



物料承认书

APPROVAL SHEET

☒ RoHS

档案编号:

客户名称: 华秋
Customer Name:

供应商	东莞市创慧电子有限公司		
公司地址	东莞市谢岗镇金川工业区		
物料名称	铝电解电容器	物料名称	铝电解电容器
物料编码	CD1102G330M	物料品牌	CH
物料规格	400V33uF	供方电话	0769-87633398
物料尺寸	D13X21L	供方传真	0769-87633399
附件	物料规格书:	☐ N ☐ Y	ROHS检测报告: ☐ N ☐ Y
	样品测试报告:	☐ N ☐ Y	IQC样品: ☐ N ☐ Y
备注	☐ 新机型物料 ☐ 物料变更 ☐ 增加/变更供应商 ☐ 其它:		

客户确认栏

批准 Approver	审核 Checker	制作 Engineer	盖章

日期:

供应商确认栏			
批准 Approver	审核 Checker	制作 Engineer	盖章
刘劲松	魏小容	邓瑶玲	

日期:

2022/6/28

CD110 Series

Aluminum Electrolytic Capacitors

Item Name	Rating	Case size
CD1102G330M	400V33 μ F	D13X21L

1. Operating Temp. Range

-40+105°C

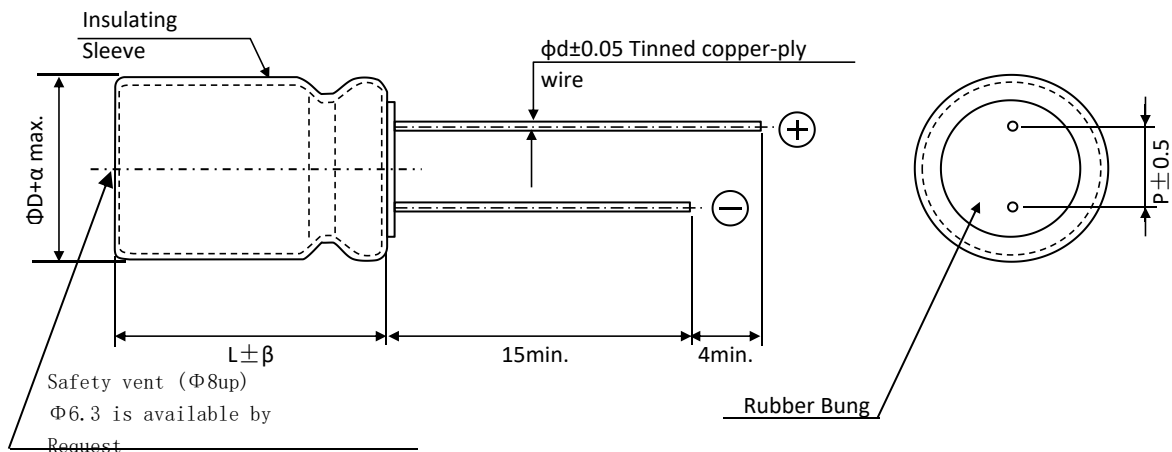
2. Electrical Characteristics

See Table 1.

【Table 1】

Rated Voltage VDC	Surge Voltage VDC	Nominal Static Capacitance (μ F)	Tolerance on Capacitance (%) 20°C 120Hz	Dissipation Factor ($\tan\delta$) max 20°C 120Hz	Leakage Current 2min. 20°C (μ A)	Permissible Ripple Current (mA _{rms}) 105°C 120Hz	Impedance (Ω) 100KHz 20°C
400	450	33	±20%	0.20	279	211	/

3. Dimensions



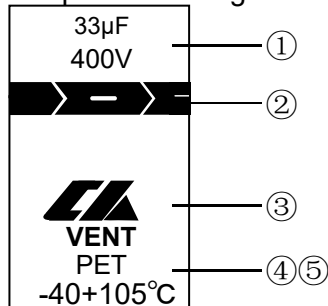
Unit(mm)

ΦD	α	L	β	Φd	P
13	0.5	21.0	2.0	0.6	5.0

4. Marking

Following items are printed with white colour on black colour sleeve

Example of Marking



- ① Rated Voltage & Nominal Capacitance
- ② Polarity (negative)
- ③ Trade Mark of CH
- ④ Product Series
- ⑤ Operating Temp. Range

5. MULTIPLIER FOR RIPPLE CURRENT

①. Frequency Coefficient

Freq.(Hz)	50Hz	120Hz	300Hz	1KHz	10KHz
Cap(μ F)	0.75	1	1.35	1.55	2

②. Temperature Coefficient

Ambient Temperature(°C)	40	60	70	85	105
Coefficient	2.4	2.1	1.78	1.65	1

6. Characteristics

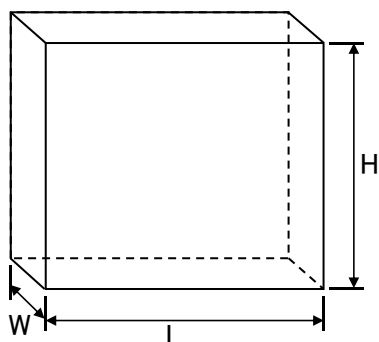
No.	Item	Performance		Test Method		
1	Leakage Current	$I \leq 279\mu A$		Protection Resistor: 1000±10Ω Applied Volt: Rated Voltage Measuring time: 2 minutes		
2	Static Capacitance	±20%		Measured Frequency: 120Hz±20% Measured Voltage: ≤ 0.5Vrms, 1.5 ~ 2.0VDC		
3	Dissipation Factor (tanδ)	0.20 and Under		Same as condition of Capacitors		
4	Load Life	Leakage Current	≤the value specified in Table 1	Test condition: 105±2°C 120Hz Applied voltage: Rated voltage Applied Ripple Current: 211mA _{rms} Test Time: 2000 +72, -0 hours		
		Cap. Change	≤±20% of initial value			
		Dissipation Factor	≤200% of value specified in Table 1			
		Appearance	No remarkable abnormality			
5	Shelf Life	Leakage Current	≤the value specified in Table 1	Test Temp. : 105±2°C No voltage applied Test Time 1000 hours +24, -0 hours		
		Cap. Change	≤±20% of initial value			
		Dissipation Factor	≤200% of value specified in Table 1			
		Appearance	No remarkable abnormality			
6	Terminal Strength	Tensile Strength	45N {4.5kg}	Keeping time Tensile: 1 ~ 5 sec Bending: 30±5 sec		
		Bending Strength	25N {2.5kg}			
7	Impedance Ratio	Z(-25°C) /Z(+20°C)	6			
		Z(-40°C) /Z(+20°C)	0			
8	Temperature Characteristics	Stage	Item	Performance	Stage	Test Temp(°C)
		2,3	Impedance Ratio	less than the value mentioned in 6-7	1	20±2
		5	Cap. Change	≤±25% against value in stage 4	2	-25±3;
					3	-40±3;
					4	20±2
					5	105±2
					6	20±2
9	Surge Voltage	Item	Performance		Test Temp.: 15 ~ 35°C Test volt.: Surge Volt. Specified in 2 Voltage apply 1,000 times of charge for 30±5 sec, under frequency of 6±0.5 sec, and discharge for 5min 30sec.	
		Leakage Current	≤ the initial specified value			
		Cap. Change	≤ ±15% against value before test			
		Dissipation Factor	≤ the initial specified value			
		Appearance	No remarkable abnormality			
10	Vibration Resistance	Capacitance	Stability required		Frequency: 10 ~ 55Hz Width of vibration: 1.5mm Direction and duration: X,Y and Z directions, each for 2 hours	
		Cap. Change	≤±5% of the initial specified value			
		Appearance	No remarkable abnormality			
11	Solderbility	3/4 area of surrounding directions of surface should be covered with new solder.			Solder: Sn-Ag, Sn-Cu Type Soldering Temp: 240±5°C Dipping degree: 2 ~ 2.5mm Flux: Ethanol solution (JIS K8101) or Isopropylalcohol (JIS K8839) solution of Rosin (JIS K5902)	
12	Resistance to Soldering	Leakage Current	≤ the initial specified value		Soldering Temp. 280±5°C Soldering Time . 10±1sec.	
		Cap. Change	≤ ±15% against value before test			
		Dissipation Factor	≤ the initial specified value			
		Appearance	No remarkable abnormality			

6-2. Characteristics

No.	Item	Performance		Test Method
13	Resistance to Humidity	Leakage Current	≤ Initial specified value	Test Temp. : 40±2℃ Humidity 90~95% Test Time : 500 ± 8 hours After the above condition, restored to normal temp, and then measured.
		Cap. Change	≤±15% of initial value	
		Dissipation Factor	≤ Initial specified value	
		Appearance	No remarkable abnormality	
14	Pressure valve moment characteristics	Pressure valve open safely. There must be nothing ignition or scattering from product.		DC method: Apply an reverse current of 1A to impress the reverse voltage until pressure valve open.

7. Packing method

Packaging shape, size, quantity



Component size	D13X21L
Quantity per case	PCS
Symbol of box	Y-2
L	480
H	320
W	320

8 Related Standards: JIS C 5141

9 Marking on packing box

- ① Item name
- ② Series name
- ③ Rated Voltage
- ④ Nominal Static Capacitance
- ⑤ Case size
- ⑥ Lot No.
- ⑦ Quantity

10 Soldering

10-1 Soldering by soldering iron

Temperature of iron top : 270~350℃

Operating time : within 3 sec.

10-2 Flow soldering.

Preheat : PCB surface temperature 120℃±5℃

Solder temp.: 260℃±5℃

Solder dipping time: 2~4sec.

11 Cleaning of PC board after soldering

Some solvents is acceptable but make sure following condition:

Solvent:

IPA or Alcoholic agent like Pinealpha ST-100S, Cleanthrough 750H, 750L, 710M, 750K, or Technocare FRW-14~17

- ① Cleaning should be made by ultrasonic within 5min, at the temperature less then 60℃.
- ② Control of pollution is necessary.
- ③ Keep away from cleaning agent. Please do not store in air-tight container.
Dry it by hot air, keep the temperature of air less than maximum operating temp.



东莞市创慧电子有限公司

DongGuan ChuangHui electronics Co.,Ltd.

TEST DATA SHEET OF ELECTROLYTIC CAPACITORS (检测数据表)

DATE (日期):	2022/6/28	QUANTITY (数量):	10 PCS
CUSTOMER (客户):	华秋	BRAND/SERIES (商标 / 系列):	CH CD110
RATINGS (规格):	400V33uF	CASE SIZE (尺寸):	D13X21L
LEAD PITCH (脚距):	5.0 ±0.5mm	LEAD DIA. (引线直径):	0.6 ±0.05mm

Item	Capacitance Tolerance at 120Hz 20°C	Max. Tanδ at 120Hz 20°C	Max. Leakage Current (μA) after 2 min.	Max. Impedance (Ω) at 100KHz 20°C	Max. Ripple Current (mArms) at 120Hz 105 °C	Working Temp. (°C)	Surge Volt. (V)
Spec	±20%	20%	279.0	/	211	-40+105°C	450

No.	Capcitanace (μF)	Tanδ (%)	Leakage Current(μA)	Impedance (Ω)	Remarks	
1	28.8	3.6	22.4			
2	28.5	3.7	22.1			
3	28.6	3.9	23.1			
4	28.7	3.8	23.1			
5	28.8	3.9	25.1			
6	28.7	3.7	24.0			
7	28.6	3.9	20.0			
8	28.5	3.8	19.2			
9	28.5	3.6	21.5			
10	28.7	3.7	23.4			
MIN.	28.5	3.6	19.2			
MAX.	28.8	3.9	25.1			
AVE.	28.7	3.8	22.4			
核准		刘劲松	审核	魏小容	制作	邓瑶玲