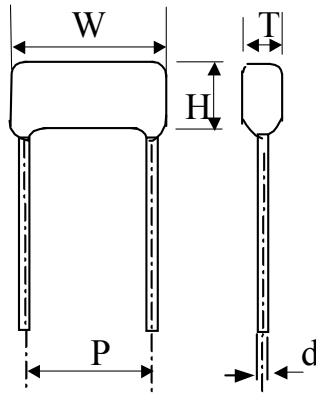


CL21 METALLIZED POLYESTER FILM CAPACITOR SPECIFICATION

✧ Outline Drawing



✧ Dimensions

NO.	TYPE	SIZE (mm)				
		$W \pm 1$	$H \pm 1$	$T \pm 1$	$P \pm 1$	d
1	MET-683-400JP10	12	8.5	4.5	10	0.6

□ Hanway Technology (H.K.) Ltd. ordering part-number:

MET-333-400JP10

MET: Capacitor Type (MET for Metallized Capacitor)

333: Capacitor Value

400: Capacitor Voltage

J: Tolrence (J= +/-5%)

P10: Pitch Size P=10mm

Remarks: This part-number are only applicable for ordering this item from Hanway.

1、 Model/type: Only for “CL21” Metalized Polypropylene Film Capacitor

*(*CL21 is a material type, defined by factory)*

2、 Climate category: 55/085/21

3、 Rated Voltage:

50=50VDC 100=100VDC 250=250VDC

400=400VDC 630=630VDC

4、 Capacitance Range: 0.01μF-10μF

Code	Capacitance
103	= 10,000pf =0.01μF
104	= 100,000pf =0.1μF
105	= 1,000,000pf =1μF
106	= 10,000,000pf =10μF
223	= 22,000pf =0.022μF
474	= 470,000pf =0.47μF

5、 Symbols of Capacitance Tolerance:

F=±1% J=±5%

G=±2%

K=±10%

H=±3%

M=±20%

6、Printing:

- Capacitance Tolerance
- Rated Voltage
- Rated Voltage

400V	473	J
└─┘	└─┘	└─┘
↓	↓	↓
3	2	1

7. Specification

No	Test	Test condition	Specifications
1	Temperature		-40℃—+85℃
2	Rated Voltage		100V—1200V
3	Capacitance range		0.01μF—1μF
4	Capacitance Tolerance	Frequency: 1KHz ± 0.1 KHz, Tested Voltage: ≤ 1 Vrms	$\pm 5\%$ (J) , $\pm 10\%$ (K)
5	Loss angle	Frequency: 1KHz ± 0.1 KHz, Tested Voltage: ≤ 1 Vrms	CR $\leq 1\mu F \leq 0.002$ CR $> 1\mu F \leq 0.003$
6	Insulation Resistance	Tested Voltage: 100V Temperature: 20℃ ± 5 ℃ Duration: 60 ± 5 sec	C $\leq 0.33\mu F \geq 25000 M\Omega$ C $> 0.33\mu F \geq 7500 M\Omega \cdot \mu F$
7	Dielectric Strength	Tested Voltage: 1.6U _R , Duration: 1—5sec	No Damage
8	Solderability	Melting solder: 235 ± 5 ℃ Duration: 2.0 ± 0.5 sec Materials: 60 / 40(Tin / Lead) Solder: 25 / 75(Resin / Alcohol)	No Damage
9	Lead Pull Test	Pull: 1.5Kg Duration: 10sec	No Damage
10	Lead Bend Test	attaching a load of 1.5Kg to the end of the lead and then rotating the capacitor 90 degree from the direction of lead degrees then 180 degree to opposite direction	No Damage
11	Solder Test	Immersed Melting solder: 260 ± 5 ℃ Duration: 10 ± 1 sec	C / C $\leq 3\%$ $\Delta tg\delta \leq 0.004$ No Damage
12	Thermal Stability	Temperature: $\theta A = -40^\circ C$, $\theta B = +85^\circ C$ Duration: 30min Cycles: 5 cycles	No Damage $\Delta C / C \leq 3\%$ $\Delta tg\delta \leq 0.004$
13	Libration	Frequency: 10—500Hz Libration: 0.75mm	No Damage $\Delta C / C \leq 3\%$ $\Delta tg\delta \leq 0.004$
14	Collision Test	Collision Times: 4000 times Acceletation Speed: 390m/s, Duration: 6ms	No Damage $\Delta C / C \leq 3\%$ $\Delta tg\delta \leq 0.004$
15	Humidity Test	Temperature: 40 ± 2 ℃ Humidity: 90—95% Duration: 21 days	No Damage $\Delta C / C \leq 5\%$ $\Delta tg\delta \leq 0.002$ R _i $\geq$ Initial*50%

no	Test		Test Condition	Specification
16	Temperature Tests	Heat		
		Humidity	Testing Db, level b, circular one	
		Cold		
		Draometric	Temperature:15°C-35°C, Barometric :8.5kPa,	No Damage
		Circular steaming	Testing Db, level b, all circular ended, add on U _R 1 minutes.	No Damage
		Last Test		No Damage $\Delta C / C \leq 5\%$ $\Delta tg\delta \leq 0.005$ $R_l \geq \text{Initial} * 50\%$
17	Load-life continuous		+85°C, RV x 125%, Duration: 1000h	No Damage $\Delta C / C \leq 8\%$ $\Delta tg\delta \leq 0.005$ $R_l \geq \text{Initial} * 50\%$
18	Charge and discharge Test		Duration:10000cycles Charging Duration:0.5s Discharge Duration:0.5s	$\square C / C \leq 5\%$ $\Delta tg\delta \leq 0.005$ $R_l \geq \text{Initial} * 50\%$