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METALLIZED POLYESTER CAPACITORS FOR DC VOLTAGE 《 MPE 》

1. RATED VOLTAGE :

100VDC / 250VDC / 400VDC / 630VDC

2. CAPACITANCE TOLERANCE :

J ( ±5% ) / K ( ±10% ) / M ( ±20% )

3. CAPACITANCE RANGE :

0.1 $\mu$ f TO 10 $\mu$ f

4. OPERATING TEMPERATURE :

-40°C TO +85°C

5. WITHSTAND VOLTAGE :

BETWEEN ELECTRODES

150% OF THE RATED VOLTAGE FOR 1 MINUTE OR

175% OF THE RATED VOLTAGE FOR 1-5 SEC.

6. INSULATION RESISTANCE :

BETWEEN ELECTRODES

( 1 ) LESS THAN OR EQUAL TO 0.33 $\mu$ f  $\cong$  9,000M $\Omega$

( 2 ) MORE THAN 0.33 $\mu$ f  $\cong$  3,000M $\Omega$

MEASURED AT 100 $\pm$ 15 VDC / 60sec / 20°C

7. DISSIPATION FACTOR ( TAN  $\delta$  ) :

LESS THAN 0.8% ( at 1KHz / 25°C )

8. HUMIDITY RESISTANCE : ( JIS 5115 )

CONDITIONS :

TEST TEMPERATURE : 40  $\pm$  2°C

RELATIVE HUMIDITY : 90 ~ 95%

TEST DURATION : 240 $\pm$ 8 HRS THAN CONDITIONING AT STANDARD  
STATE 16 HRS.

TEST VOLTAGE : 130% OF THE RATED VOLTAGE FOR 1 MIN.

TEST CRITERIA :

( 1 ) APPEARANCE : NO VISIBLE DAMAGE.

( 2 ) CAPACITANCE CHANGE :  $\cong$   $\pm$ 10% OF THE INITIAL VALUE.

( 3 ) IR : ( a ) LESS THAN OR EQUAL TO 0.33 $\mu$ f  $\cong$  2,700M $\Omega$

( b ) MORE THAN 0.33 $\mu$ f  $\cong$  900M $\Omega$

( 4 ) TAN  $\delta$   $\cong$  0.011

( 5 ) WITHSTAND VOLTAGE : NORMAL

## 9. DRY HEAT RESISTANCE : ( JIS 5115 )

### CONDITIONS :

TEST TEMPERATURE :  $85 \pm 2^{\circ}\text{C}$

TEST DURATION : 2 HRS.

### TEST CRITERIA : ( at $85^{\circ}\text{C}$ )

( 1 ) CAPACITANCE CHANGE :  $\cong +5\% \sim -2\%$  OF THE INITIAL VALUE.

( 2 ) IR : ( a ) LESS THAN OR EQUAL TO  $0.33 \mu\text{f} \cong 2,700 \text{ M}\Omega$

( b ) MORE THAN  $0.33 \mu\text{f} \cong 900 \text{ M}\Omega$

## 10. COLD RESISTANCE :

### CONDITIONS :

TEST TEMPERATURE:  $-25 \pm 2^{\circ}\text{C}$  ( JIS 5115 )

$-40^{\circ}\text{C}$  ( IEC 68-2-21 )

### TEST CRITERIA :

( 1 ) APPEARANCE : NO VISIBLE DAMAGE.

( 2 ) CAPACITANCE CHANGE :  $\cong 0\% \sim -7\%$  (  $-25^{\circ}\text{C}$ , JIS 5115 )

$\cong 0\% \sim -10\%$  (  $-40^{\circ}\text{C}$ , IEC 68-2-21 )

OF THE INITIAL VALUE.

## 11. VIBRATION RESISTANCE : ( JIS 5115 )

### CONDITIONS :

FREQUENCY CYCLE : 1 MIN PER CYCLE 10-55-10 Hz.

TEST DURATION : PERPENDICULAR DIRECTION WITH THE SAME  
METHOD FOR 45 MIN EACH , TOTAL 90 MIN.

AMPLITUDE : 1.5 mm

### TEST CRITERIA :

APPEARANCE : NO VISIBLE DAMAGE.

CONTACT : NORMAL.

## 12. LOAD LIFE TEST : ( JIS 5115 )

### CONDITIONS :

TEST TEMPERATURE :  $85 \pm 3^{\circ}\text{C}$

TEST DURATION : 500+12 HRS.

TEST VOLTAGE : 125% OF THE RATED VOLTAGE, THE CAPACITOR BE  
CONNECTED A RESISTOR ( 20—1000  $\Omega$  / 1V ) IN SERIES.

### TEST CRITERIA :

( 1 ) APPEARANCE : NO VISIBLE DAMAGE.

( 2 ) CAPACITANCE CHANGE :  $\cong \pm 7\%$  OF THE INITIAL VALUE.

( 3 ) IR : ( a ) LESS THAN OR EQUAL TO  $0.33 \mu\text{f} \cong 2,700 \text{ M}\Omega$

( b ) MORE THAN  $0.33 \mu\text{f} \cong 900 \text{ M}\Omega$

( 4 )  $\text{TAN } \delta \cong 0.011$

### 13. SOLDERABILITY :

#### CONDITIONS :

SOLDER BATH TEMPERATURE :  $230 \pm 5^{\circ}\text{C}$

SOLDER : H60A OR H63A

SOLDER TIME :  $2 \pm 0.5$  SEC

#### TEST CRITERIA :

75% OF THE SURFACE TINNING

### 14. HEAT SHOCK TEST : ( JIS 5115 )

#### CONDITIONS :

THE ELECTRODES OF CAPACITOR SHALL BE IMMersed IN THE MELTING SOLDER.

SOLDER BATH TEMPERATURE :  $270 \pm 5^{\circ}\text{C}$

SOLDER TIME :  $3 \pm 0.5$  SEC

TEST VOLTAGE : 150% OF THE RATED VOLTAGE FOR 1 MIN.

#### TEST CRITERIA :

( 1 ) APPEARANCE : NO VISIBLE DAMAGE.

( 2 ) WITHSTAND VOLTAGE : NORMAL.

( 3 ) CAPACITANCE CHANGE :  $\leq \pm 3\%$  OF THE INITIAL VALUE.

### 15. TENSILE STRENGTH OF ELECTRODES : ( JIS 5115 )

#### CONDITIONS :

LOAD FORCE : 1.0Kg

HOLDING TIME :  $10 \pm 1$  SEC.

#### TEST CRITERIA :

NO WIRE BREAKAGE AND NO DAMAGE OF THE CAPACITOR.

### 16. BENDING STRENGTH OF ELECTRODES : ( JIS 5115 )

#### CONDITIONS :

LOAD FORCE : 0.5Kg

BENDING TIME : TWO CONSECUTIVE BENDS ( $4 \times 90^{\circ}$  ) IN 5 SEC.

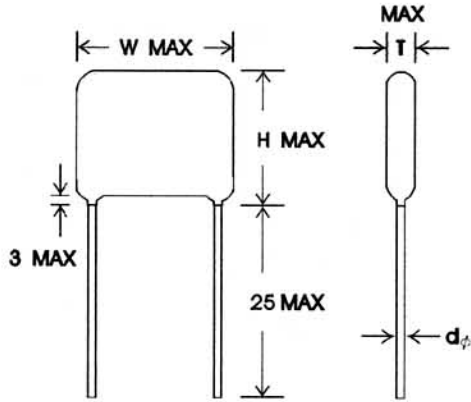
#### TEST CRITERIA :

NO WIRE BREAKAGE AND NO DAMAGE OF THE CAPACITOR.

### 17. MARKING :

CAPACITORS ARE MARKED WITH TYPE IDENTIFICATIONS, CAPACITANCE, CAPACITANCE TOLERANCE, RATED VOLTAGE.

◎ PITCH DIMENSIONS (m/m)



W	18	23	30	35
P	15	20	27.5	32.5
dφ	0.6	0.8	0.8	0.8

《 MPE 》

	100VDC	250VDC	400VDC	630VDC
	W * H * T	W * H * T	W * H * T	W * H * T
0.010				12.5 * 10.5 * 5.5
0.015				12.5 * 11.5 * 6.0
0.022			12.5 * 10.5 * 5.5	12.5 * 12.5 * 7.0
0.033			12.5 * 11.0 * 6.0	18.5 * 11.0 * 6.0
0.047		12.5 * 11.0 * 5.0	12.5 * 12.5 * 7.0	18.5 * 12.5 * 7.0
0.068		12.5 * 12.0 * 5.5	18.5 * 12.0 * 5.5	18.5 * 14.0 * 8.0
0.100		12.5 * 12.5 * 6.0	18.5 * 13.0 * 6.5	18.5 * 15.5 * 9.0
0.150	12.5 * 9.5 * 5.5	18.5 * 11.5 * 5.5	18.5 * 14.0 * 8.0	23.5 * 16.0 * 10.0
0.220	12.5 * 11.0 * 6.0	18.5 * 12.0 * 6.0	23.5 * 15.0 * 8.0	23.5 * 18.0 * 11.5
0.330	12.5 * 12.5 * 6.5	18.5 * 13.0 * 7.0	23.5 * 16.0 * 9.5	30.0 * 19.0 * 11.0
0.470	18.5 * 12.0 * 6.5	18.5 * 14.0 * 8.0	23.5 * 18.0 * 11.0	30.0 * 21.0 * 13.0
0.680	18.5 * 13.5 * 7.5	23.5 * 14.5 * 9.0	30.0 * 18.5 * 11.0	30.0 * 24.0 * 15.0
1.000	18.5 * 14.5 * 8.5	23.5 * 17.5 * 9.5	30.0 * 21.5 * 12.5	30.0 * 28.0 * 17.0
1.500	23.5 * 15.0 * 9.0	30.0 * 18.0 * 10.0	30.0 * 24.0 * 15.0	
2.200	23.5 * 18.0 * 10.0	30.0 * 21.0 * 11.5	30.0 * 27.0 * 18.0	
3.300	23.5 * 20.0 * 12.0	30.0 * 23.5 * 13.5		
4.700	30.0 * 21.0 * 11.5	30.0 * 26.0 * 16.0		
6.800	30.0 * 23.0 * 13.5			
10.00	30.0 * 27.0 * 16.5			