separately.

5.Reference Standard

This acknowledgment is based on GB / T 2693-2001、 GB/T5968-1996 , GB11305-89and the other part of the standard which is a reference to the relevant sections of EIA or JIS standards drawn up.

6.Electrical characteristics and Reliability test

Test conditions: testing and testing must be in standard conditions (mean temperature of 15 ~ 35 °C , 45 ~ 85% relative humidity, atmospheric86 ~ 106Kpa) 。 Unless otherwise indicated, capacitors must be tested under the reference conditions (temperature 25 ± 2 ° C, relative humidity 65%, air pressure 101.3 kPa) in case of doubt and special requirements on the measurement results.

6.1 Electrical characteristics

| No. | Item | Specification | Testing Method |
|-----|-------------------|-------------------------------------|---------------------|
| 1 | Temperature range | -25°C ~ 85°C | |
| 2 | Appearance | No marked defect on appearance form | Visually inspected。 |
| 3 | Marking | To be easily legible。 | Visually inspected。 |





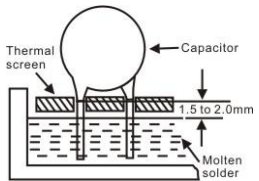
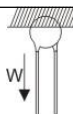
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| No. | Item | Specification | Testing Method | | | | | | | | | | | | |
|---------------------|---------------------------------|--|---|------|---------|-----|--------------------|--------------------|-------|---------------------|-------|---------------------|----|----|-----|
| 4 | Capacitance | Within specified tolerance. | CC1: CR≤1000PF: 25°C、1±0.1MHZ、1.0Vrms; CR>1000PF;25°C、1±0.1KHZ、1.0Vrms。 | | | | | | | | | | | | |
| 5 | (D.F.) Dissipation Factor | CC1: CR≥50, DF≤15*×10 ⁻⁴ 5≤CR<50,DF≤1.5× (150/CR) +7 CT1:DF≤2.5% CS1: Y5P: ≤3.5%; Y5U、Y5V: ≤5.0% | CT1: CR≤100PF;25°C、1±0.1MHZ、1.0Vrms; CR>100PF;25°C、1±0.1KHZ、1.0Vrms CS1: 25°C、1±0.1KHZ、0.1Vrms。 | | | | | | | | | | | | |
| 6 | (I.R.) Insulation Resistance | CC1: ≥10000MΩ CT1: CR≤25nF; ≥4000MΩ CR>25nF; Rj·CR≥100s CS1: CR≤25nF; ≥1000MΩ CR>25nF; Rj·CR≥25s Note: "s" for the time constant, that is, insulation resistance times the capacitance, in units of seconds, also known as megohm • micro method. | The voltage should be added directly to the specified value for a duration of 1 min ± 5 s. For batch-by-batch inspections, if the insulation resistance reaches the required value, the test can be completed in a shorter time. The capacitor should be fully discharged before taking measurements. The charging current should not exceed 50mA. <table border="1"> <thead> <tr> <th>Type</th> <th>CC1、CT1</th> <th colspan="2">CS1</th> </tr> </thead> <tbody> <tr> <td>Rated voltage (UR)</td> <td><500V</td> <td><50V</td> <td>≥50V</td> </tr> <tr> <td>Voltage proof (VDC)</td> <td>UR</td> <td>UR</td> <td>50V</td> </tr> </tbody> </table> | Type | CC1、CT1 | CS1 | | Rated voltage (UR) | <500V | <50V | ≥50V | Voltage proof (VDC) | UR | UR | 50V |
| Type | CC1、CT1 | CS1 | | | | | | | | | | | | | |
| Rated voltage (UR) | <500V | <50V | ≥50V | | | | | | | | | | | | |
| Voltage proof (VDC) | UR | UR | 50V | | | | | | | | | | | | |
| 7 | (T.V.) Voltage proof | Requirements: during the trials capacitor should be no breakdown or fly arc. | Test conditions: The spec provides the following capacitor voltage is applied between the terminations for the identification of the approval and periodic tests applied voltage time 1min, quality and consistency of the batch test for the applied voltage time 2s . Following table provides an applied voltage; charge current should not exceed 0.05A. Set 0.50mA leakage current. <table border="1"> <thead> <tr> <th>Type</th> <th>CC1、CT1</th> <th>CS1</th> </tr> </thead> <tbody> <tr> <td>Rated voltage (UR)</td> <td>≤500V</td> <td><100V</td> </tr> <tr> <td>Voltage proof (VDC)</td> <td>2.5UR</td> <td>1.5UR</td> </tr> </tbody> </table> <p>Note: if the customer has special requirements or the size of special specifications, then according to customer special requirements or special requirements for testing</p> | Type | CC1、CT1 | CS1 | Rated voltage (UR) | ≤500V | <100V | Voltage proof (VDC) | 2.5UR | 1.5UR | | | |
| Type | CC1、CT1 | CS1 | | | | | | | | | | | | | |
| Rated voltage (UR) | ≤500V | <100V | | | | | | | | | | | | | |
| Voltage proof (VDC) | 2.5UR | 1.5UR | | | | | | | | | | | | | |



6.2 Reliability test

| No. | Item | Specification | Testing Method | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|-----------------------------|--|--|--------------------|---------------------|----------------|-------|-------------------|--------|----------------|--------|--------------|---------------------|----------------|--|---------------|-------|----------------|--------|---|---|-----------------|-------|--------|-------|-------|-------|
| 8 | Temperature Characteristics | <table border="1"> <thead> <tr> <th>Char.</th> <th>Capacitance Change</th> </tr> </thead> <tbody> <tr> <td>NPO</td> <td>0±60 ppm/°C</td> </tr> <tr> <td>SL</td> <td>+100,-1000 ppm/°C</td> </tr> <tr> <td>Y5P</td> <td>±10%</td> </tr> <tr> <td>Y5U</td> <td>+22/-56%</td> </tr> <tr> <td>Y5V</td> <td>+30/-80%</td> </tr> </tbody> </table> <p>Temp. range: -25 ~ +85°C</p> | Char. | Capacitance Change | NPO | 0±60 ppm/°C | SL | +100,-1000 ppm/°C | Y5P | ±10% | Y5U | +22/-56% | Y5V | +30/-80% | <p>The capacitance measurement should be made at each step specified in Table 3.</p> <p><Table 3.></p> <table border="1"> <thead> <tr> <th>Step</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>Temperature(°C)</td> <td>20 ±2</td> <td>-25 ±2</td> <td>20 ±2</td> <td>85 ±2</td> <td>20 ±2</td> </tr> </tbody> </table> | Step | 1 | 2 | 3 | 4 | 5 | Temperature(°C) | 20 ±2 | -25 ±2 | 20 ±2 | 85 ±2 | 20 ±2 |
| Char. | Capacitance Change | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NPO | 0±60 ppm/°C | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SL | +100,-1000 ppm/°C | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Y5P | ±10% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Y5U | +22/-56% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Y5V | +30/-80% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Step | 1 | 2 | 3 | 4 | 5 | | | | | | | | | | | | | | | | | | | | | | |
| Temperature(°C) | 20 ±2 | -25 ±2 | 20 ±2 | 85 ±2 | 20 ±2 | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Solderability of Leads | Lead wire should be soldered with uniform coating on the axial direction over 3/4 of the circumferential direction. | <p>The lead wire of a capacitor should be dipped into molten solder for 2±0.5 sec. The depth of immersion is up to about 1.5 to 2.0mm from the root of lead</p> <p>Temp. of solder: Lead Free Solder (Sn-2Ag-0.5Cu) 260±5°C.</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Soldering Effect | <p>Appearance: No marked defect</p> <p>Capacitance Change: CC1: +100≥α≥-750: ±0.5% or ±0.5pF (Take the larger than the above) -750>α≥-1500: ±1% or ±1pF (Take the larger than the above) α>-5600: ±3% or ±1PF (Take the larger than the above) CT1、CS1: Y5P: ±10%; Y5U、Y5V: ±20%。</p> | <p>As in figure , the lead wires should be immersed in solder of 260±5°C up to 1.5 to 2.0mm from the terminal for 10.0±0.5 sec.。</p>  | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Robustness of Terminations | <p>pull</p> <p>bending</p> <p>Lead wire should not be cut off. Capacitor should not be broken.</p> | <p>As shown in the figure at right, fix the body of the capacitor and apply a tensile weight gradually to each lead wire in the radial direction of the capacitor up to as follows and keep it for 10±1 sec.</p>  <table border="1"> <thead> <tr> <th>Diameter(mm)</th> <th>Minimum tension (N)</th> </tr> </thead> <tbody> <tr> <td>0.35 < d ≤ 0.5</td> <td>5±10%</td> </tr> <tr> <td>0.5 < d ≤ 0.8</td> <td>10±10%</td> </tr> <tr> <td>0.8 < d ≤ 1.25</td> <td>20±10%</td> </tr> </tbody> </table> <p>Each lead wire should be subjected to 5N weight and then a 90° bend, at the point of egress, in one direction, return to original position, and then apply a 90° bend in the opposite direction at the rate of one bend in 2 to 3 sec, For a cycle, a total of 22 cycles.</p> <table border="1"> <thead> <tr> <th>Diameter(mm)</th> <th>Minimum tension (N)</th> </tr> </thead> <tbody> <tr> <td>0.35 < d ≤ 0.5</td> <td>2.5±10%</td> </tr> <tr> <td>0.5 < d ≤ 0.8</td> <td>5±10%</td> </tr> <tr> <td>0.8 < d ≤ 1.25</td> <td>10±10%</td> </tr> </tbody> </table> | Diameter(mm) | Minimum tension (N) | 0.35 < d ≤ 0.5 | 5±10% | 0.5 < d ≤ 0.8 | 10±10% | 0.8 < d ≤ 1.25 | 20±10% | Diameter(mm) | Minimum tension (N) | 0.35 < d ≤ 0.5 | 2.5±10% | 0.5 < d ≤ 0.8 | 5±10% | 0.8 < d ≤ 1.25 | 10±10% | | | | | | | | |
| Diameter(mm) | Minimum tension (N) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.35 < d ≤ 0.5 | 5±10% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.5 < d ≤ 0.8 | 10±10% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.8 < d ≤ 1.25 | 20±10% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Diameter(mm) | Minimum tension (N) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.35 < d ≤ 0.5 | 2.5±10% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.5 < d ≤ 0.8 | 5±10% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.8 < d ≤ 1.25 | 10±10% | | | | | | | | | | | | | | | | | | | | | | | | | | |





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| No. | Item | Specification | Testing Method | | | | | | | | | | | | | | | |
|--------------------|---|--------------------|---|--|------------------|------------|---|-----|----|---|-----|---|---|-----|----|---|-----|---|
| 12 | Rapid changes in temperature | Appearance | Capacitors should be tested in the order shown in the following table (for one cycle) for five consecutive cycles. <table border="1" style="margin: 10px 0;"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25</td> <td>30</td> </tr> <tr> <td>2</td> <td>+25</td> <td>3</td> </tr> <tr> <td>3</td> <td>+85</td> <td>30</td> </tr> <tr> <td>4</td> <td>+25</td> <td>3</td> </tr> </tbody> </table> [Pre-treatment]: Capacitor should be stored at 85±2°C for 1 hr., then placed at room condition for 24±2 hrs. [Post-treatment]: Capacitor should be stored for 24±2 hrs. at room condition. | Step | Temperature (°C) | Time (min) | 1 | -25 | 30 | 2 | +25 | 3 | 3 | +85 | 30 | 4 | +25 | 3 |
| | | Step | | Temperature (°C) | Time (min) | | | | | | | | | | | | | |
| | | 1 | | -25 | 30 | | | | | | | | | | | | | |
| 2 | +25 | 3 | | | | | | | | | | | | | | | | |
| 3 | +85 | 30 | | | | | | | | | | | | | | | | |
| 4 | +25 | 3 | | | | | | | | | | | | | | | | |
| Capacitance Change | NP0 : Capacitance changes ≤2% or 1pF, Take the larger one . SL: Capacitance changes ≤3% or 1 pF, Take the larger one . Y5P: ΔC/C ≤10%; Y5U: ΔC/C ≤20% Y5V: ΔC/C ≤30% | | | | | | | | | | | | | | | | | |
| D.F. | SL/NP0: Less than or equal to 2 times the initial value. Y5P: tanδ ≤5%; Y5U/Y5V: tanδ ≤7% | | | | | | | | | | | | | | | | | |
| 13 | Steady state damp heat | IR | Test conditions: 1) half of the sample to impose UR, the other half is not the applied voltage, charge current should not exceed 50mA. 2) Temperature: 40 ± 2 °C; relative humidity: 95 ± 2%. 3) continued 500h +24 /-0h. | | | | | | | | | | | | | | | |
| | | Appearance | | No marked defect. | | | | | | | | | | | | | | |
| | | Capacitance Change | | NP0 : Capacitance changes ≤2% or 1pF, Take the larger one . SL: Capacitance changes ≤3% or 1pF, Take the larger one . Y5P: ΔC/C ≤10%; Y5U: ΔC/C ≤20% Y5V: ΔC/C ≤30% | | | | | | | | | | | | | | |
| 14 | Durability | D.F. | Test conditions: 1) temperature: the upper category temperature. 2) Voltage: CC1/CT1 1.5UR.CS1:1.25UR Charge current should not exceed 50mA. 3) Duration: 1000h +48 /-24h. [Post-processing test]: the standard atmospheric conditions at least 24 hours after recovery, measuring electrical properties. | | | | | | | | | | | | | | | |
| | | IR | | SL/NP0: ≥2500MΩ or 25s, Whichever is smaller Y5P/Y5U/Y5V: Ri ≥1000MΩ or Ri·CR ≥25s, Whichever is smaller. | | | | | | | | | | | | | | |
| | | Appearance | | No marked defect. | | | | | | | | | | | | | | |
| 14 | Durability | DF | Test conditions: 1) temperature: the upper category temperature. 2) Voltage: CC1/CT1 1.5UR.CS1:1.25UR Charge current should not exceed 50mA. 3) Duration: 1000h +48 /-24h. [Post-processing test]: the standard atmospheric conditions at least 24 hours after recovery, measuring electrical properties. | | | | | | | | | | | | | | | |
| | | Capacitance Change | | CC1: NP0: Capacitance changes ≤3% or 1pF, Take the larger one. SL: Capacitance changes ≤5% or 1pF, Take the larger one. CT1: Y5P/Y5U: ΔC/C ≤20%; Y5V: ΔC/C ≤30% CS1: ΔC/C ≤30% | | | | | | | | | | | | | | |
| | | IR | | CC1: SL/NP0: ≥4000MΩ or 40s, Whichever is smaller. CT1: Y5P/Y5U/Y5V: Ri ≥2000MΩ or Ri·CR ≥50s, Whichever is smaller. CS1: Ri ≥700MΩ or Ri·CR ≥17.5s. | | | | | | | | | | | | | | |

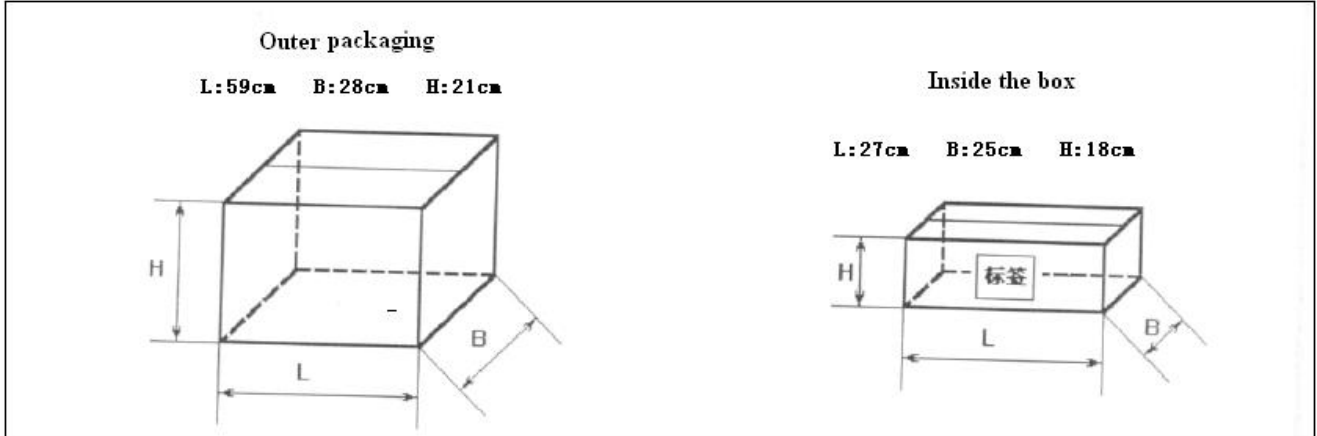




Low voltage ceramic capacitors up to 500V

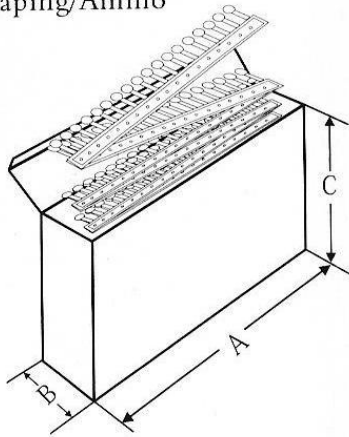
| | | | |
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7. Packaging



Note: the above of packages for reference only.

折叠式
Taping/Ammo



| Size description.: | | |
|--------------------|-------|--------|
| A | B | C |
| 33.5cm | 4.4cm | 26.2cm |

Packing quantity:

| Part No. | Number (PCS/bag) |
|---------------------------------|------------------|
| ∅ 8 the following (Including 8) | 1000 |
| ∅ 8 the above | 500 |
| Tape | 2000/box |

Note: The above quantity is for reference only.





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| | | | |
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8.Storage conditions

8.1 Because of the presence of hydrogen chloride, hydrosulfide, sulfuric acid, etc. in the atmosphere, when the product is stored in the atmosphere, we must take care that the lead-out end has poor solderability.

8.2 The product can not be exposed to high temperature and high humidity and must be stored in the following environment: (on the basis of not disassembling the original packaging)

A、Storage temperature: $\leq 35^{\circ}\text{C}$

B、Relative Humidity: $\leq 70\%RH$

C、Period of storage: ≤ 1 year (Count from the date on the product package or on the product body)

9.Tape icon and size chart(Only for taping products)

NO



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[DE1E3KX222MJ4BN01F](#) [440LT68AP-R](#) [JN222MQ47FAAAAKPLP](#) [H8000090-245](#) [H8000090-225RY](#) [H8000090-309RY](#) [H8000090-](#)
[291RY](#) [F471K39S3NR63K7R](#) [DEF2CLH040CN3A](#) [DEF2CLH080DA3B](#) [564R3DF0T22](#) [CC2150KY5P1KVB5LS-LF](#)
[CC2180KY5P1KVB5LS-LF](#) [CC2470KY5P1KVB5LS-LF](#) [CC2820KY5P1KVB5LS-LF](#) [0838-040-X7R0-220K](#) [JN102MQ35FAAAAKPLP](#)
[0841-040-X5U0-103M](#) [CCH-6K8-5/1000V](#) [140-50N2-101J-TB-RC](#) [ECK-DGL102ME](#) [562R5GAD47RR](#) [S103K75Y5PN8BT0R](#)
[615R100GAD10](#) [615R150GAD10](#) [NCD100K1KVSLF](#) [NCD682M1KVZ5UF](#) [CCK-100N](#) [CCK-100P](#) [CCK-22N](#) [CCK-2N2](#) [CCK-47N](#) [CCK-](#)
[47P](#) [CCK-4N7](#) [CCK-4P7](#) [CK45-B3FD681KYNNA](#)