

# Lead Type Disc High Voltage Ceramic Capacitors-HV Series (500VDC-6.3KVDC) Data Sheet

## Feature

- Wide capacitance range from 100pF to 100000pF
- Operating Temperature:  $-25^{\circ}\text{C} \sim 85^{\circ}\text{C}$
- Storage Temperature:  $15^{\circ}\text{C} \sim 35^{\circ}\text{C}$
- The high voltage disc ceramic capacitors have feature of withstanding higher voltage

## Applications

- These capacitors are used in bypass and coupling circuit, and those capacitors with low dissipation factor are particularly suitable to be used in circuits such as line scanning in Tvset

## Part Number Code

|   |    |   |   |   |     |   |    |   |   |   |   |   |   |
|---|----|---|---|---|-----|---|----|---|---|---|---|---|---|
| N | 07 | F | 1 | B | 472 | M | N0 | B | 0 | S | 0 | N | 0 |
|---|----|---|---|---|-----|---|----|---|---|---|---|---|---|

|   |   |   |   |                         |
|---|---|---|---|-------------------------|
| <b>Rated Voltage</b><br>L: 500VDC<br>N: 1KVDC<br>R: 2KVDC<br>S: 3KVDC<br>T: 4KVDC<br>W: 5KVDC<br>A: 6KVDC             | <b>Pitch</b><br>A:2.5mm<br>B:5.0mm<br>E:7.5mm<br>D:10.0mm   | <b>Tolerance</b><br>C:±0.25pF<br>J±5%<br>:K:±10%<br>M:±20%  | <b>Package</b><br>B: Bulk<br>T:Tape   | <b>Inner Management</b> |
| <b>Core Diameter</b><br>04: 4.0mm<br>05: 5.0mm<br>16: 16.0mm<br>C0: 5.0mm<br>C4: 5.4mm<br>C6: 5.6mm                   | <b>Nominal capacitance</b><br>10:100pF<br>100:101pF<br>222:2200pF<br>103:10000pF  | <b>Environmental Standard</b><br>0:RoHS<br>2:RoHS+Halogen-Free  |   |                         |
| <b>Foot Type</b><br>1:Long straight<br>2:Outside Crimped<br>3:Short Straight<br>4:Inner Crimped<br>8:Vertical Crimped | <b>Lead Length</b><br>S0~S9:1.0~1.9mm<br>X0~X9:2.0~2.9mm<br>A0~A9:3.0~3.9mm<br>B0~B9:4.0~4.9mm<br>C0~C9:5.0~5.9mm<br>D0~D9:6.0~6.9mm<br>E0~E9:7.0~7.9mm | <b>Lead Length</b><br>F0~F9:8.0~8.9mm<br>G0~G9:9.0~9.9mm<br>H0~H9:10.0~10.9mm<br>J0~J9:11.0~11.9mm<br>K0~K9:12.0~12.9mm<br>L0~L9:13.0~13.9mm<br>M0~M9:14.0~14.9mm | <b>Lead Length</b><br>M0~M9:14.0~14.9mm<br>N0:16~27.0mm(Bulk)<br><b>Crimped Lead Taped</b><br>N0:H0=16.5mm<br>P0:H0=17.0mm<br>Q0:H0=19.0mm<br><b>Straight Lead</b><br>Q0:20.0mm |                         |
| <b>Temperature Characteristic</b><br>A:NP0<br>S:SL<br>B:Y5P<br>E:Y5U<br>F:Y5V   |   |   |   |                         |

## Specifications

|   |   |
|---|---|
| <b>Capacitance and Dissipation factor testing condition</b> | SL/NP0:25℃、1±0.1MHz、1.0Vrms<br>Y5P/Y5U/Y5V:25℃、1±0.1MHz、1.0Vrms |
| <b>Dissipation Factor(tanδ)</b>                             | SL/NP0:≤0.15%<br>Y5P/Y5U/Y5V:≤2.5%                              |
| <b>Rated Voltage</b>  | 500VDC、1000VDC、2000VDC、3000VDC、4000VDC、5000VDC、6000VDC          |
| <b>Withstand Voltage</b>                                    | 1.5U <sub>R</sub> +500V(DC)                                     |
| <b>Insulation Resistance (I.R.)</b>                         | SL/NP0:IR≥10000MΩ;Y5P/Y5U/Y5V:IR≥4000MΩ                         |
| <b>Temperature Characteristic</b>                           | SL、NP0、Y5P、Y5U、Y5V  |

## Dimensions (mm)



| Rated Voltage (VDC)      | Temperature Coefficient Group |           |             |        |        | Dimension (mm) |         | Lead Size (mm) |        |         |     |
|--------------------------|-------------------------------|-----------|-------------|--------|--------|----------------|---------|----------------|--------|---------|-----|
|                          | Y5P (B)                       | Y5U (E)   | Y5V (F)     | SL     | NP0    | D±1            | T±1     | F              | d±0.05 |         |     |
| Nominal Capacitance (pF) |                               |           |             |        |        |                |         |                |        |         |     |
| 500                      | 100-1500                      | 1500-2200 | 3300-4700   | 20-150 | 0.5-22 | 5.5            | 2.0     | 5.0±0.8        | 0.5    |         |     |
|                          | /                             | 3300-4700 | 6800        | /      | /      | 6.5            |         |                |        |         |     |
|                          | 2200                          | 5600-6800 | 6800-10000  | /      | /      | 7.5            |         |                |        |         |     |
|                          | 3300                          | 10000     | /           | /      | /      | 9.5            |         |                |        |         |     |
|                          | 4700                          | /         | 20000-22000 | /      | /      | 10.5           | 2.5     | 7.5±0.8        | 0.6    |         |     |
|                          | 10000                         | /         | /           | /      | /      | 14.5           |         |                |        |         |     |
|                          | /                             | /         | 47000       | /      | /      | 17.0           |         |                |        |         |     |
|                          | /                             | /         | 100000      | /      | /      | 20.0           |         |                |        |         |     |
| 1000                     | 100-820                       | /         | /           | 20-100 | 0.5-22 | 5.5            | 2.5     | 5.0±0.8        | 0.5    |         |     |
|                          | 1000                          | /         | /           | /      | /      | 6.0            |         |                |        |         |     |
|                          | /                             | 1500-3300 | 4700-6800   | /      | /      | 6.5            |         |                |        |         |     |
|                          | 1500-1800                     | 4700-5600 | /           | /      | /      | 7.5            |         |                |        |         |     |
|                          | 2200-2700                     | /         | 10000       | /      | /      | 8.5            |         |                |        |         |     |
|                          | /                             | 6800      | 15000       | /      | /      | 9.5            |         |                |        |         |     |
|                          | 3300                          | 10000     | /           | /      | /      | 10.5           |         |                |        |         |     |
|                          | 4700                          | /         | /           | /      | /      | 11.5           |         |                |        |         |     |
|                          | /                             | /         | 20000-22000 | /      | /      | 13.0           |         |                |        | 7.5±0.8 | 0.6 |
|                          | /                             | /         | 33000       | /      | /      | 15.0           |         |                |        |         |     |
|                          | 10000                         | /         | 47000       | /      | /      | 17.5           |         |                |        |         |     |
|                          | /                             | /         | 100000      | /      | /      | 22.5           |         |                |        |         |     |
| 2000                     | 100-470                       | 1000      | 1500-2200   | /      | /      | 6.0            | 2.5/3.0 | 5.0±0.8        | 0.5    |         |     |
|                          | 560-820                       | /         | 3300        | 10-120 | 0.5-10 | 7.0            |         |                |        |         |     |
|                          | 1000                          | 2200      | 4700        | 68     | /      | 8.0            |         |                |        |         |     |
|                          | 1500                          | 4700      | 6800        | /      | /      | 10.0           | 3.0     | 7.5±0.8        | 0.6    |         |     |
|                          | 1800-2200                     | /         | 10000       | /      | /      | 11.0           |         |                |        |         |     |
|                          | 2700                          | /         | /           | /      | /      | 12.0           |         |                |        |         |     |
|                          | 3300                          | /         | /           | /      | /      | 13.0           |         |                |        |         |     |
|                          | 2200                          | /         | /           | /      | /      | 14.0           |         |                |        |         |     |
|                          | 4700                          | 10000     | 20000-22000 | /      | /      | 14.5           |         |                |        |         |     |

| Rated Voltage (VDC) | Temperature Coefficient Group |          |             |       |      | Dimension (mm) |          | Lead Size (mm) |         |
|---------------------|-------------------------------|----------|-------------|-------|------|----------------|----------|----------------|---------|
|                     | Y5P(B)                        | Y5U(E)   | Y5V(F)      | SL    | NPO  | D±1            | T±1      | F              | d±0.05  |
|                     | Nominal Capacitance (pF)      |          |             |       |      |                |          |                |         |
| 3000                | 100-470                       | 680-1000 | 1500        | 27-68 | 3-22 | 6.0            | 3.0/3.5  | 7.5±0.8        | 0.6     |
|                     | 270-680                       | /        | 2200        | /     | /    | 7.0            | 3.5      |                |         |
|                     | /                             | 1500     | 3300        | 82    | /    | 8.0            |          |                |         |
|                     | 1000                          | 2200     | 4700        | /     | /    | 9.0            |          |                |         |
|                     | /                             | 3300     | 6800-10000  | /     | /    | 11.0           |          | 10.0±0.8       | 0.6/0.7 |
|                     | /                             | 4700     | 10000       | /     | /    | 13.0           |          |                |         |
|                     | /                             | 10000    | /           | /     | /    | 17.5           |          |                |         |
|                     | /                             | /        | 20000-22000 | /     | /    | 20.5           |          |                |         |
| 3150                | 100-470                       | 1000     | 1500        | 10-39 | /    | 6.0            | 3.5      | 7.5±0.8        | 0.6     |
|                     | 680                           | /        | 2200        | 47-68 | /    | 7.0            |          |                |         |
|                     | /                             | 1500     | 3300        | 82    | /    | 8.0            |          |                |         |
|                     | 1000                          | 2200     | 4700        | /     | /    | 9.0            |          |                |         |
|                     | 1500                          | 3200     | /           | /     | /    | 11.0           | 10.0±0.8 | 0.7            |         |
|                     | 2200                          | 4700     | /           | /     | /    | 13.0           |          |                |         |
|                     | /                             | /        | 10000       | /     | /    | 14.0           |          |                |         |
|                     | /                             | 10000    | /           | /     | /    | 17.5           |          |                |         |
| 4000                | 100-470                       | 680-1000 | 1500        | 10-68 | 3-22 | 6.0            | 3.0/3.5  | 7.5±0.8        | 0.6     |
|                     | 270-680                       | /        | 2200        | /     | /    | 7.0            | 3.5      |                |         |
|                     | /                             | 1500     | 3300        | 82    | /    | 8.0            |          |                |         |
|                     | 1000                          | 2200     | 4700        | /     | /    | 9.0            |          |                |         |
|                     | /                             | 3300     | 6800-10000  | /     | /    | 11.0           |          | 10.0±0.8       | 0.6/0.7 |
|                     | /                             | 4700     | 10000       | /     | /    | 13.0           |          |                |         |
|                     | /                             | 10000    | /           | /     | /    | 17.5           |          |                |         |
|                     | /                             | /        | 20000-22000 | /     | /    | 20.5           |          |                |         |
| 5000                | 100-220                       | 330-470  | 1000        | 10-39 | /    | 6.0            | 3.5/4.5  | 10.0±0.8       | 0.6/0.7 |
|                     | 330                           | 560-1000 | 1500        | 47-56 | /    | 7.0            | 4.5      |                |         |
|                     | 470                           | /        | 2200        | 68-82 | /    | 8.0            |          |                |         |
|                     | 560-680                       | 1500     | /           | /     | /    | 9.0            |          |                |         |
|                     | /                             | 2200     | 3300        | /     | /    | 10.0           |          |                |         |
|                     | 1000                          | /        | 4700        | /     | /    | 11.0           |          |                |         |
|                     | /                             | 3300     | /           | /     | /    | 13.5           |          |                |         |
|                     | /                             | 4700     | /           | /     | /    | 16.5           |          |                |         |

| Rated Voltage (VDC) | Temperature Coefficient Group |          |        |       |     | Dimension (mm) |         | Lead Size (mm) |         |
|---------------------|-------------------------------|----------|--------|-------|-----|----------------|---------|----------------|---------|
|                     | Y5P(B)                        | Y5U(E)   | Y5V(F) | SL    | NPO | D±1            | T±1     | F              | d±0.05  |
|                     | Nominal Capacitance (pF)      |          |        |       |     |                |         |                |         |
| 6000                | 100-220                       | 330-470  | 1000   | 10-39 | /   | 6.0            | 3.5/4.5 | 10.0 ±0.8      | 0.6/0.7 |
|                     | 330                           | 560-1000 | 1500   | 47-56 | /   | 7.0            | 4.5     |                |         |
|                     | 470                           | /        | 2200   | 68-82 | /   | 8.0            |         |                |         |
|                     | 560-680                       | 1500     | /      | /     | /   | 9.0            |         |                |         |
|                     | /                             | 2200     | 3300   | /     | /   | 10.0           |         |                |         |
|                     | 1000                          | /        | 4700   | /     | /   | 11.0           |         |                |         |
|                     | /                             | 3300     | /      | /     | /   | 13.5           |         |                |         |
|                     | /                             | 4700     | /      | /     | /   | 16.5           |         |                |         |
| 6300                | 100-220                       | 1000     | /      | 10-39 | /   | 6.0            | 3.5/4.5 | 10.0 ±0.8      | 0.6/0.7 |
|                     | 330                           | /        | /      | 47-68 | /   | 7.0            | 4.5     |                |         |
|                     | 470                           | /        | 2200   | 82    | /   | 8.0            |         |                |         |
|                     | 680                           | /        | /      | /     | /   | 9.0            |         |                |         |
|                     | 1000                          | 2200     | 3300   | /     | /   | 10.0           |         |                |         |
|                     | /                             | /        | 4700   | /     | /   | 11.0           |         |                |         |

## Lead Configuration

| Lead Style       | Drawing   | Lead Length L (mm)                                 | Coating Lead Length C (mm)   |
|------------------|---|--|--|
| Long Straight    |    | 16.0 min   | ① C ≤ 2.5mm<br>(Product diameter < 12mm)<br><br>② C ≤ 3.0mm<br>(Product diameter ≥ 12mm) |
| Short Straight   |    | ① [2.5 ≤ L < 6.0] ± 0.5;<br>② [6.0 ≤ L ≤ 10] ± 1.0 | ① C ≤ 2.5mm<br>(Product diameter < 12mm)<br><br>② C ≤ 3.0mm<br>(Product diameter ≥ 12mm) |
| Outside Crimped  |   | ① [2.5 ≤ L < 6.0] ± 0.5;<br>② [6.0 ≤ L ≤ 10] ± 1.0 | Not exceed the bend point  |
| Inner Crimped    |  | ① [2.5 ≤ L < 6.0] ± 0.5;<br>② [6.0 ≤ L ≤ 10] ± 1.0 | Not exceed the bend point  |
| Vertical Crimped |  | ① [2.5 ≤ L < 6.0] ± 0.5;<br>② [6.0 ≤ L ≤ 10] ± 1.0 | Not exceed the bend point  |

## Taping And Dimensions (mm)

| Figure   | Fig.1  |                             | Fig.2                       |                             |          |          |
|--|--------|-----------------------------|-----------------------------|-----------------------------|----------|----------|
|  | Symbol | P=5.0                       | P=7.5                       |                             | P=10.0   |          |
|    | Po     | 12.7±0.3                    | 12.7±0.3                    | 12.7±0.3                    |          |          |
|  | P      | 12.7±1.0                    | 25.4±1.0                    | 25.4±1.0                    |          |          |
|  | P1     | 3.85±0.7                    | 8.95±0.7                    | 7.7±0.7                     |          |          |
|  | P2     | 6.35±1.3                    | 12.7±1.3                    | 12.7±1.3                    |          |          |
|  | F      | 5±0.8                       | 7.5±0.8                     | 10.0±0.8                    |          |          |
|  | Δh     | 0±2.0                       | 0±2.0                       | 0±2.0                       |          |          |
|  | W      | 18.0+1.5/-1.0               | 18.0 +1.5/-1.0              | 18.0 +1.5/-1.0              |          |          |
|  | Wo     | 10.5 Max                    | 10.5 Max                    | 10.5 Max                    |          |          |
|  | W1     | 9.0+0.75/-0.5               | 9.0+0.75/-0.5               | 9.0+0.75/-0.5               |          |          |
|  | W2     | 3.0 Max                     | 3.0 Max                     | 3.0 Max                     |          |          |
|  | Do     | 4.0±0.2                     | 4.0±0.2                     | 4.0±0.2                     |          |          |
|  | H      | 20+1.5/-1.0                 | 20+1.5/-1.0                 | 20+1.5/-1.0                 |          |          |
|  | Ho     | 16.5&17.0&19.0<br>+1.5/-1.0 | 16.5&17.0&19.0<br>+1.5/-1.0 | 16.5&17.0&19.0<br>+1.5/-1.0 |          |          |
|  | L      | Straight Lead               | 11.0 Max                    | Crimped Lead                | 9.0 Max  | 11.0 Max |
|  |        | Crimped Lead                | 9.0 Max                     | Straight Lead               | 11.0 Max | 9.0 Max  |
|  | t1     | 0.5±0.2                     | 0.5±0.2                     | 0.5±0.2                     |          |          |
|  | t2     | 1.7 Max                     | 1.7 Max                     | 1.7 Max                     |          |          |

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