

## 零件编码原则 Part Number Configuration:

J2 102 M 3A Y5V S T 5 L E

(1) (2) (3) (4) (5) (6) (编带) (7) (8) (9)(10)

(1) 产品类别 DC capacitors, safety

(2) 标称容量 Rated Voltage

(3) 误差 Rated capacitance

(4) 额定电压 Tolerance on rated capacitance

(5) 温度特性 Type code **Temperature Characteristic:**

(B) Y5P, (F) Y5V, (E) Y5U. NP0. SL

(6) 脚型 Lead shape:

S(直角), I(内弯), O(外弯), X(前后弯)

(7) 脚距 Pin pitch :

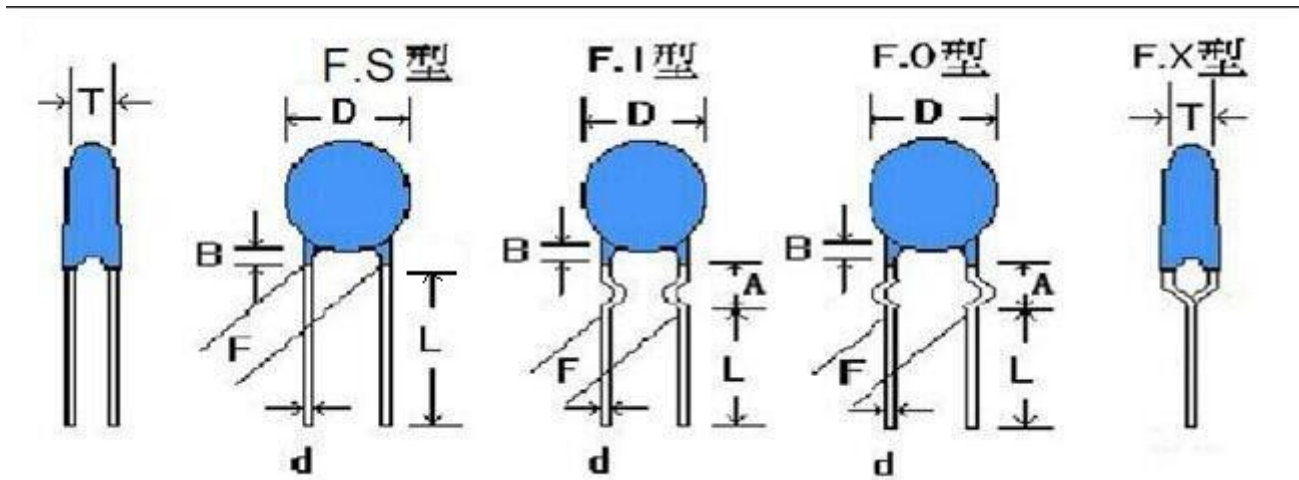
5.0、7.5、9.5、10.0

(8) 脚长 Lead length:

3—27mm

(9) 涂装材料 color: E 代表 EPOXY,蓝色;

(10) 电极材质 electrode material



## Dimensions and Tolerance

B=3.0mm max for AA

L=3-27mm

## 承认规格详细参数 (Approved Spec. Data)

| 品名规格<br>Approve Item | 外径<br>D (MAX)<br>mm | 脚距<br>F $\pm 0.8$ | 脚长<br>L $\pm 1$ mm | 厚度<br>T $\pm 0.5$ mm | 线径<br>d $\pm 0.05$ mm | 绝缘脚<br>B | 涂装材料<br>color | DF/Q 值 | A | 备注<br>note |
|----------------------|---------------------|-------------------|--------------------|----------------------|-----------------------|----------|---------------|--------|---|------------|
|                      |                     |                   |                    |                      |                       |          |               |        |   |            |
|                      |                     |                   |                    |                      |                       |          |               |        |   |            |
|                      |                     |                   |                    |                      |                       |          |               |        |   |            |
|                      |                     |                   |                    |                      |                       |          |               |        |   |            |
|                      |                     |                   |                    |                      |                       |          |               |        |   |            |
|                      |                     |                   |                    |                      |                       |          |               |        |   |            |

## 1. 適用範圍 (Scope of Application)

適用於電子機器、儀 表、通信器材及資訊產品之絕緣圓板形固定陶瓷電容器。

Ideal for use on Electrical Appliance、Instrument、Communication equipment and Information product.

## 1. 種 類 (Type)

2-1 • CLASS 1 溫度補償型(Temperature compensation type) • • • • • ( TC TYPE )

2-2 • CLASS 2 高介電常數(High inductivity) • • • • • ( HI - K TYPE )

2-3 • CLASS 3 半導體(Semi-Conductive) • • • • • ( SC TYPE )

## 3 • 工作溫度範圍 (Operating Temperature Range)

3-1 • Y 級 (Y Type) ( - 25°C — + 85°C )

3-2 • Z 級 (Z Type) ( + 10°C — + 85°C )

3-3 • X 級 (X Type) ( - 55°C — + 125°C )

3-4 • 使用溫度範圍 (Use temperature range)

Y 級, Z 級 ( -40°C - +125°C )

## 4 • 額定電壓 (Rated Voltage)

4-1 • TC &amp; Hi - k • • • 50V • 500V • 1KV • 2KV • 3KV • 6KV • 8KV • 10KV • 15KV ( D • C )

4-2 • SC • • • • • 16V • 25V • 50V • 100V

4-3 • T.C. 標示法

高壓電容: HIGH DIELECTRIC CONSTANT CAPACITOR

B:Y5P/X7R

D:Y5T

E:Y5U

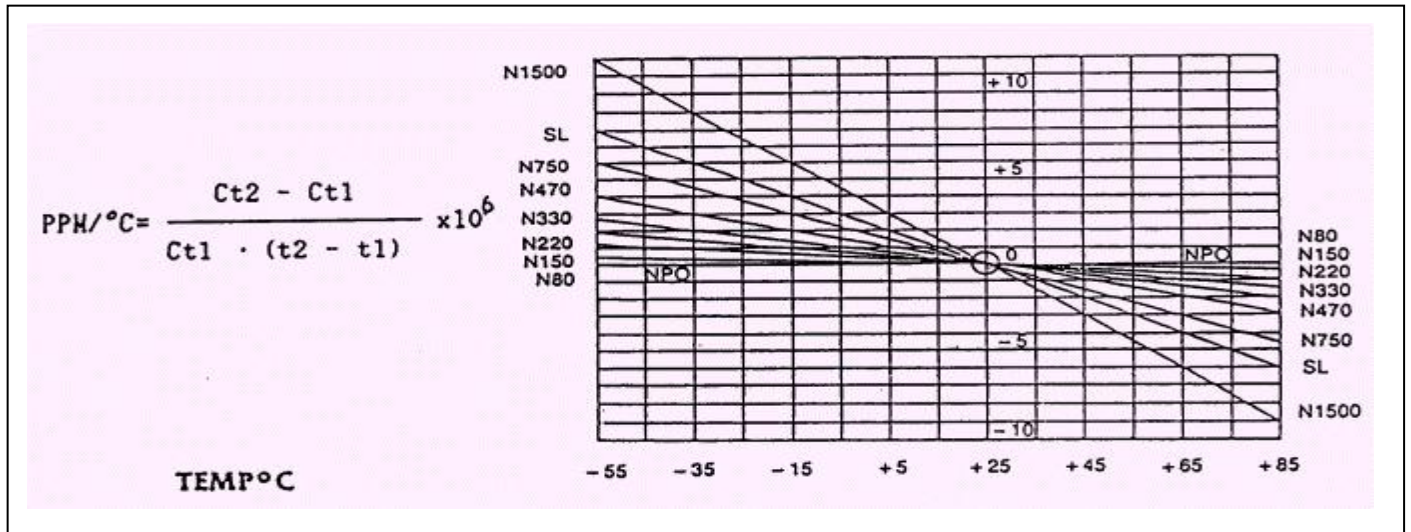
F:Y5V

## 5 • 溫度特性 (Temperature Characteristics)

5-1 • CLASS 1 ( 溫度係數 Temperature Coefficient : PPM / °C )

| 代 號<br>Code | PPM / °C           | 溫度係數容許差<br>Temperature Coefficient Change |              | 顏 色<br>Color       | EIA 規格<br>Specification | 代 號<br>Code  | W • V                                                                                               |
|-------------|--------------------|-------------------------------------------|--------------|--------------------|-------------------------|--------------|-----------------------------------------------------------------------------------------------------|
|             |                    | 代 號<br>Code                               | PPM/ °C      |                    |                         |              |                                                                                                     |
| <b>C</b>    | <b>0</b>           | <b>H</b>                                  | ± <b>60</b>  | <b>黑 black</b>     | <b>NPO</b>              | <b>C0</b>    | <div style="text-align: center;">           50V<br/>            <br/>           15KV         </div> |
| <b>H</b>    | -30                | <b>H</b>                                  | ± 60         | 棕 brown            | N33                     | S1           |                                                                                                     |
| <b>L</b>    | <b>-80</b>         | <b>H</b>                                  | ± <b>60</b>  | <b>紅 red</b>       | <b>N80</b>              | <b>U1</b>    |                                                                                                     |
| <b>P</b>    | -150               | <b>H</b>                                  | ± 60         | 橙 orange           | N150                    | P2           |                                                                                                     |
| <b>R</b>    | <b>-220</b>        | <b>H</b>                                  | ± <b>60</b>  | <b>黃 yellow</b>    | <b>N220</b>             | <b>R2</b>    |                                                                                                     |
| <b>S</b>    | -330               | <b>H</b>                                  | ± 60         | 綠 green            | N330                    | S2           |                                                                                                     |
| <b>T</b>    | <b>-470</b>        | <b>H</b>                                  | ± <b>60</b>  | <b>藍 blue</b>      | <b>N470</b>             | <b>T2</b>    |                                                                                                     |
| <b>U</b>    | -750               | <b>J</b>                                  | ± 120        | 紫 purple           | N750                    | U2           |                                                                                                     |
| <b>D</b>    | <b>'-3300</b>      | <b>L</b>                                  | ± <b>500</b> | <b>N 330 ± 500</b> |                         | <b>S 2 L</b> |                                                                                                     |
| SL          | + 140 > @ > - 1000 |                                           |              |                    |                         |              |                                                                                                     |

T • C • CHART



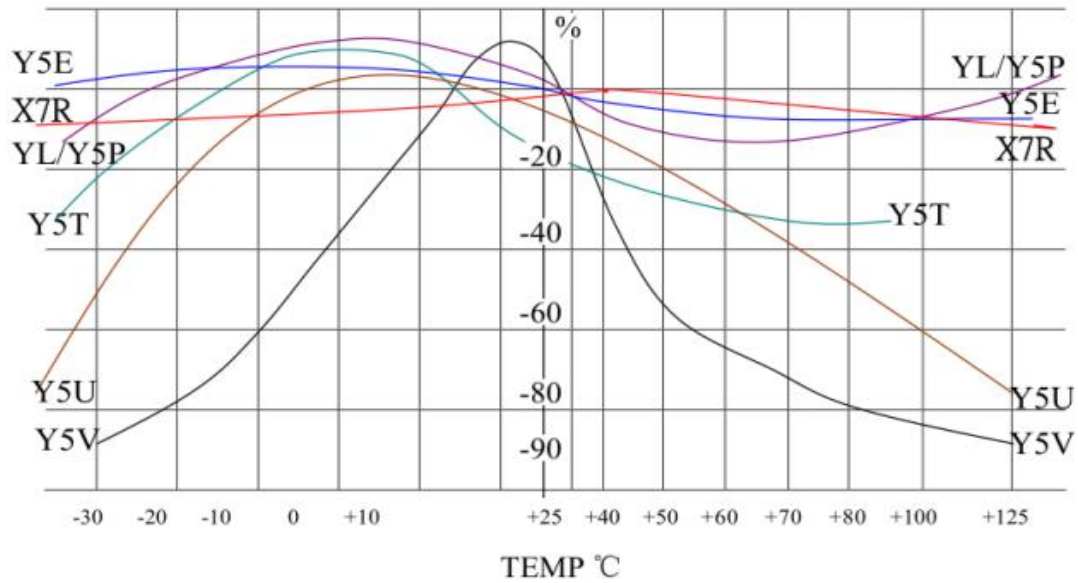
5 - 2 CLASS 2 ( 溫度變化率 Temperature Coefficient : % )

| 代 號<br>Code | 溫度範圍<br>Temperature Range | 容量變化率<br>Capacitance Tolerance | E I A 規 格(Specification) |                                | W · V    |
|-------------|---------------------------|--------------------------------|--------------------------|--------------------------------|----------|
|             |                           |                                | 代 號<br>Code              | 容量變化率<br>Capacitance Tolerance |          |
| B           | -25°C<br> <br>+85°C       | + 10 % / - 10 %                | Y5P/YL                   | + 10 % / - 10 %                | 50V-15KV |
| D           |                           | + 20 % / - 30 %                | Y5T/Y5R                  | + 22 % / - 33 %                | 50V-10KV |
| E           | -25°C<br> <br>+85°C       | + 20 % / - 55 %                | Y5U/Z5U                  | + 22 % / - 56 %                | 50V-15KV |
| F           |                           | + 30 % / - 80 %                | Y5V/Z5V                  | + 22 % / - 82 %                | 50V-15KV |
| R           | -55°C + 125°C             | + 15 % / - 15 %                | X7R                      | + 15 % / - 15 %                | 50V-2KV  |

5 - 3 CLASS 3 ( 溫度變化率 Temperature Coefficient : % )

| 代 號<br>Code | 溫度範圍<br>Temperature Range | 容量變化率<br>Capacitance Tolerance | E I A 規 格(Specification) |                                | W.V                 |
|-------------|---------------------------|--------------------------------|--------------------------|--------------------------------|---------------------|
|             |                           |                                | 代 號<br>Code              | 容量變化率<br>Capacitance Tolerance |                     |
| D           | -25°C<br> <br>+85°C       | ± 15 %                         | Y5R                      | ±15 %                          | 16V,25V<br>50V,100V |
|             |                           | + 20 %<br>- 30 %               | Y5T                      | +22 %<br>-33 %                 |                     |
| F           |                           | +30 %<br>-80 %                 | Y5V/Z5V                  | +22 %<br>-82%                  |                     |
| E           |                           | +20 %<br>-55 %                 | Y5U/Z5U                  | +22 %<br>-56 %                 |                     |
| R           |                           | ± 10 %                         | Y5P                      | ±10 %                          |                     |

## Capacitance Temperature Characteristics



### 6・製品尺寸與容量範圍 (Dimensions and Capacitance Range)

本规格书尺寸,脚距,仅供参考.尺寸如有变化,不另行通知. 请向我司查询或按贵司要求生产.

Size of this specification, foot distance, for reference only. Size change without notice. Please check with us or produce according to your requirement.

#### 6 - 1 CLASS 1

| Dimension(mm)            |                         |                         | Capacitance Range(PF) |             |           |             |           |           |           |
|--------------------------|-------------------------|-------------------------|-----------------------|-------------|-----------|-------------|-----------|-----------|-----------|
| 直徑<br>Diameter<br>(D)MAX | 導線間隔 Lead Space (F)     |                         | 50V<br>NPO-<br>N750   | 50V<br>N750 | 50V<br>SL | 500V<br>NPO | 500V-3KV  | 4KV-6KV   | 8KV-10KV  |
|                          | 直長腳<br>Straight<br>Lead | 彎短腳<br>Formed<br>Lead   |                       |             |           |             |           |           |           |
| 5.0                      | 2.5 ± 0.8               | 5.0 ± 0.8               | 1 - 50                | 1 - 50      | 22 - 150  |             |           |           |           |
| 6.0                      | 5.0 ± 0.8               | 5.0 ± 0.8               | 51 - 82               | 51 - 82     | 151 - 220 | 1 - 30      | 1 - 82    | 47 - 68   | 18 - 47   |
| 7.0                      | 5.0 ± 0.8               | 5.0 ± 0.8               | 82 - 120              | 83 - 120    | 240 - 330 |             |           | 82 - 100  | 56 - 82   |
| 8.0                      | 5.0 ± 0.8               | 5.0 ± 0.8               | 121 - 180             | 130 - 180   | 360 - 470 | 33 - 47     | 91 - 160  | 151 - 221 | 100       |
| 9.0                      | 5.0 ± 0.8               | 5 ± 0.8                 | 181 - 220             | 181 - 220   | 500 - 560 |             |           | 271       | 151       |
| 10.0                     | 5.0 ± 0.8               | 5.0 ± 0.8               | 221 - 270             | 221 - 270   | 561 - 820 | 51 - 120    | 180 - 300 | 331       | 181 - 221 |
| 12.0                     | 5.0 ± 0.8<br>7.5 ± 0.8  | 5.0 ± 0.8<br>9.25 ± 0.8 | 271 - 330             | 271 - 330   | 561 - 820 | 51 - 120    | 180 - 300 | 331       | 181 - 221 |
| 14.0                     | 5.0 ± 0.8<br>7.5 ± 0.8  |                         | 331 - 470             | 471         | 170 - 240 | 470 - 240   | 470 - 560 | 561 - 681 | 391       |

#### 6 - 2 CLASS 2

| EIA 温度特性图 TEMPERATURE CHARACTERISTIC CHART    |                                                             |                                                                                                          |                                                                                                                                              |
|-----------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| X: - 55℃<br>Y: - 25℃<br>Z: - 10℃              | 4: + 65℃<br>5: + 85℃<br>6: + 105℃<br>7: + 125℃<br>8: + 150℃ | A<br>B<br>C<br>D<br>E<br>F<br>P<br>R<br>S<br>T<br>U<br>V                                                 | ± 1.0 %<br>± 1.5 %<br>± 2.2 %<br>± 3.3 %<br>± 4.7 %<br>± 7.5 %<br>± 10 %<br>± 15 %<br>± 22 %<br>± 22 % - 33%<br>± 22 % - 56%<br>± 22 % - 82% |
| 第一个 最低温度<br>First Digit is low<br>Temperature | 第二个 最高温度<br>Second Digit is High<br>Temperature             | 最后一个字母 电容量变化，温度范围 25℃.<br>Last Digit is Capacitance Change Over<br>Temperature Range From + 25 C Reading |                                                                                                                                              |

| 尺寸<br>Dimension<br>(MM) | 直徑 Diameter<br>(D) MAX |                            | 5.0       | 6.0       | 7.0       | 8.0       | 9.0                    | 10.0                 | 12.0      | 14.0      | 16.0      |
|-------------------------|------------------------|----------------------------|-----------|-----------|-----------|-----------|------------------------|----------------------|-----------|-----------|-----------|
|                         | Space<br>导线间隔 (F) Lead | 彎短腳<br>Formed Lead         | 5.0±0.8   | 5.0 ± 0.8 | 5.0± 0.8  | 5.0 ± 0.8 | 7.5± 0.8               | 7.5±0.8 9.5&10.0±0.8 |           |           |           |
|                         |                        | 直短腳<br>Straight short Lead | 5.0±0.8   | 5.0 ± 0.8 | 5.0 ± 0.8 | 5.0 ± 0.8 | 5.0 ± 0.8<br>7.5 ± 0.8 | 7.5±0.8 9.5&10.0±0.8 |           |           |           |
|                         |                        | 直長腳<br>Straight long Lead  | 2.5±0.8   | 5.0 ± 0.8 | 5.0 ± 0.8 | 5.0 ± 0.8 | 5.0 ± 0.8<br>7.5 ± 0.8 | 7.5± 0.8 9.5± 0.8    |           |           |           |
|                         | 50V                    | B                          | 101 - 222 | 272 - 330 | 392 - 472 | 562 - 682 | 752 - 822              |                      |           |           |           |
|                         |                        | D                          | 102 - 152 | 182 - 272 | 332 - 432 | 562 - 682 | 472 - 562              | 822 - 103            |           | 473 - 503 |           |
|                         |                        | E                          | 102 - 103 | 682 - 103 | 123       | 153       | 183 - 203              | 223                  |           |           |           |
|                         |                        | F                          | 102 - 103 | 153 - 203 | 223       |           | 303 - 403              | 473 - 503            |           |           |           |
|                         | 500V                   | B                          | 101 - 102 | 122       | 152 - 182 | 202 - 222 | 242 - 332              | 362 - 472            | 512 - 682 | 752 -     |           |
|                         |                        | E                          | 101 - 222 | 242 - 332 | 392 - 502 | 562 - 682 | 822                    | 103                  | 153       | 203 -     | 303 - 333 |
|                         |                        | F                          | 102 - 392 | 472 - 502 | 562       | 682 - 103 | 153                    | 183                  | 203 - 223 |           | 333 - 473 |
|                         | 1KV                    | B                          | 101 - 500 | 561 - 102 | 122 - 152 | 182       | 202 - 222              | 272 - 332            | 392 - 472 | 562 -     | 822 - 103 |
|                         |                        | E                          | 101 - 102 | 152 - 222 | 272       | 302 - 392 | 472 - 562              | 682 - 103            | 153       | 203 -     | 303 - 333 |
|                         |                        | F                          | 102 - 122 | 152 - 182 | 202 - 222 | 272 - 332 | 392 - 103              | 123                  | 153 - 183 | 203 - 333 | 473 - 104 |
|                         | 2KV                    | B                          |           | 101 - 561 | 681       | 821 - 102 | 122 - 152              | 182 - 222            | 272 - 332 | 392 -     | 682 - 822 |
|                         |                        | E                          |           | 102 - 122 | 152 - 182 | 202 - 272 | 332                    | 392 - 472            | 562       | 682 -     | 153       |
|                         |                        | F                          | 101 - 102 | 102 - 182 | 202 - 222 | 272 - 332 | 392 - 472              | 562 - 682            | 822 - 103 | 153 -     | 203       |
|                         | 3KV                    | B                          |           | 101 - 471 | 561 - 681 | 821       | 102 - 122              | 152                  | 182 - 222 | 272 -     | 392 - 472 |
|                         |                        | E                          |           | 102 - 122 | 152 - 182 | 202 - 222 | 272                    | 332 - 392            | 472 - 562 | 682 -     | 822 - 103 |
|                         |                        | F                          |           | 102 - 182 | 202 - 222 | 272       | 332 - 472              | 562                  | 682       | 822 -     | 153 - 183 |
|                         | 6KV                    | B                          | 101       |           | 10 - 82   | 101 - 471 | 561 - 681              | 102                  |           |           |           |
|                         |                        | E                          |           |           | 471 - 102 | 152 - 182 | 222                    | 272                  | 332 - 472 | 682       | 103       |
|                         |                        | F                          |           |           | 102 - 222 | 152 - 222 | 332 - 392              | 472                  | 682       | 103       |           |
|                         | 8KV-15KV               | B                          |           | 10 - 82   | 101 - 331 | 471       | 561 - 681              | 821 - 102            | 122       | 182       |           |
|                         |                        | E                          |           |           | 471 - 561 | 681 - 102 | 122                    | 152 - 182            | 222       | 222 -     | 472       |
|                         |                        | F                          |           |           | 102       | 152 - 182 | 222 -                  | 272 - 332            | 472       |           |           |

## 6-2 CLASS 3

| 尺寸<br>Dimension<br>(MM)                  | 直徑 Diameter<br>(D) MAX     |                               | 5.0             | 6.0             | 7.0             | 8.0             | 10.0            | 11.0            | 12.0             | 14.0             |
|------------------------------------------|----------------------------|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|
|                                          | 导线<br>间隔<br>(F) Lead Space | 彎短腳<br>Formed Lead            | 5.0<br>±<br>0.8 | 5.0<br>±<br>0.8 | 5.0<br>±<br>0.8 | 5.0<br>±<br>0.8 | 7.5<br>±<br>0.8 | 7.5<br>±<br>0.8 | 10.0<br>±<br>0.8 | 10.0<br>±<br>0.8 |
|                                          |                            | 直短腳<br>Straight short<br>Lead | 2.5<br>±<br>0.8 | 5.0<br>±<br>0.8 | 5.0<br>±<br>0.8 | 5.0<br>±<br>0.8 | 7.5<br>±<br>0.8 | 7.5<br>±<br>0.8 | 10.0<br>±<br>0.8 | 10.0<br>±<br>0.8 |
|                                          |                            | 直长腳<br>Straight long<br>Lead  | 2.5<br>±<br>0.8 | 5.0<br>±<br>0.8 | 5.0<br>±<br>0.8 | 5.0<br>±<br>0.8 | 7.5<br>±<br>0.8 | 7.5<br>±<br>0.8 | 10.0<br>±<br>0.8 | 10.0<br>±<br>0.8 |
| 容量<br>范围<br>Capacitance<br>Range<br>(PF) | 16<br>V                    | D<br>Y5R                      | 103             |                 | 223             | 473             |                 |                 | 104              |                  |
|                                          |                            | D<br>Y5T                      | 223             | 473 -<br>104    |                 |                 |                 |                 |                  |                  |
|                                          |                            | F<br>Y5V                      | 473             | 104             |                 |                 |                 |                 |                  |                  |
|                                          |                            | E<br>Y5U                      | 223 -<br>473    | 104             |                 |                 |                 |                 |                  |                  |
|                                          | 25<br>V                    | D<br>Y5R                      | 103             |                 |                 | 223             | 473             |                 | 103              |                  |
|                                          |                            | D<br>Y5T                      | 103             | 223             |                 | 473             |                 | 104             | 103              | 223              |
|                                          |                            | F<br>Y5V                      | 223             | 473 -<br>104    | 154             | 224             |                 |                 | 223              | 473 -<br>104     |
|                                          |                            | E<br>Y5U                      | 153 -<br>223    | 473             | 104             |                 |                 |                 | 153 -<br>223     | 473              |
|                                          | 50V~<br>100V               | F<br>Y5V                      | 223             | 473             | 104             |                 | 224             |                 |                  |                  |
|                                          |                            | E<br>Y5U                      |                 |                 |                 |                 |                 |                 |                  | 104              |
|                                          |                            | B<br>Y5P                      | 103             |                 |                 |                 |                 |                 |                  |                  |

## 7. 靜電容量與容許差 (Capacitance &amp; Tolerance) :

## 7-1 CLASS 1

| 靜電電容<br>Capacitance | 容許差 Tolerance |                |         |                |
|---------------------|---------------|----------------|---------|----------------|
|                     | 代號 Code       | 容量 Capacitance | 代號 Code | 容量 Capacitance |
| 1 - 5 PF            | C             | ± 0.25 PF      | D       | ± 0.5 PF       |
| 6- - 821 PF         | J             | ± 5 %          | K       | ± 10 %         |

## 7-2 CLASS 2

| 50V | 容許差 Tolerance |                  | 500V<br> <br>15KV | 容許差 Tolerance |                  |
|-----|---------------|------------------|-------------------|---------------|------------------|
|     | 代號 Code       | %                |                   | 代 号           | %                |
| B   | K             | ± 10 %           | B                 | K             | ± 10 %           |
| D   | M             | ± 20 %           | R                 | L             | ± 15 %           |
| F   | Z             | + 80 %<br>- 20 % | F                 | Z             | + 80 %<br>- 20 % |
| E   | M             | ± 20 %           | E                 | M             | ± 20 %           |
|     | Z             | + 80 %<br>- 20 % |                   | Z             | + 80 %<br>- 20 % |
|     | P             | + 100 %<br>- 0 % |                   | P             | + 100 %<br>- 0 % |

## 7-3 CLASS 3

| 16V<br> <br>50V | 容許差 Tolerance |                  | 16V<br> <br>50V | 容許差 Tolerance |        |
|-----------------|---------------|------------------|-----------------|---------------|--------|
|                 | 代號 Code       | %                |                 | 代號 Code       | %      |
| D (Y5R)         | K             | ± 10 %           | B (Y5P)         | K             | ± 10 % |
| D (Y5T)         | M             | ± 20 %           | E (Y5U)         | M             | ± 20 % |
| F (Y5V)         | Z             | + 80 %<br>- 20 % | R (X7R)         | K             | ± 10 % |

## 8.性能與試驗 (Performance and Testing)

本规格承认书所列之名称制品规格之性能及一般试验, 特殊試驗均符合及依據 EIA RS 198, JIS C 6422, 423, GB/T 2693 等规格。

The specification recognizes the performance and general test of the product specification listed in this specification, Special tests are in accordance with and basis EIA RS 198, JIS C 6422, 6423, GB/T 2693 Specifications such as

注意: 1. 依国际规范定义, 耐压测试时, 零件承认或周期性试验测试为一分钟, 经一分钟测试之部品需报废处理。(此测试条件带有破坏性测试)

"Note: (1) Is was defined according with IEC, when for qualification approval and periodic tests, the withstanding test must last to 1 minute, and it belong to destroyed test domain, therefore, after the test, capacitors should be scrap. Withstand voltage test should rise slowly at 150V/s, and test time is counted from when the voltage reaches to experiment requirement." (Capacitors may cause to damage when withstand voltage test repeated.)

2. 批量生产时测试时间为三秒钟, 耐压测试应为缓升或零启动。

(2) The test time is more than 1 second at production period, and the rated test voltage is applied.



表(sheet) 1

| No | 項 目 Item                                                          | 性 能 Performance                                          | 試 驗 方 法 Test method                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----|-------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | 外觀及尺寸<br>Appearance and Dimensions                                | 參考 6 , 9 , 10 頁之圖表<br>refer to charts on page (6, 9, 10) | 1-1<br>1-2                                                                                                                            | 生產線必須做全數外觀檢驗並分別剔除不良品。<br>尺寸利用微測儀或卡尺測量。<br>"Production line visual inspection must be done in full and remove the defective products."<br>Dimensions should be measured with slide calipers and micrometers.                                                                                                                                                                                                                                                             |
| 2  | 記號標示<br>Marking                                                   | 必須幹淨及清晰。<br>had to cleanness and clearly                 | 2-1                                                                                                                                   | 標示需能承受溶劑擦拭。<br>Marks need can bear solvent wipe.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 3  | 耐電壓<br>Withstanding Voltage                                       | 端子間<br>Between Lead Wires<br><br>無任何異常發生。<br>No failure  | 3-1<br>3-2                                                                                                                            | 試驗電壓為額定電壓之倍數。<br>The test voltage is a multiple of the rated voltage.<br>CLASS I 和 II (50V-500V 為三倍), ( CLASS III 與 1KV~2KV 為兩倍 ), 3KV~4KV 為 1.5 倍, 5~6KV 為 1.2 倍。<br>特殊產品按實際額定電壓。8KV 以上為 1.0 倍。印加時間為 1 ~ 5 秒。充放電流限於 50 MA 以下。<br>CLASS 1~2 Test voltages were three times rated , ( CLASS 3 and over 1~2KV type is 2 times)<br>3~4KVtype is 1.5 times, 5~6KVtype is 1.2 times, >8KVtype is 1 time test. times 1 ~ 5 sec. Charge / discharge current $\leq 50\text{mA}$ |
|    | 端子與外裝間<br>Body Insulation                                         | 無任何異常發生。<br>No failure                                   | 3-3                                                                                                                                   | 使用金屬小球法或金屬箔法, 以額定電壓之 2.5 倍加於端子與塗裝外層間。 參閱 GB/T2693 或 CNS 3432 。<br>Test with metal pellet method, 2.5 times of rated voltage is applied between the lead wires and coated. See GB/T2693 or CNS 3432                                                                                                                                                                                                                                                                      |
| 4  | 絕緣電阻<br>( 端子間 )<br>Insulation Resistance<br>(Between Lead Wires ) | CLASS 1                                                  | $\geq 10000 \text{ M}\Omega$                                                                                                          | 絕緣電阻之測定電壓<br>Measure voltage of insulation resistance                                                                                                                                                                                                                                                                                                                                                                                                                   |
|    |                                                                   | CLASS 2                                                  | 10000 $\text{M}\Omega$ 或 200 $\Omega\text{F}$ 以上以較小值為準。<br>$\geq 10000 \text{ M}\Omega$ or 200 $\Omega\text{F}$ , take the small one. | 額定電壓 rated voltage      測定電壓 Testing Voltage                                                                                                                                                                                                                                                                                                                                                                                                                            |
|    |                                                                   | CLASS 3                                                  | 100 $\text{M}\Omega$ 或 10 $\Omega\text{F}$ 之較小值以上<br>$\geq 100 \text{ M}\Omega$ or 10 $\Omega\text{F}$ , Take the small one.          | (VR/VC) < 10V      (VR/VC) $\pm 10\%$                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|    |                                                                   | 16V                                                      |                                                                                                                                       | 10V $\leq$ (VR/VC) < 100V      10 $\pm 1\text{V}$                                                                                                                                                                                                                                                                                                                                                                                                                       |
|    |                                                                   | 50V . 25V                                                |                                                                                                                                       | 100V $\leq$ (VR/VC) < 500V      100 $\pm 15\text{V}$                                                                                                                                                                                                                                                                                                                                                                                                                    |
|    |                                                                   |                                                          | 1000 $\text{M}\Omega$ 或 20 $\Omega\text{F}$ 之較小值以上<br>$\geq 1000 \text{ M}\Omega$ or 20 $\Omega\text{F}$ , take the small one.        | 500V $\leq$ (VR/VC)      500 $\pm 50\text{V}$                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 5  | 靜電容量<br>Capacitance                                               | 必須符合要求之容許差規格內。<br>Within specified tolerance             | 5-1<br>5-2                                                                                                                            | 測定溫度 should be measured at 25 $\pm 2$ $^{\circ}\text{C}$<br>測定電壓 measured with this voltage:<br>CLASS 1      < 5 V rms<br>CLASS 2      < 3 V rms<br>CLASS 3      < 0.1 V rms                                                                                                                                                                                                                                                                                            |
|    |                                                                   |                                                          | 5-3                                                                                                                                   | 測定頻率 measured with frequency range:                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|    |                                                                   |                                                          | Class 1                                                                                                                               | 1 MHz $\pm 10\%$                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|    |                                                                   |                                                          | Class 2, Class 3                                                                                                                      | 1 KHz $\pm 10\%$                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| 编号<br>No | 项 目<br>Item                                    | 性 能<br>Performance                                       |                                                                                        | 试 验 方 法<br>Test Method                                                                 |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |
|----------|------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 6        | Q/tan σ （ % ）                                  | CLASS 1 ： Q/tan σ （ % ）                                  |                                                                                        | 6-1                                                                                    | 與第 5 項同。<br>same as item 5                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |
|          |                                                | < 30PF Q ≧ 400+20 × C<br>> 30PF Q ≧ 1,000                |                                                                                        |                                                                                        |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |
|          |                                                | CLASS 2 ： tan σ （ % ）                                    |                                                                                        |                                                                                        |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |
|          |                                                | D、B、E 特性 features: 2.5 % Max<br>F 特性 features: 5.0 % Max |                                                                                        |                                                                                        |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |
|          |                                                | CLASS 3 ： tan （ % ）                                      |                                                                                        |                                                                                        |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |
|          |                                                | 16V<br>50V 25V                                           | 7.0 %Max<br>5.0 %Max                                                                   |                                                                                        |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |
| 7        | 靜電容量<br>溫度特性<br>Temperature<br>Characteristics | CLASS 1                                                  | 容量漂移<br>Capacitance Change                                                             | 必須符合 5-1 之規格<br>should be meet the<br>specified range at 5-1                           | 7-1                                                                                                                                                   | 溫度係數 Temperature Coefficient: (CLASS 1)<br>$PPM / ^\circ C = \frac{C_{t2}-C_{t1}}{C_{t1} \cdot (t2-t1)}$<br>C t2 ： 在 t2 時之容量值 (C t2 ： at t2 value)<br>C t1 ： 在 t1 時之容量值 (C t1 ： at t1 value)<br>t2 ： 85 °C ± 3 °C<br>t2 ： 20 °C ± 2 °C<br>溫度階段 Temperature step<br>〈1〉 20 ± 2 °C → 〈2〉 -25 ± 2 °C<br>→ 〈3〉 20 ± 2 °C → 〈4〉 85 ±2 °C<br>→ 〈5〉 20 ± 2 °C |                                                                                                                                                                                                                                                                                                                                       |  |
|          |                                                |                                                          | 容量漂移<br>Capacitance Change                                                             | 在±0.2 %或<br>±0.05 PF 以內, 取较大者为准。<br>within ± 0.2 %<br>or ± 0.05<br>PF,take the larger. | 7-2                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |
|          |                                                | CLASS 2、 3                                               | 無電壓時<br>Non bias                                                                       | 必須符合<br>5-2、5-3 之規格。<br>should be meet the<br>specified range at 5-2<br>5-3。           | 7-3                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                        | 容量變化率 Capacitance change rate: (CLASS 2、 3 )<br>$C \cdot C (\%) = \frac{(C_{tx} - C_{t20})}{C_{t20}} *10$<br>C tx ： 溫度階段 〈1〉 〈3〉 〈5〉 除外, 〈2〉<br>到 〈4〉 之間任何溫度時之容量值。<br>C tx ： Capacitance at temperature step(2)<br>& (4), but (1), (3), (5)exclusion.<br>C t 20 ： 溫度階段 〈3〉 時之容量值。<br>C t 20 ： Capacitance at temperature step<br>(3). |  |
|          |                                                |                                                          | 加壓於兩<br>端子間時<br>Bias<br>between<br>two<br>terminals                                    | B： +10 %－20 %<br>D： +20 %－40 %<br>E： +20 %－80 %<br>F： +30 %－95 %                       |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |
|          |                                                |                                                          |                                                                                        |                                                                                        |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |
|          |                                                |                                                          |                                                                                        |                                                                                        |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |
| 8        | 端子強度<br>Robustness<br>of<br>Terminations       | 抗拉強度<br>Tensile                                          | 導線不斷裂, 電容器不破損<br>Lead wire should not be cut off. Capacitor<br>should not be broken.   | 8-1                                                                                    | 線 徑<br>Lead Dia. 〈mm〉                                                                                                                                 | 負荷重<br>Loading kgs                                                                                                                                                                                                                                                                                                                                     | 時間 〈秒〉<br>Time 〈sec〉                                                                                                                                                                                                                                                                                                                  |  |
|          |                                                |                                                          |                                                                                        | 8-2                                                                                    | Ø<br>0.5                                                                                                                                              | 0.5                                                                                                                                                                                                                                                                                                                                                    | 10                                                                                                                                                                                                                                                                                                                                    |  |
|          |                                                |                                                          |                                                                                        |                                                                                        | Ø Ø<br>0.6~0.8                                                                                                                                        | 1.0                                                                                                                                                                                                                                                                                                                                                    | 10                                                                                                                                                                                                                                                                                                                                    |  |
|          |                                                |                                                          |                                                                                        |                                                                                        | 制品固定, 負荷施力方向為端子引出之方向。<br><b>Fix the body of the capacitor and apply a<br/>tensile weight gradually to each lead wire in<br/>the radial direction.</b> |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |
|          |                                                | 彎曲強度<br>Bending                                          | 導線不致被折斷, 電容器不損。<br>Lead wire should not be cut off.<br>Capacitor should not be broken. | 8-3                                                                                    | 線徑 Lead Dia.<br>〈mm〉                                                                                                                                  | 負荷重<br>Loading kgs                                                                                                                                                                                                                                                                                                                                     | 彎曲角度為<br>90。兩回以上<br>Each lead wire<br>should be a<br>90 ° bend in<br>the opposite<br>Direction of<br>more two<br>bends.                                                                                                                                                                                                               |  |
|          |                                                |                                                          |                                                                                        |                                                                                        | Ø<br>0.5                                                                                                                                              | 0.25                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                       |  |
|          |                                                |                                                          |                                                                                        |                                                                                        | Ø Ø<br>0.6~0.8                                                                                                                                        | 0.5                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                       |  |
|          |                                                |                                                          |                                                                                        |                                                                                        |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |  |

| 编号<br>No | 项 目<br>Item                                     | 性 能<br>Performance            |                                                                                      | 试 验 方 法<br>Test Method                                                                                                                                  |                                                                                                                                                                                                                           |
|----------|-------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9        | 耐振性<br>Vibration<br>Resistance                  | 外 觀<br>Appearance             |                                                                                      | 9-1                                                                                                                                                     | 振動頻率 10 → 55 → 10 HZ<br>一分鐘內完全成覆振動全振幅 1.5 mm<br>Vibrated at a frequency range of 10 → 55 → 10 HZ with about a 1 minute 1.5mm in total amplitude                                                                           |
|          |                                                 | 容量變化<br>Capacitance           |                                                                                      |                                                                                                                                                         |                                                                                                                                                                                                                           |
|          |                                                 | Q 或 tan σ<br>Q or tan σ       |                                                                                      |                                                                                                                                                         |                                                                                                                                                                                                                           |
| 10       | 焊錫耐熱性<br>Soldering<br>heat-resistance           | 外 观 Appearance                |                                                                                      |                                                                                                                                                         | 焊錫溫度 350 ± 10 °C<br>Soldering Temperature 350±10 °C<br>浸漬時間 3.5 ± 0.5 秒                                                                                                                                                   |
|          |                                                 | 容量變化<br>Capacitance<br>Change | CLASS 1                                                                              | 在 ± 2.5 % 或 ± 0.25PF 以內取較大值。<br>within ±2.5% or ± 0.25PF, takes bigger value.                                                                           | 10-1<br>10-2<br>10-3<br>10-4                                                                                                                                                                                              |
|          |                                                 |                               | CLASS 2 3                                                                            | B : ≤ ± 5 %<br>D : ≤ ± 10%<br>E : ≤ ± 15%<br>F : ≤ ± 20%                                                                                                |                                                                                                                                                                                                                           |
|          |                                                 |                               | 耐电压<br>Dielectric Strength                                                           |                                                                                                                                                         | 无任何异常发生<br>No failure                                                                                                                                                                                                     |
|          |                                                 | 11                            | 焊錫附著性<br>Solderability of Leads                                                      | 導線之橫截面積上須有圓周之 3 / 4 以上之面積為焊錫所付著。<br>Lead wire should be soldered with uniform coating on the axial direction over 3/4 of the circumferential direction. |                                                                                                                                                                                                                           |
|          |                                                 |                               |                                                                                      |                                                                                                                                                         |                                                                                                                                                                                                                           |
| 12       | 耐溶劑性<br>(本體)<br>Solvent<br>Resistance<br>(Body) |                               | 試驗後其電性能須符合標準。<br>After the test must meet the standards of its electrical properties |                                                                                                                                                         | 將樣本完全浸漬於丙醇溶劑中 5±0.5 分後取出，觀察本體有無溶解，而後放置於常溫中 48 小時，量測其電氣特性。<br>The capacitor should be immersed into a isopropyl alcohol for 5±0.5 minutes, then removed and placed for 48 hrs. at room condition before post measurements. |

| 编号<br>No | 项 目<br>Item                                   | 性 能<br>Performance            |                  |                                                                              | 试验方法<br>Test Method                                                                                                                                                                                                                                |
|----------|-----------------------------------------------|-------------------------------|------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13       | 耐濕性<br>Humidity<br>(Under<br>Steady<br>State) | 外觀<br>Appearance              |                  | 無顯著之異常<br>No marked defect                                                   | 溫度：40 ± 2 °C<br>Temperature：40 ± 2 °C<br><br>濕度：90 ~ 95 % RH<br>Humidity: 90 ~ 95 %RH<br><br>時間：500 ± 12 小時<br>Time：500 ± 12 Hrs.<br><br>取出置常溫下 1 ~ 2 小時后<br>測定之<br>After humidity test, placed at<br>room condition 1~ 2 hrs, then<br>measure it. |
|          |                                               | 容量變化<br>Capacitance<br>Change | CLAS<br>S<br>1   | 在±2.5%或±0.5PF 以內取<br>較大值。<br>within ±2.5% or ±<br>0.5PF, takes bigger value. |                                                                                                                                                                                                                                                    |
|          |                                               |                               | CLAS<br>S<br>2-3 | B : ≤ ± 5 %<br>D : ≤ ± 10%<br>E : ≤ ± 15%<br>F : ≤ ± 20%                     |                                                                                                                                                                                                                                                    |
|          |                                               | Q                             | CLASS<br>1       | 參考附圖 1<br>Refer to attached figure 1.                                        |                                                                                                                                                                                                                                                    |
|          |                                               | Tan<br>σ<br>(%)               | CLASS<br>2-3     | B、D、E 特性在 5%以下,F 特性<br>7.5%以下<br>B、D、E, < 5%. F, < 7.5 %                     |                                                                                                                                                                                                                                                    |
|          |                                               |                               | CLASS<br>1       | ≧ 1000 MΩ                                                                    |                                                                                                                                                                                                                                                    |
|          |                                               |                               | CLASS<br>2       | ≧ 1000 MΩ or 20 Ω F, 取小<br>者.take the small one.                             |                                                                                                                                                                                                                                                    |
|          |                                               |                               | CLASS<br>3       | 16V ≧50 MΩ or 5 Ω F,取小<br>者.take the small one.                              |                                                                                                                                                                                                                                                    |
|          |                                               |                               |                  | 25V<br>50V ≧500 MΩ or 20 Ω F, 取小<br>者.take the small one.                    |                                                                                                                                                                                                                                                    |
|          |                                               | 耐電壓<br>Dielectric Strength    |                  | 無任何異常<br>No failure                                                          |                                                                                                                                                                                                                                                    |

| 编号<br>No        | 项 目<br>Item              | 性 能<br>Performance                                       |                            |                                                                                     |                     |           | 试验方法<br>Test Method                                                                                                                                                                                                                                                                                                                    |     |
|-----------------|--------------------------|----------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------|---------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 14              | 耐濕負荷<br>Humidity Loading | 外 觀<br>Appearance                                        |                            | 無顯著之異常<br>No marked defect                                                          |                     | 14-1      | 溫度：40 ± 2 ℃<br>Temperature : 40 ±2 ℃<br><br>濕度：90 ～95 % RH<br>Humidity: 90 ～ 95 % RH<br><br>時間：500 ± 12 小時<br>Time : 500 ± 12 Hrs<br><br>電壓：依額定電壓印加之。<br>Voltage: Apply the rated voltage<br><br>電流： 50 MA 以下。<br>Current: < 50 MA<br><br>取出置常溫下 1～2 小時后測定之<br>After humidity test, placed at room condition 1～2 hrs, then measure it. |     |
|                 |                          |                                                          |                            |                                                                                     |                     | 14-2      |                                                                                                                                                                                                                                                                                                                                        |     |
|                 |                          |                                                          |                            |                                                                                     |                     | 14-3      |                                                                                                                                                                                                                                                                                                                                        |     |
|                 |                          |                                                          |                            |                                                                                     |                     | 14-4      |                                                                                                                                                                                                                                                                                                                                        |     |
|                 |                          | 容量<br>變化<br>Capacitan<br>ce<br>Change                    | CLASS<br>1                 | 在±7.5%或±0.75 PF<br>以內取較大值。<br>whithin ± 7.5%<br>or ± 0.75 PF,<br>take the lage one. |                     | 14-5      |                                                                                                                                                                                                                                                                                                                                        |     |
|                 |                          |                                                          |                            |                                                                                     |                     | 14-6      |                                                                                                                                                                                                                                                                                                                                        |     |
|                 | CLASS<br>2-3             | B : ≤ ± 5 %<br>D : ≤ ± 10%<br>E : ≤ ± 15%<br>F : ≤ ± 20% |                            |                                                                                     |                     |           |                                                                                                                                                                                                                                                                                                                                        |     |
|                 |                          |                                                          |                            |                                                                                     |                     |           |                                                                                                                                                                                                                                                                                                                                        |     |
| Q               | CLASS<br>2               | 參考附圖 1<br>Refer to<br>attached figure<br>1.              |                            | 絕緣電阻<br>Insulation<br>Resistance                                                    | CLASS<br>1,2        | ≥ 500 M Ω |                                                                                                                                                                                                                                                                                                                                        |     |
| Tan<br>σ<br>(%) | CLASS<br>2               | B、D、E, < 5 %<br>F < 7.5 %                                |                            |                                                                                     | CLASS<br>3          | 16V       | ≥ 50 M Ω or 5 Ω F,<br>之 較 小 值 上 take the<br>small one.                                                                                                                                                                                                                                                                                 |     |
|                 |                          |                                                          |                            |                                                                                     |                     |           | CLASS<br>3                                                                                                                                                                                                                                                                                                                             | 16V |
|                 | 25V<br>50V               | <7.5%                                                    | 耐電壓<br>Dielectric Strength |                                                                                     | 無任何異常<br>No failure |           |                                                                                                                                                                                                                                                                                                                                        |     |

| 编号<br>No                   | 项目<br>Item                                         | 性能<br>Performance                            |              |                                                                             |                                                | 试验方法<br>Test Method                                                                                                                                                                                                                                                       |
|----------------------------|----------------------------------------------------|----------------------------------------------|--------------|-----------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15                         | 高温<br>负荷<br>High<br>temper<br>ature<br>loadin<br>g | 外 觀<br>Appearance                            |              | 無顯著之異常<br>No marked defect                                                  | 15-1<br>15-2<br>15-3<br>15-4<br>15-5           | 溫度： 85 ± 3 ℃<br>Temperature : 85 ± 3 ℃<br>時間：1000 ± 12 小時<br>Time : 1000 ± 12 hrs<br>電壓：依額定電壓印加之。<br>Voltage: Apply the rated voltage<br>電流：50 MA 以下。<br>Current: < 50 MA<br>取出置常溫下 1~2 小時后測定之<br>After humidity test, placed at room condition 1~2 hrs, then measure it. |
|                            |                                                    | 容量<br>變化<br>Capacitance<br>Change            | CLASS<br>1   | 在 ±3%或±0.3 PF 以內取較大<br>值。<br>Within ±3 % or ± 0.3 PF, take the<br>lage one. |                                                |                                                                                                                                                                                                                                                                           |
|                            |                                                    |                                              | CLASS<br>2-3 | B : ≤ ± 5 %<br>D : ≤ ± 10%<br>E : ≤ ± 15%<br>F : ≤ ± 20%                    |                                                |                                                                                                                                                                                                                                                                           |
|                            |                                                    | Q                                            | CLASS<br>1   | 參考附圖 1<br>Refer to attached figure 1.                                       |                                                |                                                                                                                                                                                                                                                                           |
|                            |                                                    | Tan<br>σ<br>(%)                              | CLASS<br>2   | B、D、E 特性在 4%以下<br>Char. B、D、E, < 4 %<br>F 特性 7.5%以下<br>Char. F < 7.5 %      |                                                |                                                                                                                                                                                                                                                                           |
|                            |                                                    |                                              | CLASS<br>3   | 16V                                                                         | < 10 %                                         |                                                                                                                                                                                                                                                                           |
|                            |                                                    | 25V<br>50V                                   |              | < 7.5 %                                                                     |                                                |                                                                                                                                                                                                                                                                           |
|                            |                                                    | 絕緣<br>電阻<br>Insulati<br>on<br>Resista<br>nce | CLASS<br>1   | 1000MΩ 以上<br>≧ 1000MΩ                                                       |                                                |                                                                                                                                                                                                                                                                           |
|                            |                                                    |                                              | CLASS<br>2   | ≧ 1000 MΩ or 20 Ω F, 取小<br>者。take the small one.                            |                                                |                                                                                                                                                                                                                                                                           |
|                            |                                                    |                                              | CLASS<br>3   | 16V                                                                         | ≧ 50 MΩ or 5 Ω F,<br>取小者.take the small one.   |                                                                                                                                                                                                                                                                           |
|                            |                                                    |                                              |              | 25V<br>50V                                                                  | ≧ 500 MΩ or 20 Ω F,<br>取小者.take the small one. |                                                                                                                                                                                                                                                                           |
| 耐電壓<br>Dielectric Strength |                                                    | 無任何異常<br>No marked defec                     |              |                                                                             |                                                |                                                                                                                                                                                                                                                                           |

溫度:  $85 \pm 3^\circ\text{C}$ Temperature :  $85 \pm 3^\circ\text{C}$ 時間:  $1000 \pm 12$  小時Time :  $1000 \pm 12$  hrs

電壓: 依額定電壓印加之。

Voltage: Apply the rated voltage

電流: 50 MA 以下。

Current:  $< 50$  MA

取出置常溫下 1~2 小時后測定之

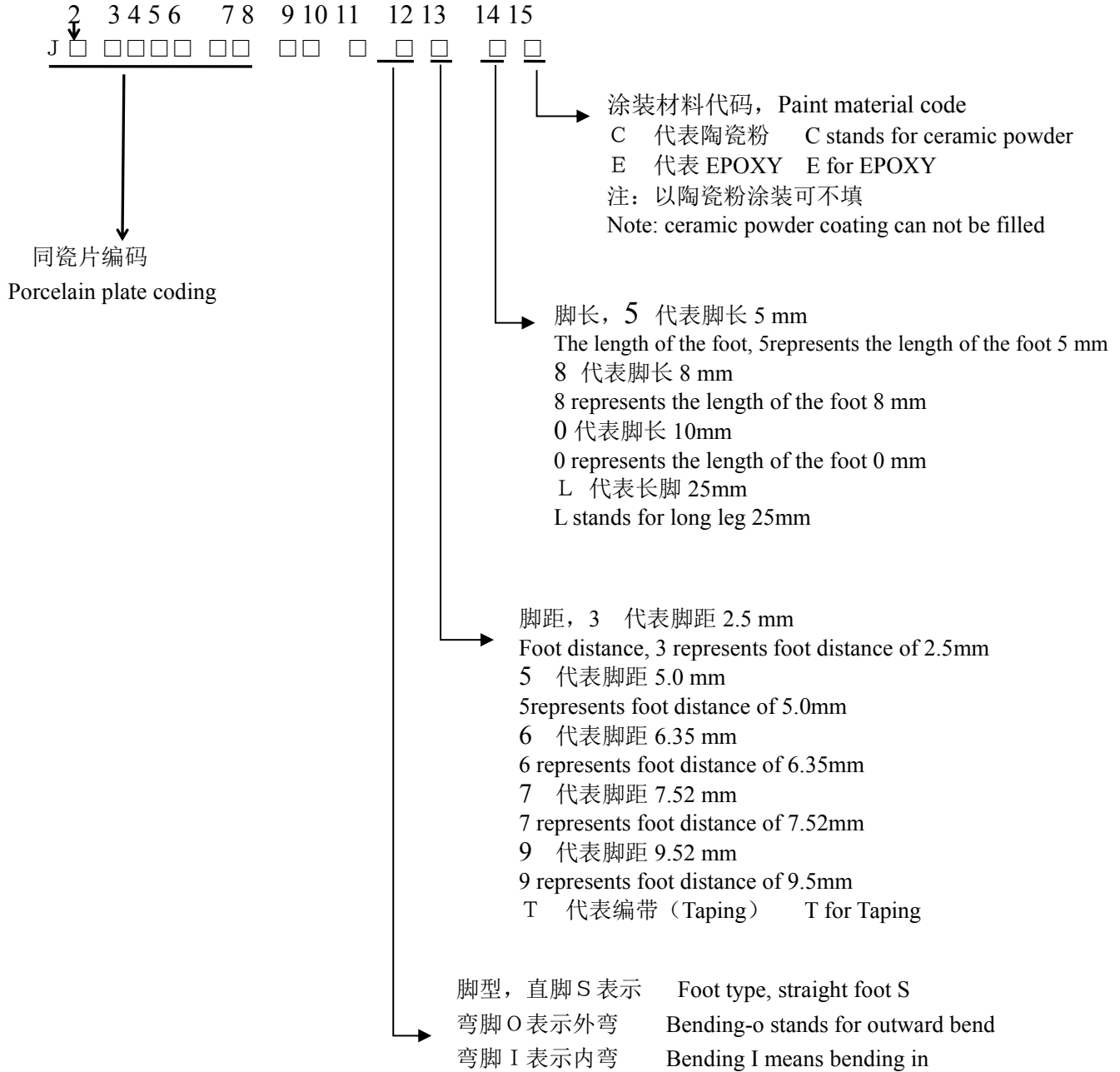
After humidity test, placed at room condition 1~2 hrs, then measure it.

| 附圖一<br>Attached figure<br>1 | 適用項目<br>Applied Item                                                                                                    | 規格值<br>Specification                                                                                                                         |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
|                             | 初期值 〈5〉 耐振性 〈9〉<br>Initial Value 〈5〉 Vibration Resistance 〈9〉                                                           | $\geq 30\text{PF}$ Q $\geq 1000$<br>$< 30\text{PF}$ Q $\geq 400 + 20\text{C}$                                                                |
|                             | 溫度以及浸漬循環 〈12〉 耐濕性 〈13〉, 高溫負荷 〈15〉<br>Temperature and immersion cycle 〈12〉, Humidity 〈13〉, High temperature loading 〈15〉 | $\geq 30\text{PF}$ Q $\geq 350$<br>$10\text{PF} \sim 30\text{PF}$ Q $\geq 275 + 5 / 20\text{C}$<br>$< 10\text{PF}$ Q $\geq 200 + 10\text{C}$ |
|                             | 耐濕負荷 〈14〉 Humidity Loading 〈14〉                                                                                         | $\geq 30\text{PF}$ Q $\geq 200$<br>$< 30\text{PF}$ Q $\geq 100 + 10 / 3\text{C}$                                                             |
|                             |                                                                                                                         |                                                                                                                                              |

成品之編碼原則上以十五碼完成，亦以阿拉伯數字與英文字母混合編成，第二碼至第十一碼與瓷片相同。第一碼以 J 代表自製（取 JEC 商標第一字）

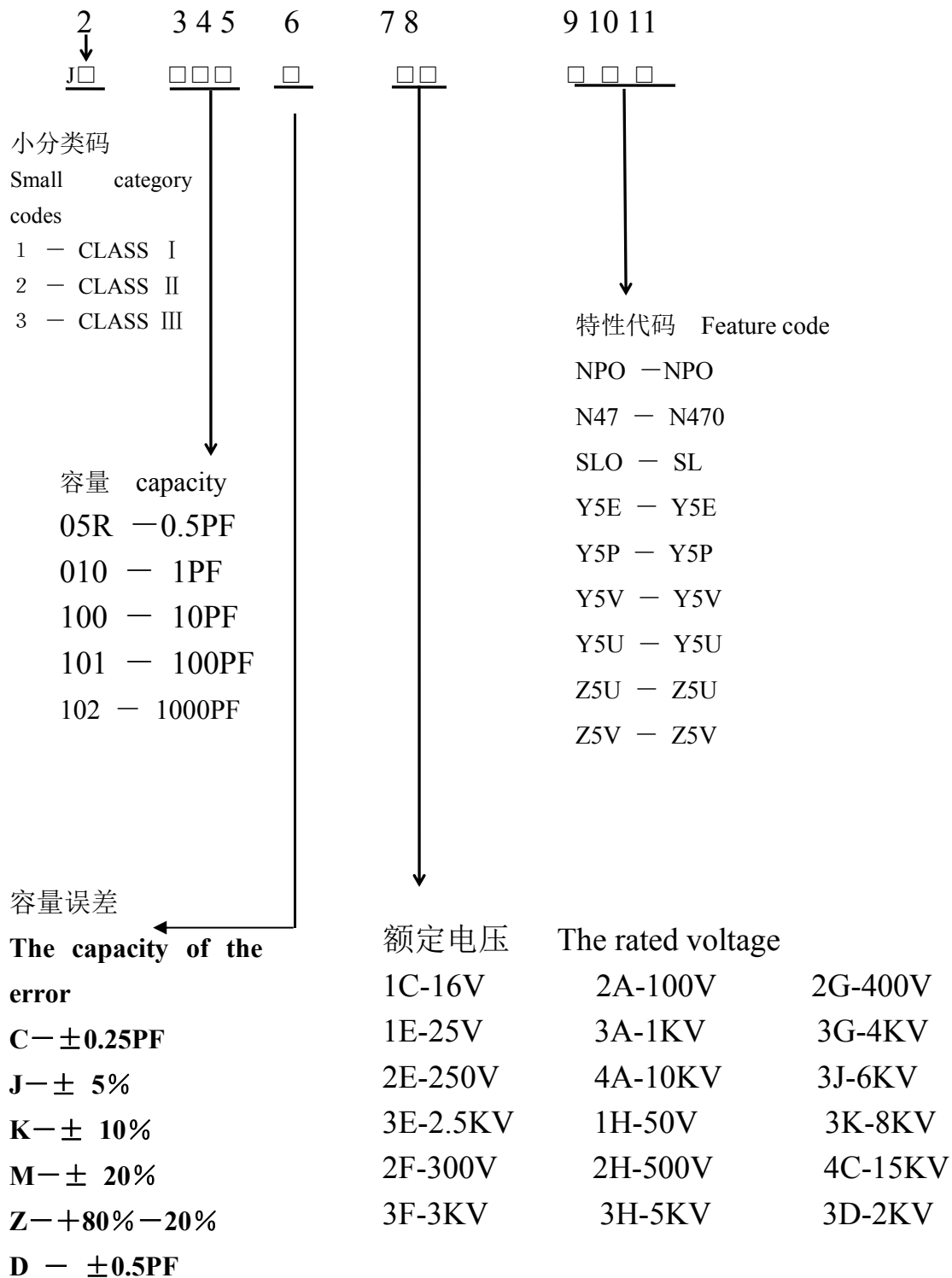
The coding of the finished product is in principle 15 codes, which are mixed with Arabic numerals and English letters  
 Sizes 2 to 11 are the same as the tiles The first code is represented by J (take the first word of JEC trademark).

例：J2472M3AY5VS5LE ( Y5V 472M/1KV 5\*25 )



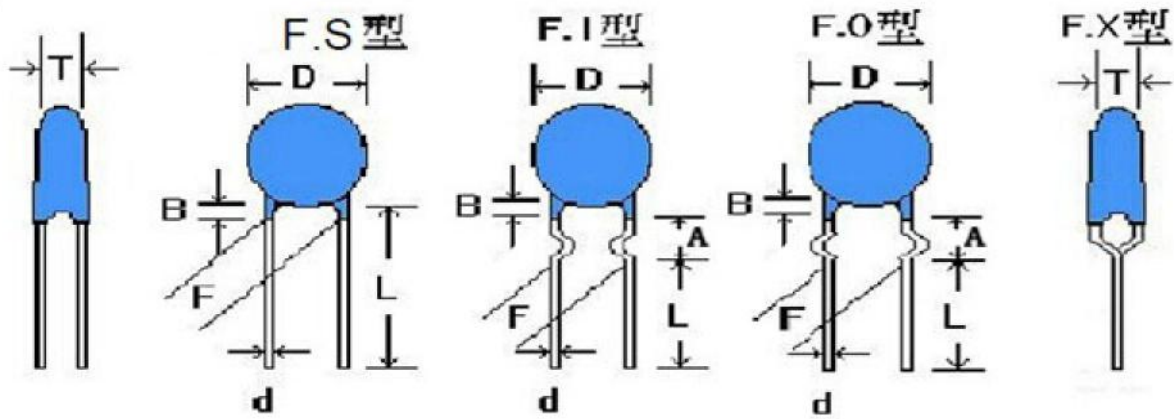
陶瓷瓷片 2-11 編碼規定如下:

The coding of ceramic tiles 2-11 is specified as follows





## Porcelain capacitor shape specification:



| MODE | W.V         | T m/m    | d m/m               | L m/m     | F m/m              | B m/m |
|------|-------------|----------|---------------------|-----------|--------------------|-------|
| F.S  | 12V - 100V  | 3 m/m    | 0.45 ± 0.05m/m      | 3 - 25m/m | 2.50 m/m ± 0.8     | 2m/m  |
|      | 500V - 1KV  | 3 m/m    | 0.48 ± 0.05m/m      | 3 - 25m/m | 5.0 m/m ± 0.8      |       |
|      | 2KV - 3KV   | 4 m/m    | 0.55 ± 0.06m/m      | 3 - 25m/m | 6.35 m/m ± 0.8     |       |
|      | 4KV - 8KV   | 6 m/m    | 0.55 ± 0.07m/m      | 3 - 25m/m | 7.50 m/m ± 0.8     |       |
|      | 10KV - 15KV | 8-10 m/m | 0.55-0.80 ± 0.08m/m | 3 - 25m/m | 9.52-12.0m/m ± 0.8 |       |
| F.I  | 12V - 100V  | 3 m/m    | 0.48 ± 0.07m/m      | 3 - 25m/m | 5.00 m/m ± 0.8     | 4m/m  |
|      | 500V - 10KV | 8 m/m    | 0.55 ± 0.08m/m      | 3 - 25m/m | 9.50m/m ± 0.8      |       |

CLASS 1 TEMPERATURE COMPENSATING CAPACITOR  
 CLASS 2 HIGH DIELECTRIC CONSTANT CAPACITOR  
 CLASS 3 SEMICONDUCTIVE CAPACITOR  
 CLASS 1. 2. HIGH VOLTAGE CERAMIC CAPACITOR  
 CLASS 1. 2. 3. APING SPECIFICATIONS

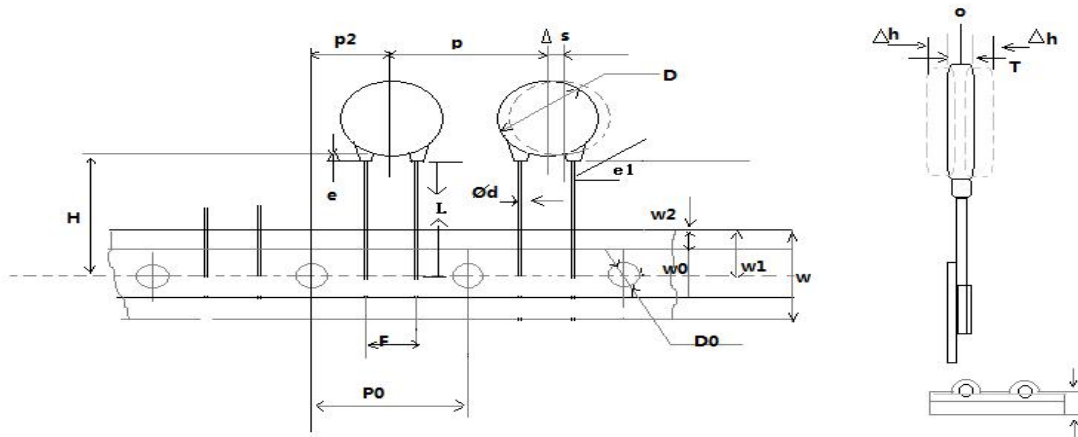
*Packing Quantity*

| Packing   | Safety    | High Voltage      | Ceramic      |
|-----------|-----------|-------------------|--------------|
|           | Capacitor | Capacitor(Y1, Y2) | Capacitor DC |
| Bulk      | 1000PCS   | 1000PCS           | 2000PCS      |
| Tape Ammo | 2000PCS   | 1500PCS           | 2000PCS      |

RoHS Compliance

## TAPING SPECIFICATIONS

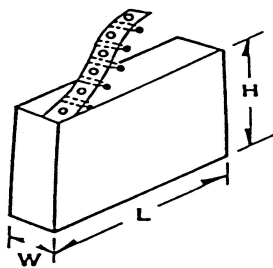
## Taping (Radial)



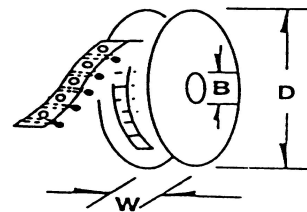
| Item                              |              | Code | Dimensions (mm)                | Item                        | Code       | Dimensions (mm)          |
|-----------------------------------|--------------|------|--------------------------------|-----------------------------|------------|--------------------------|
| Taping Pitch                      |              | P    | $12.7 \pm 1.0$                 | Lead Protrusion             | l          | $+0.5 \sim 1.0$          |
| Guide Pitch                       |              | Po   | $12.7 \pm 1.0$                 | Diameter of Feed Hole       | Do         | $4.0 \pm 0.3$            |
| Lead Spacing                      |              | F    | $5.0 \pm 0.8$<br>$7.5 \pm 0.8$ | Diameter of Lead            | d          | $0.55 + 0.06$<br>$-0.05$ |
| Feed Hole Position Capacitor Body |              | P2   | 6.35                           | Total Thickness of Tape     | t          | $0.7 \pm 0.2$            |
| Feed Hole Position Capacitor Lead |              |      |                                | Thickness of Capacitor Body | T          | Differ in each product   |
| Diameter Of ISO                   |              | D    | See table of each series       | Alignment to FR. Direction  | $\Delta h$ | $0 \pm 2.0$              |
|                                   |              |      |                                | Length of snapped Lead      | L          | $17.0 + 0 - 1.0$         |
| Width Of Base Tape                |              | W    | $18.0 \pm 0.5$                 | Width of Hold-down Tape     | Wo         | 12.5                     |
| Feed Hole Vertical Position       |              | W1   | $9.0 + 0.75 - 0.05$            | Hold-down Tape Position     | W2         | $1.5 \pm 1.5$            |
| Taping Height                     | For Straight | Ho   | $16.0 \pm 0.5$                 | Coating Extention           | e          | 3.0 以下                   |
|                                   | For Crimp    | H    | $20 + 2.5 - 2.0$               |                             | e1         | up to center of crimp    |

AMMO PACK

REEL



$$\begin{aligned}
 H &= 234 \pm 5 \text{ mm} \\
 L &= 345 \pm 5 \text{ mm} \\
 W &= 50 \pm 3 \text{ mm}
 \end{aligned}$$



$$\begin{aligned}
 D &\cong 354(13.93) \\
 B &\cong 21(.83') \text{ but} \\
 &\cong 30(1.18) \\
 W &\cong 55(2.16)
 \end{aligned}$$

Acceptable to standard radial type cartridge.

Acceptable to standard radial type cartridge with a few extra accessories. Reeled axials are also acceptable to standard axial type cartridge with a few accessories.

# **■ HIGH VOLTAGE** TEMPERATURE COMPENSATING CAPACITOR

## Applications:

- Resonant circuit.
- High Q requirement.
- High stability Cap. Char.

## Specifications:

|                  |       |              |  |  |  |  |
|------------------|-------|--------------|--|--|--|--|
| Capacitance<br>C | Range | 1 PF ~ 680PF |  |  |  |  |
|------------------|-------|--------------|--|--|--|--|

T. C.CHART

Applications:

- By-pass and coupling.
- Frequency discriminating circuits where Q and stability of Cap. Char. are not major importance.

## ■ HIGH VOLTAGE HIGH DIELECTRIC CONSTANT CAPACITOR

Applications:

- By-pass and coupling.
- Frequency discriminating circuits where Q and stability of Cap. Char. are not major importance.

Specifications:

|                                     |                                                               |                                                            |                |                     |            |            |
|-------------------------------------|---------------------------------------------------------------|------------------------------------------------------------|----------------|---------------------|------------|------------|
| Capacitance<br>(C)                  | Range                                                         | 100 PF ~ 47000PF measured at 1KHz±10%, 1.0 — 5.0 Vrms, 25℃ |                |                     |            |            |
|                                     | Tolerance                                                     | Code                                                       | K              | M                   | Z          | P          |
|                                     |                                                               |                                                            | ±10%           | ±20%                | +80%, −20% | +100%, −0% |
| Dissipation<br>Factor (D.F)         | 2.5% Max.                                                     | at 1KHz, 1.0 Vrms, 25℃ for Y5E , Y5P,Z5U                   |                |                     |            |            |
|                                     | 5.0% Max.                                                     | at 1KHz, 1.0 Vrms, 25℃ for Z5V                             |                |                     |            |            |
| Insulation<br>Resistance<br>( I R ) | 10000 MΩ min, measured at W.V.D.C, but not exceeding 500 VDC. |                                                            |                |                     |            |            |
| Voltage                             | Working voltage (W.V.)                                        |                                                            | 500V ~ 10KV DC |                     |            |            |
|                                     | Test Condition                                                |                                                            |                | Test Voltage        | Time       | Current    |
|                                     |                                                               |                                                            | W.V. = 500V    | 3.0 × W.V.          | 1 ~ 5 sec. | < 50 mA    |
|                                     |                                                               |                                                            | W.V.= 1KV/2KV  | 2.0 × W.V.          | 1 ~ 5 sec. | < 50 mA    |
|                                     |                                                               |                                                            | W.V.= 3KV/5KV  | 1.5 × W.V.          | 1 ~ 5 sec. | < 50 mA    |
|                                     |                                                               |                                                            | W.V.≧ 6KV      | 1.2 × W.V.          | 1 ~ 5 sec. | < 50 mA    |
| Operating<br>Temp. Range            | Type Code                                                     | Max. Change in Cap.                                        |                | Temp. Range         |            |            |
|                                     | Y5E                                                           | ±4.7%                                                      |                |                     |            |            |
|                                     | Y5P/X7R                                                       | ±10%                                                       |                | − 2 5 ℃ t o + 8 5 ℃ |            |            |
|                                     | Y5U                                                           | +22%, −56%                                                 |                | − 2 5 ℃ t o + 8 5 ℃ |            |            |
|                                     | Y5V                                                           | +22%, −82%                                                 |                | − 2 5 ℃ t o + 8 5 ℃ |            |            |
|                                     | The reference temperature: 25 ℃                               |                                                            |                |                     |            |            |