

# SPECIFICATIONS FOR APPROVAL

**CL21 Metallized Polyester Film Capacitor** 

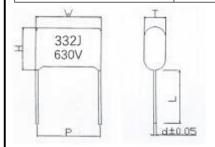
**DESCRIPTION** 

332J630V P7.5 ME332J630DP7.5-001



## (mm) 1 outer size(mm) Table 1

PN	CAP R. V (uF) (VDC)	D 1/	DF	TOL	Size						
		(1KHZ)	±%	W	Н	Т	Р	L	φd±		
		(VDC)	≦%	± 70	(max)	(max)	(max)	(±0.8)	(±0.7)	0.05	
ME332J630DP7.5-001	0.0033	630V	0.8	5	10	9.0	4.0	7.5	22	0.5	V
Remark											



332J 630V

(Code)	I	П	Ш	IV	V	X
(Forming shapes)	A B	A B	A B	A B	p	AA BA
especify removed and the	p≥F		p≤F		P	P=F
(Applicable range)	0mm≤P-F	3mm≤P-F	3mm≤F-P	0mm≤F-P		
	≤3mm	≤8mm	≤ 5mm	≤3mm		
2.00	A≤5.0mm; B ±0.5mm; F ±1.0mm					m
Dimensionstandard)	A≤5.0mm; B allow deviation±0.5mm; F allow deviation±1.0mm;					



### 1、Range

This regulation applies to CL21 metallized polyester film capacitors.

#### 2. Features

- 2.1) Non-inductive winding structure for metallized polyester film.
- 2.2) Flame retardant epoxy powder encapsulation, good insulation performance.
- 2.3) Small size and light weight.
- 2.4) With self-healing function, wide capacity range and high reliability.

### 3. General technical data

3.1) Reference Standard: GB/T 7332 (IEC60384-2)

3.2) Climate Type: 55/110/56

3.3)Rated Voltage: 50/63/100V、250V、400V、630V(When the temperature exceeds 85°C but

is lower than 110°C, the rated voltage decreases by 1.25%UR/°C)

3.4) Capacity range:  $0.001\mu\text{F}---10\mu\text{F}$ 

3.5) Capacitance Tolerance:  $J(\pm 5\%)$ , K ( $\pm 10\%$ ) , M ( $\pm 20\%$ )

3.6) Proof Voltage:  $1.6U_R$  (5S)

3.7) Insulation Resistance: U>100V  $C \le 0.33 uF \ge 15000 M\Omega(20^{\circ}C, 100 V, 1 min)$ 

C>0.33uF ≥7500S(20°C、100V、1min)

 $U \le 100V$   $C \le 0.33uF \ge 3000M\Omega(20^{\circ}C, 10V, 1min)$ 

 $C > 0.33 uF \ge 1000 S(20^{\circ}C, 10V, 1min)$ 

3.8) Loss Tangent: DF  $\leq$  0.8 %(20°C, 1KH<sub>Z</sub>);  $\leq$  1.5%(20°C, 10KH<sub>Z</sub>)



### 4、Materials

4.1) Medium: polyethylene terephthalate film (polyester film)

4.2) Electrode: Aluminized

4.3) Lead wire: Tinned copper clad steel wire

4.4) Encapsulation: Powder epoxy encapsulation

### 5、Mark

5.1) The voltage and nominal capacitance and capacitance tolerance to be print on the capacitor.

### 5.2) Capacitance Representation Method:

PF	100	1000	10000	100000	1000000
NF	0.1	1.0	10.0	100.0	1000.0
μF	0.0001	0.001	0.01	0.1	1.0
代码	101	102	103	104	105

### 6、Purpose:

Widely used in communication equipment, tape recorders, TV sets, VCDs and DC or pulsating electrical appliances of various electronic equipment.



## 7. Characteristic

No.	Item	Test Condition	Requirement
1	Capacitance Tolerance	Frequency: 1KHZ ±0.1KHZ Measuring voltage: ≤1Vrms	±5% (J) ±10% (K)
2	Loss Tangent	Frequency: 1KHZ ±0.1KHZ Measuring voltage: ≤1Vrms	≤0.8%
3	Insulation Resistance	Test Voltage: $U_R > 100VDC$ was test with 100VDC, $U_R \le 100VDC$ was test with 10VDC  Temperature: $20^{\circ}C \pm 15^{\circ}C$ duration: $6 \pm 5 \text{sec}$	U>100V C≤0.33uF ≥15000MΩ(20°C、100V、1min) C>0.33uF ≥7500S(20°C、100V、1min) U≤100V C≤0.33uF ≥3000MΩ(20°C、10V、1min) C>0.33uF ≥1000S(20°C、10V、1min)
4	Proof Voltage	Between Leads: Test Voltage: 1.6U <sub>R</sub> , duration: 5se (P=5mm) Wire Leads and Case: Test Voltage: 2U <sub>R</sub> , duration: 5sec When the temperature exceeds 85° but is lower than 110° C, the rate voltage decreases by 1.25%UR/°C	No breakdown or arcing
5	rapid change of temperature	Temperature: θA=-55°C, θB=+110°C Exposure time at high and low temperature: 30min Conversion time: 2~3min cycle index: 5	
6	Wire lead tensile strength	Tension :    Wire	No mechanical damage, such as lead breakage and looseness
7	Wire lead bending strength	(half of the terminal) , Load:  Wire Load  Lead diameter (mm) $0.3 < d \le 0.5$ $0.51 Kg$ $0.5 < d \le 0.8$ $1.0 Kg$ In both positive and negative directions, should be bent twice in each directio continuously, and the bending angle = 90°	n



8	Ta Method 1 Solder Temperature: 260°C±5°C Weldability Solder Time: 2.0±0.5sec Solder: Environmental protection material (lead-free)  Durability			More than 95% of the area has tin
	-			
NO.	Pr	oject	Performance	Test Condition
		Appearance	no significant change	Test temperature cycle: 5 cycles in total. Each cycle includes:  1.+20 +/- 2°C, 3 min  255 +0/-3 °C, 30 min  3. +20 +/- 2°C, 3 min  4. +110 +3/-0 °C, 30 min  5. +20 +/- 2°C, 3 min
9.1	temperature	Proof Voltage	matching No. 4	
	cycle	Capacitance change rate (^ C/C)	≦ <b>+/-</b> 5%	
		Loss	△DF< 0.20% .(1KHz)	
		Appearance	no significant change	
		Appearance	No significant change,and the sign should be clearly identifiable	The test base on IEC 60384-2.  Refer to JIS C 5102-1994.
	high	Proof Voltage	matching No. 4	Test temperature : +110 +/-2 °C.
9.2		temperature Capacitance	≦ <b>+/-</b> 8%	110% voltage application: 1000 +24/-0 hour;  After the test, allow to stand at standard
		Loss	△DF< 0.20% .(1KHz)	temperature and humidity for 1.5 +/- 0.5 hours
		Insulation Resistance (I.R.)	≥50% of initial value	before measuring.
9.3	Wet and heat loading	Appearance	No significant change,and the sign should be clearly identifiable	Refer to JIS C 0022.  Test temperature :+40 +/- 2°C  Test humidity : 90% to 95% R.H.  Test voltage : Rated voltage
		Proof Voltage	matching No. 4	Test duration : 500 +24/-0 hours

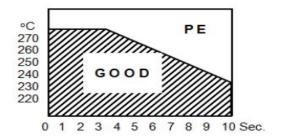


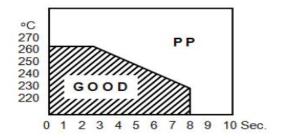
		Capacitance change rate (△C/C)	≦+/- 10%	After the test, allow to stand at standard temperature and humidity for 1.5 +/- 0.5 hours before measuring.	
		Loss	△DF<0.20% .(1KHz)		
		Insulation Resistance (I.R.)	≥50% of initial value		
		Appearance	No significant change,and the sign should be clearly identifiable	The test base on IEC 68-2-20 Tb.  Welding temperature: 260 +/- 5°C.	
9.4	Soldering temperature bearing capacity	Proof voltage between terminals	matching No. 4	Dip duration : 5 +/- 0.5 sec(P=5mm)  10 +/- 0.5 sec(P=7.5mm)  Dip thickness: 4 +/- 0.8 mm from the root	
	Сараспу	Capacitance change rate (^C/C)	≦+/- 3%	After the test, allow to stand at standard temperature and humidity for 1.5 +/- 0.5 hours	
	Dry heat	Connector  Appearance	It should be stable  No significant change,and the sign should be clearly identifiable	before measuring.  Test temperature: +110 +/- 2°C	
9.5	resistance	Proof voltage	matching No. 4	Test duration: 16 +1/-0 hours	
		Capacitance change rate (^C/C)	≦+/- 5%		
	Cold	Appearance	No significant change,and the sign should be clearly identifiable	Test temperature : -55 +/-2 °C	
9.6	resistance		Test duration : 2 +/-1 hours		
		Capacitance change rate (△C/C)	≦ <b>+/-</b> 5%		
9.7	Vibration resistance	Connection strength  Appearance	Neither cause an open circuit, nor cause a short circuit. The connection should be stable.  No mechanical damage	The test base on IEC 68-2-6 Fc. Frequency change : 10500 Hz. The vibration distance : 0.75 mm. The test direction : X, Y, Z.  The test duration : 2 hours +1/-0 each direction	



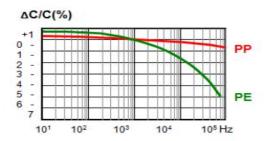
	covere	Appearance	No significant change	The test base on IEC 68-2-14 Na.
9.8	9.8 temperature changes	Proof voltage	matching No. 4	Test temperature .  High temperature : +110 +/-5 °C
		Appearance	No mechanical damage	Low temperature : -55 +/-5°C  Each temperature 30 minutes +/- 10%
	Short circuit	Capacitance change rate (^C/C)	≦+/- 3% (1KHZ)	The voltage of Short circuit charge and discharge : U <sub>R</sub>
9.9	charge and discharge	Loss change rate (^DF)	< 3% (10KHz)	The times of short circuit charging and discharging: 3 times
		Insulation Resistance (I.R.)	matching No. 3	Sampling quantity: 10 pcs /batch
		Capacitance change rate (^C/C)	≦+/- 2% (1KHZ)	
9.1 0	Normal temperature Loss change matching No.2 storage rate (△DF)	Temperature: ≦35°C Humidity : ≦80% Storage time : 30-35 days		
		Insulation Resistance (I.R.)	matching No. 3	

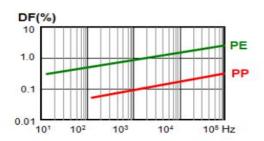
### Soldering Temperature VS Time





### **Frequency Characteristics**





### **Temperature Characteristics**

