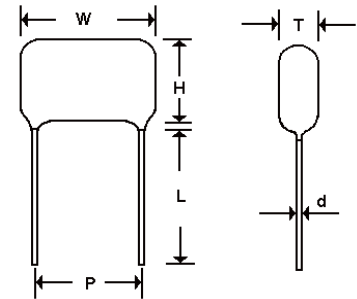


## CL21(MEF) Type Metallized Polyester Film Capacitor

### 1. Features

- ◆ Metallized polyester film, non-inductive construction
- ◆ Wide capacitance range, small size
- ◆ Self-healing property, long life
- ◆ Epoxy resin sealing



Drawing of CL21 Series

### 2. Typical applications

- ◆ Suitable blocking, By-passing, and coupling
- ◆ Widely used in filter and low pulse circuits

### 3. Specifications

| No | Item                        | Demand of performance                                 | Methods of testing                      |
|----|-----------------------------|---|---|
| 1  | Reference standard          | GB7332 (IEC60384-2)                                   |   |
| 2  | Operating Temperature Range | -40~+85°C   |   |
| 3  | Rated Voltage               | 100VDC 250VDC<br>400VDC 630VDC                        |   |
| 4  | Capacitance Range           | 0.01μF -10μF 1KHz 1.0V                                |   |
| 5  | Capacitance Tolerance       | ±5% (J) ±10% (K)<br>1KHz 1.0V; Standard tol. : +/-10% |   |
| 6  | Voltage Proof (V)           | No failure<br>Rated Voltage *1.6U <sub>R</sub>        | Charge current≤50mA<br>Voltage time: 5S |
| 7  | Dissipation Factor (tg δ)   | tgδ≤0.01 1KHz   | Test conditions :<br>1KHz, 1.0Vrms、20°C |
| 8  | Insulation Resistance       | C≤0.33μF ,IR>30000MΩ<br>C>0.33μF ,IR≥10000S(MΩ/μF)    | AT 100VDC 60SEC                         |

### 4. How to order: please refer to part number system



5. CL21 Series Capacitors Dimensions (Table 1)

Unit: mm

| VDC   |      | 100V  |      |      |      |     | 250V  |      |      |      |     | 400V  |      |      |      |      | 630V  |      |      |      |      |     |
|-------|------|-------|------|------|------|-----|-------|------|------|------|-----|-------|------|------|------|------|-------|------|------|------|------|-----|
| uF    | Code | Pitch | Wmax | Tmax | Hmax | d   | Pitch | Wmax | Tmax | Hmax | d   | Pitch | Wmax | Tmax | Hmax | d    | Pitch | Wmax | Tmax | Hmax | d    |     |
| 0.01  | 103  | 10    | 13.0 | 6.0  | 9.0  | 0.6 | 10    | 13.0 | 6.0  | 9.0  | 0.6 | 10    | 13.0 | 6.0  | 9.0  | 0.6  | 10    | 13.0 | 6.0  | 9.0  | 0.6  |     |
| 0.015 | 153  | 10    | 13.0 | 6.0  | 9.0  | 0.6 | 10    | 13.0 | 6.0  | 9.0  | 0.6 | 10    | 13.0 | 6.0  | 9.0  | 0.6  | 10    | 13.0 | 6.0  | 9.0  | 0.6  |     |
| 0.018 | 183  | 10    | 13.0 | 6.0  | 9.0  | 0.6 | 10    | 13.0 | 6.0  | 9.0  | 0.6 | 10    | 13.0 | 6.0  | 11.0 | 0.6  | 10    | 13.0 | 6.0  | 11.0 | 0.6  |     |
| 0.022 | 223  | 10    | 13.0 | 6.0  | 9.0  | 0.6 | 10    | 13.0 | 6.0  | 9.0  | 0.6 | 10    | 13.0 | 7.0  | 11.0 | 0.6  | 10    | 13.0 | 7.0  | 11.0 | 0.6  |     |
|       |      |       |      |      |      |     |       |      |      |      |     |       | 15   | 18.0 | 6.0  | 9.0  | 0.8   |      |      |      |      |     |
| 0.027 | 273  | 10    | 13.0 | 6.0  | 9.0  | 0.6 | 10    | 13.0 | 6.0  | 9.0  | 0.6 | 10    | 13.0 | 6.0  | 9.0  | 0.6  | 10    | 13.0 | 6.0  | 9.0  | 0.6  |     |
| 0.033 | 333  |       |      |      |      |     |       |      |      |      |     | 10    | 13.0 | 6.0  | 10.0 | 0.6  | 10    | 13.0 | 6.0  | 10.0 | 0.6  |     |
|       |      | 10    | 13.0 | 6.0  | 10.0 | 0.6 | 10    | 13.0 | 6.0  | 10.0 | 0.6 |       |      |      |      |      | 15    | 18.0 | 6.0  | 10.0 | 0.8  |     |
| 0.039 | 393  |       |      |      |      |     |       |      |      |      |     |       |      |      |      |      | 15    | 18.0 | 7.0  | 11.0 | 0.8  |     |
|       |      | 10    | 13.0 | 6.0  | 10.0 | 0.6 | 10    | 13.0 | 7.0  | 10.0 | 0.6 | 10    | 13.0 | 6.0  | 10.0 | 0.6  | 10    | 13.0 | 6.0  | 10.0 | 0.6  |     |
| 0.047 | 473  |       |      |      |      |     |       |      |      |      |     | 15    | 18.0 | 7.0  | 11.0 | 0.8  | 10    | 13.0 | 7.0  | 10.5 | 0.6  |     |
|       |      | 10    | 13.0 | 7.0  | 10.5 | 0.6 | 10    | 13.0 | 7.0  | 10.5 | 0.6 | 10    | 13.0 | 7.0  | 10.5 | 0.6  | 15    | 18.0 | 7.0  | 10.5 | 0.8  |     |
| 0.056 | 563  |       |      |      |      |     |       |      |      |      |     |       |      |      |      |      | 10    | 13.0 | 8.0  | 11.0 | 0.6  |     |
|       |      |       |      |      |      |     |       |      |      |      |     |       |      |      |      |      | 15    | 18.0 | 6.0  | 9.0  | 0.8  |     |
|       |      | 10    | 13.0 | 6.0  | 9.0  | 0.6 | 10    | 13.0 | 6.0  | 9.0  | 0.6 | 10    | 13.0 | 6.0  | 9.0  | 0.6  |       |      |      |      |      |     |
| 0.068 | 683  |       |      |      |      |     |       |      |      |      |     |       |      |      |      |      | 10    | 13.0 | 8.0  | 12.0 | 0.6  |     |
|       |      | 10    | 13.0 | 6.5  | 10.0 | 0.6 | 10    | 13.0 | 6.5  | 10.0 | 0.6 | 10    | 13.0 | 6.5  | 10.0 | 0.6  | 15    | 18.0 | 6.0  | 10.0 | 0.8  |     |
| 0.082 | 823  | 10    | 13.0 | 7.0  | 10.0 | 0.6 | 10    | 13.0 | 7.0  | 10.0 | 0.6 | 10    | 13.0 | 7.0  | 10.0 | 0.6  | 10    | 13.0 | 7.5  | 12.0 | 0.6  |     |
| 0.1   | 104  |       |      |      |      |     |       |      |      |      |     |       |      |      |      |      | 10    | 13.0 | 8.0  | 13.0 | 0.6  |     |
|       |      |       |      |      |      |     |       |      |      |      |     |       |      |      |      |      | 15    | 18.0 | 6.5  | 12.0 | 0.8  |     |
|       |      | 10    | 13.0 | 7.0  | 10.0 | 0.6 | 10    | 13.0 | 7.0  | 10.0 | 0.6 | 15    | 18.0 | 6.5  | 12.0 | 0.8  | 20    | 23.0 | 8.0  | 13.0 | 0.8  |     |
| 0.15  | 154  |       |      |      |      |     |       |      |      |      |     | 15    | 18.0 | 6.0  | 10.0 | 0.8  |       |      |      |      |      |     |
|       |      | 10    | 13.0 | 7.0  | 10.0 | 0.6 | 10    | 13.0 | 7.0  | 10.0 | 0.6 | 10    | 13.0 | 7.5  | 12.0 | 0.6  | 15    | 18.0 | 8.0  | 13.5 | 0.8  |     |
| 0.18  | 184  |       |      |      |      |     |       |      |      |      |     | 22.5  | 25.0 | 6.0  | 11.5 | 0.8  | 15    | 18.0 | 8.5  | 13.5 | 0.8  |     |
|       |      | 10    | 13.0 | 7.0  | 10.0 | 0.6 | 10    | 13.0 | 7.0  | 11.0 | 0.6 | 15    | 18.0 | 7.0  | 11.5 | 0.8  | 22.5  | 25.0 | 7.0  | 12.0 | 0.8  |     |
| 0.22  | 224  |       |      |      |      |     |       |      |      |      |     | 20    | 23.0 | 6.0  | 10.0 | 0.8  | 22.5  | 25.0 | 7.0  | 12.5 | 0.8  |     |
|       |      |       |      |      |      |     |       |      |      |      |     |       | 10   | 13.0 | 9.0  | 13.5 | 0.6   | 15   | 18.0 | 9.5  | 14.5 | 0.8 |
|       |      | 10    | 13.0 | 7.0  | 11.0 | 0.6 | 15    | 18.0 | 7.0  | 11.5 | 0.8 | 15    | 18.0 | 7.0  | 11.5 | 0.8  | 20    | 23.0 | 8.0  | 13.0 | 0.8  |     |
| 0.27  | 274  | 10    | 13.0 | 7.0  | 11.0 | 0.6 |       |      |      |      |     |       |      |      |      |      |       |      |      |      |      |     |
|       |      | 15    | 18.0 | 6.0  | 10.0 | 0.8 | 15    | 18.0 | 6.0  | 10.0 | 0.8 | 15    | 18.0 | 7.0  | 12.5 | 0.8  | 20    | 23.0 | 8.0  | 14.0 | 0.8  |     |
| 0.33  | 334  |       |      |      |      |     |       |      |      |      |     | 15    | 18.0 | 7.0  | 12.5 | 0.8  | 27.5  | 31.0 | 7.5  | 13.0 | 0.8  |     |
|       |      | 10    | 13.0 | 7.0  | 11.0 | 0.6 | 10    | 13.0 | 13.5 | 7.5  | 0.6 | 20    | 23.0 | 7.0  | 12.0 | 0.8  | 22.5  | 25.0 | 8.5  | 14.0 | 0.8  |     |
|       |      | 15    | 18.0 | 6.0  | 11.0 | 0.8 | 15    | 18.0 | 6.0  | 11.0 | 0.8 | 22.5  | 25.0 | 6.0  | 10.5 | 0.8  | 20    | 23.0 | 9.0  | 14.0 | 0.8  |     |
| 0.39  | 394  | 10    | 13.0 | 8.0  | 12.0 | 0.6 |       |      |      |      |     |       |      |      |      |      | 27.5  | 31.0 | 7.5  | 14.0 | 0.8  |     |
|       |      | 15    | 18.0 | 7.0  | 11.0 | 0.8 | 15    | 18.0 | 7.0  | 11.0 | 0.8 | 15    | 18.0 | 8.0  | 14.0 | 0.8  | 20    | 23.0 | 9.0  | 15.5 | 0.8  |     |

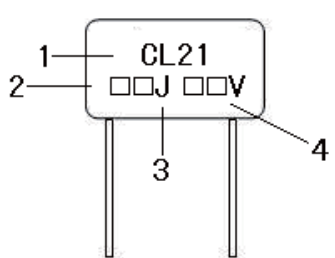


5. CL21 Series Capacitors Dimensions (Table 2)

Unit: mm

| VDC  |      | 100V  |      |      |      |     | 250V  |      |      |      |      | 400V  |      |      |      |     | 630V  |      |      |      |      |     |
|------|------|-------|------|------|------|-----|-------|------|------|------|------|-------|------|------|------|-----|-------|------|------|------|------|-----|
| uF   | Code | Pitch | Wmax | Tmax | Hmax | d   | Pitch | Wmax | Tmax | Hmax | d    | Pitch | Wmax | Tmax | Hmax | d   | Pitch | Wmax | Tmax | Hmax | d    |     |
| 0.47 | 474  |       |      |      |      |     |       |      |      |      |      | 15    | 18.0 | 9.0  | 15.0 | 0.8 |       |      |      |      |      |     |
|      |      | 10    | 13.0 | 7.0  | 13.0 | 0.6 |       |      |      |      |      | 20    | 23.0 | 7.0  | 14.0 | 0.8 | 20    | 23.0 | 10.0 | 17.0 | 0.8  |     |
|      |      | 15    | 18.0 | 7.0  | 12.0 | 0.8 | 15    | 18.0 | 7.0  | 12.0 | 0.8  | 22.5  | 25.0 | 7.0  | 14.0 | 0.8 | 22.5  | 25.0 | 9.0  | 16.0 | 0.8  |     |
|      |      |       |      |      |      |     |       |      |      |      |      |       |      |      |      |     |       | 27.5 | 31.0 | 8.0  | 15.5 | 0.8 |
| 0.5  | 504  | 15    | 18.0 | 6.0  | 11.0 | 0.8 | 15    | 18.0 | 7.5  | 12.5 | 0.8  | 15    | 18.0 | 8.5  | 15.0 | 0.8 | 20    | 23.0 | 10.5 | 17.5 | 0.8  |     |
| 0.56 | 564  |       |      |      |      |     |       |      |      |      |      | 15    | 18.0 | 9.0  | 16.0 | 0.8 | 20    | 23.0 | 11.0 | 18.0 | 0.8  |     |
|      |      | 10    | 13.0 | 7.0  | 12.0 | 0.6 |       |      |      |      |      | 20    | 23.0 | 8.0  | 15.0 | 0.8 | 22.5  | 25.0 | 10.5 | 17.0 | 0.8  |     |
|      |      | 15    | 18.0 | 7.0  | 12.0 | 0.8 | 15    | 18.0 | 8.0  | 13.0 | 0.8  | 22.5  | 25.0 | 8.0  | 13.5 | 0.8 |       |      |      |      |      |     |
| 0.68 | 684  |       |      |      |      |     |       |      |      |      |      | 20    | 23.0 | 8.0  | 15.0 | 0.8 |       |      |      |      |      |     |
|      |      |       |      |      |      |     |       |      |      |      |      | 15    | 18.0 | 11.0 | 16.0 | 0.8 |       |      |      |      |      |     |
|      |      | 10    | 13.0 | 7.0  | 12.0 | 0.6 |       |      |      |      |      | 22.5  | 25.0 | 8.0  | 15.0 | 0.8 | 20    | 23.0 | 12.0 | 19.0 | 0.8  |     |
|      |      | 15    | 18.0 | 7.0  | 12.5 | 0.8 | 15    | 18.0 | 9.0  | 14.0 | 0.8  | 27.5  | 31.0 | 7.0  | 14.0 | 0.8 |       |      |      |      |      |     |
| 0.82 | 824  |       |      |      |      |     |       |      |      |      |      | 22.5  | 25.0 | 8.5  | 16.0 | 0.8 |       |      |      |      |      |     |
|      |      | 15    | 18.0 | 7.5  | 13.0 | 0.8 | 15    | 18.0 | 9.0  | 15.0 | 0.8  | 20    | 23.0 | 9.0  | 16.0 | 0.8 | 27.5  | 31.0 | 10.0 | 19.0 | 0.8  |     |
| 1    | 105  |       |      |      |      |     |       |      |      |      |      | 20    | 23.0 | 10.0 | 16.5 | 0.8 |       |      |      |      |      |     |
|      |      |       |      |      |      |     |       |      |      |      |      | 22.5  | 25.0 | 10.0 | 16.0 | 0.8 |       |      |      |      |      |     |
|      |      |       |      |      |      |     |       | 15   | 18.0 | 10.0 | 16.0 | 0.8   |      |      |      |     |       | 27.5 | 31.0 | 11.5 | 20.0 | 0.8 |
|      |      | 15    | 18.0 | 8.0  | 13.0 | 0.8 | 20    | 23.0 | 8.0  | 15.0 | 0.8  | 27.5  | 31.0 | 8.5  | 15.0 | 0.8 |       |      |      |      |      |     |
| 1.2  | 125  | 15    | 18.0 | 9.5  | 14.5 | 0.8 | 15    | 18.0 | 11.0 | 16.0 | 0.8  | 27.5  | 31.0 | 9.0  | 15.5 | 0.8 |       |      |      |      |      |     |
|      |      | 20    | 23.0 | 8.0  | 13.0 | 0.8 | 20    | 23.0 | 9.0  | 16.0 | 0.8  | 20    | 23.0 | 11.0 | 18.0 | 0.8 | 27.5  | 31.0 | 12.0 | 21.0 | 0.8  |     |
| 1.5  | 155  | 15    | 18.0 | 10.0 | 15.0 | 0.8 |       |      |      |      |      | 22.5  | 25.0 | 12.0 | 19.0 | 0.8 |       |      |      |      |      |     |
|      |      | 20    | 23.0 | 8.0  | 14.5 | 0.8 | 20    | 23.0 | 10.0 | 16.5 | 0.8  |       |      |      |      |     |       |      |      |      |      |     |
|      |      |       |      |      |      |     | 22.5  | 25.0 | 9.0  | 16.0 | 0.8  | 27.5  | 31.0 | 10.0 | 17.0 | 0.8 | 27.5  | 31.0 | 13.5 | 23.0 | 0.8  |     |
| 1.8  | 185  |       |      |      |      |     |       |      |      |      |      | 22.5  | 25.0 | 12.0 | 20.5 | 0.8 |       |      |      |      |      |     |
|      |      | 20    | 23.0 | 8.0  | 17.0 | 0.8 | 20    | 23.0 | 11.0 | 17.5 | 0.8  | 27.5  | 31.0 | 10.0 | 18.5 | 0.8 |       |      |      |      |      |     |
| 2    | 205  |       |      |      |      |     | 22.5  | 25.0 | 11.0 | 17.5 | 0.8  | 27.5  | 31.0 | 12.0 | 18.5 | 0.8 |       |      |      |      |      |     |
|      |      | 20    | 23.0 | 8.5  | 17.0 | 0.8 | 27.5  | 31.0 | 10.0 | 16.5 | 0.8  |       |      |      |      |     |       |      |      |      |      |     |
| 2.2  | 225  |       |      |      |      |     | 20    | 23.0 | 12.0 | 18.5 | 0.8  | 27.5  | 31.0 | 12.0 | 21.0 | 0.8 |       |      |      |      |      |     |
|      |      |       |      |      |      |     | 22.5  | 25.0 | 11.5 | 18.0 | 0.8  |       |      |      |      |     |       |      |      |      |      |     |
|      |      | 20    | 23.0 | 10.0 | 17.0 | 0.8 | 27.5  | 31.0 | 10.0 | 17.0 | 0.8  |       |      |      |      |     |       |      |      |      |      |     |
| 2.5  | 255  | 20    | 23.0 | 10.0 | 17.0 | 0.8 | 27.5  | 31.0 | 10.0 | 18.5 | 0.8  | 27.5  | 31.0 | 12.5 | 21.0 | 0.8 |       |      |      |      |      |     |
| 2.7  | 275  |       |      |      |      |     | 20    | 23.0 | 13.0 | 19.5 | 0.8  |       |      |      |      |     |       |      |      |      |      |     |
|      |      | 20    | 23.0 | 10.0 | 18.0 | 0.8 | 27.5  | 31.0 | 11.0 | 18.0 | 0.8  | 27.5  | 31.0 | 13.0 | 21.0 | 0.8 |       |      |      |      |      |     |
| 2.9  | 295  | 20    | 23.0 | 10.5 | 18.5 | 0.8 |       |      |      |      |      |       |      |      |      |     |       |      |      |      |      |     |
| 3    | 305  |       |      |      |      |     | 27.5  | 31.0 | 12.0 | 18.5 | 0.8  |       |      |      |      |     |       |      |      |      |      |     |
| 3.3  | 335  | 20    | 23.0 | 11.0 | 19.0 | 0.8 | 27.5  | 31.0 | 12.0 | 20.0 | 0.8  |       |      |      |      |     |       |      |      |      |      |     |
| 4.5  | 455  | 22.5  | 25.0 | 12.0 | 20.0 | 0.8 |       |      |      |      |      |       |      |      |      |     |       |      |      |      |      |     |
|      |      | 27.5  | 31.0 | 11.0 | 19.0 | 0.8 | 27.5  | 31.0 | 13.5 | 21.5 | 0.8  |       |      |      |      |     |       |      |      |      |      |     |

### 6. Marking of Polyester Capacitor

| Example   | Explanation |                          |
|---|-------------|--------------------------|
|  | 1           | CL21: Series code        |
|   | 2           | □□: Capacitance Code     |
|   | 3           | J: Capacitance Tolerance |
|   | 4           | □□V: Rated Voltage       |

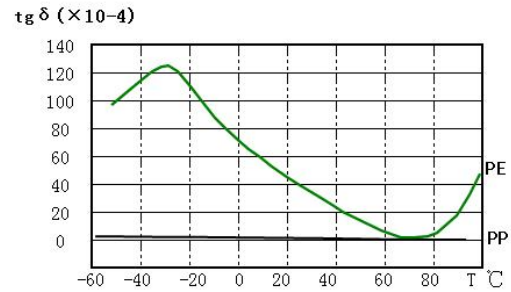
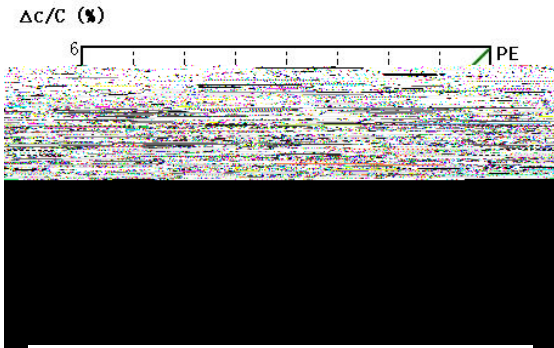
### 7. Test Method and Performance

| No. | Item                         | Demand of performance  |  | Methods of testing  |
|-----|------------------------------|--|--|---|
| 1   | Lead strength Test           | Tensile Strength   | Pin and capacitance ontology was found no damage | ① Lead wire diameter $\leq 0.5$ mm, tensile strength $\geq 0.5\text{kg}/10\text{S}$ ;<br>② Lead wire diameter $> 0.5\text{mm}$ , $\leq 0.8\text{mm}$ , tensile strength $\geq 1.0\text{kg}/10\text{S}$ ;<br>③ Lead wire diameter $> 0.8\text{mm}$ , tensile strength $\geq 2.0\text{kg}/20\text{S}$ . |
|     |                              | Bending Strength   | Pin and capacitance ontology was found no damage | Bending strength: 0.5 kg (5N)<br>Bending time: both sides continuous bending 4 times, each time bending 90 °C.  |
| 2   | Welding heat resistance test | ① Appearance : No visible damage<br>② Flag is clear<br>③ Change rate of capacitance(1KHz)<br>$\Delta C/C \leq 5\%$ of the initial value<br>④ $\text{tg}\delta \leq 0.003$  |  | Soldering Temperature : $260 \pm 5^\circ\text{C}$<br>Soldering Time : $5 \pm 1\text{SEC}$   |
| 3   | Solder ability Test          | ① About 95% of the wire covered with tin<br>② Flag is clear<br>③ Change rate of capacitance(1KHz)<br>$\Delta C/C \leq 5\%$ of the initial value<br>④ $\text{tg}\delta \leq 0.003$  |  | Soldering Temperature : $235 \pm 5^\circ\text{C}$<br>Soldering Time : $2 \pm 0.5\text{SEC}$<br>Solder composition:<br>Sn 97.5% + Ag 2% + Cu 0.5%  |
| 4   | Vibration Test               | ① Appearance : No visible damage<br>② Change rate of capacitance(1KHz)<br>$\Delta C/C \leq 5\%$<br>③ $\text{tg}\delta$ : $C \leq 1\mu\text{F}$ , $\leq 0.003$ Added value<br>$C > 1\mu\text{F}$ , $\leq 0.002$ Added value<br>④ IR: $\geq 50\%$ of the initial value |  | Testing frequency:<br>10-55Hz, 10-500Hz, 10-2000Hz<br>Amplitude: 0.75mm<br>Maximum acceleration: $98\text{m}/\text{S}^2$<br>Duration: 6 hours   |

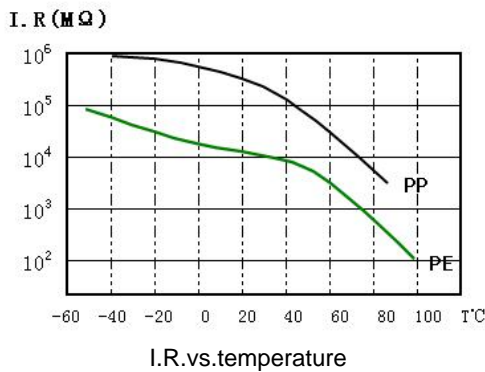
| Demand of performance  | Methods of testing   |
|--|--|
| ① Appearance : No visible damage<br>② Change rate of capacitance(1KHz)<br>$\Delta C/C \leq 5\%$<br>③ $\text{tg}\delta$ : $C \leq 1\mu\text{F}, \leq 0.003$ Added value<br>$C > 1\mu\text{F}, \leq 0.002$ Added value<br>④ IR: $\geq 50\%$ of the initial value | Testing temperature: $85 \pm 2^\circ\text{C}$<br>Testing time: 1 hours   |
| ① Appearance : No visible damage<br>Change rate of capacitance(1KHz)<br>$\Delta C/C \leq 5\%$<br>$\text{tg}\delta$ : $C \leq 1\mu\text{F}, \leq 0.003$ Added value<br>$C > 1\mu\text{F}, \leq 0.002$ Added value<br>$\geq 50\%$ of the initial value           | Testing temperature: $-40 \pm 2^\circ\text{C}$<br>Testing time: 1 hours  |
| Appearance : No visible damage<br>Change rate of capacitance(1KHz)<br>$\Delta C/C \leq 5\%$<br>$\text{tg}\delta$ : $C \leq 1\mu\text{F}, \leq 0.003$ Added value<br>$C > 1\mu\text{F}, \leq 0.002$ Added value<br>$\geq 50\%$ of the initial value             | temperature cycling test:<br>In the $-40^\circ\text{C}$ conditions-keep 30 min, again in $+85^\circ\text{C}$ conditions keep 30 min, this is a cycle.<br>The above conditions process cycle 5 times. |
| Appearance : No visible damage<br>Change rate of capacitance(1KHz)<br>$\Delta C/C \leq 5\%$<br>$\text{tg}\delta$ : $\leq 0.001$ Added value<br>$\leq 0.003$ Added value<br>$\geq 50\%$ of the initial value<br>voltage vent voltage<br>n.                      | Testing temperature: $40 \pm 2^\circ\text{C}$<br>Relative humidity   |

### 9. Film capacitor characteristics typical curve

#### Temperature Characteristics



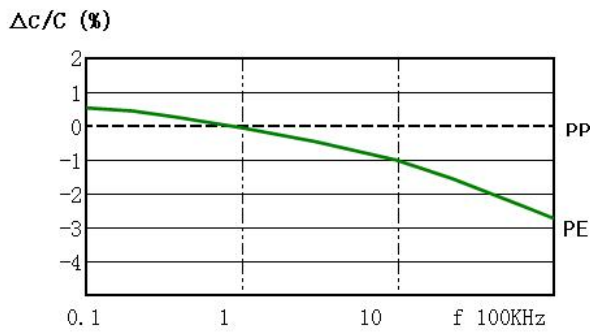
Dissipation factor vs. temperature at 1KHz



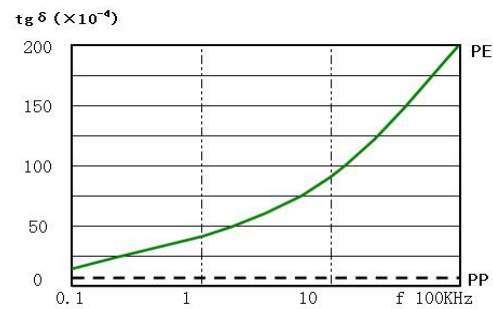
I.R.vs.temperature

**PE: Polyester Film**  
**PP: Polypropylene Film**

#### Frequency Characteristics

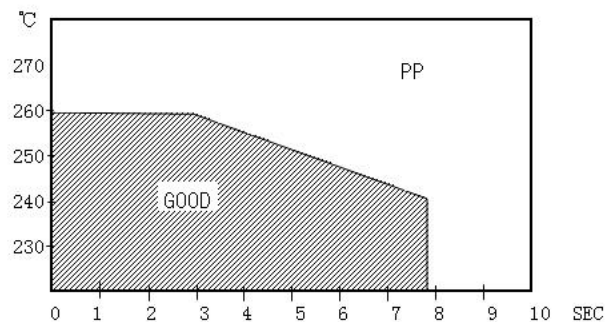
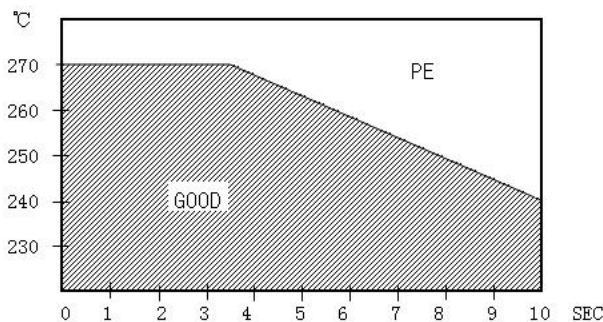


Capacitance vs.frequency (Room temperature)



Dissipation factor vs. frequency (Room Temperature)

#### Soldering temperature vs time



Important Note: CL21 metallized polyester capacitors is not suitable for reflow soldering welding.