创慧电子

物料承认书
APPROVAL SHEET

☑RoHS

档案编号：

客户名称：　　华秋电子
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	CD1102E680M		物料品牌	CH
物料规格	250V68uF		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	东莞市创慧电子有限公司 品保部

日期：　2022/8/8

CD110 Series

Aluminum Electrolytic Capacitors

Item Name	Rating	Case size
CD1102E680M	250V68uF	D13X21L

1. Operating Temp. Range

-40+105℃

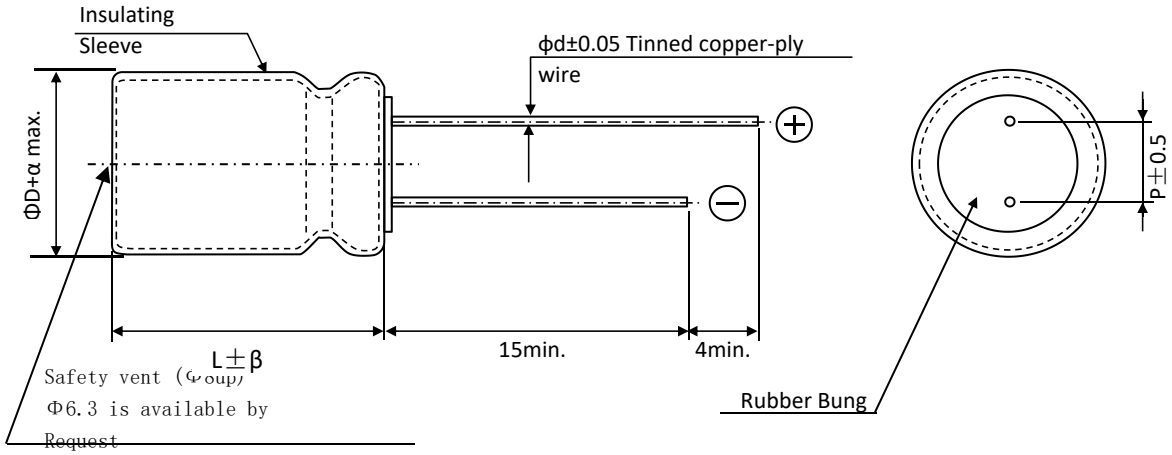
2. Electrical Characteristics

See Table 1.

【Table 1】

Rated Voltage VDC	Surge Voltage VDC	Nominal Static Capacitance (μF)	Tolerance on Capacitance (%) 20℃ 120Hz	Dissipation Factor (tanδ) max 20℃ 120Hz	Leakage Current 2min. 20℃(μA)	Permissible Ripple Current (mArms) 105℃120Hz	Impedance (Ω) 100KHz 20℃
250	300	68	±20%	0.15	355	303	/

3. Dimensions



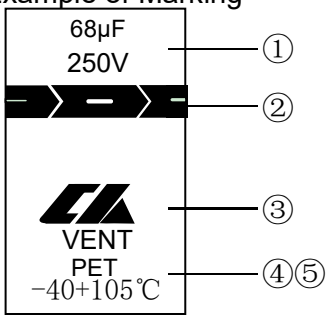
Unit(mm)

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) / Cap(μF)	50Hz	120Hz	300Hz	1KHz	10KHz
68	0.8	1	1.25	1.34	1.5

②. Temperature Coefficient

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

6. Characteristics

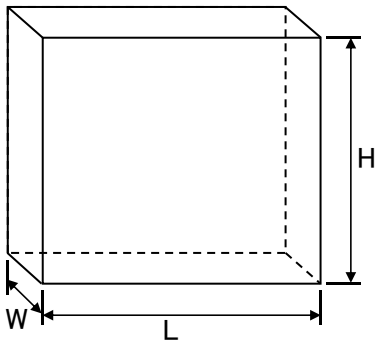
<table>
<tr><th>No.</th><th>Item</th><th>Performance</th><th>Test Method</th></tr>
<tr><td>1</td><td>Leakage Current</td><td>I≤ 355μA</td><td>Protection Resistor: 1000±10Ω
Applied Volt: Rated Voltage
Measuring time: 2 minutes</td></tr>
<tr><td>2</td><td>Static Capacitance</td><td>±20%</td><td>Measured Frequency: 120Hz±20%
Measured Voltage:
≤ 0.5Vrms, 1.5 ~ 2.0VDC</td></tr>
<tr><td>3</td><td>Dissipation Factor (tanδ)</td><td>0.15 and Under</td><td>Same as condition of Capacitors</td></tr>
<tr><td>4</td><td>Load Life
CE680250M13211001A</td><td><table><tr><td>Leakage Current</td><td>≤the value specified in Table 1</td></tr><tr><td>Cap. Change</td><td>≤±20% of initial value</td></tr><tr><td>Dissipation Factor</td><td>≤200% of value specified in Table 1</td></tr><tr><td>Appearance</td><td>No remarkable abnormality</td></tr></table></td><td>Test condition: 105±2℃ 120Hz
Applied voltage: Rated voltage
Applied Ripple Current: 303mArms
Test Time: 2000 +72, -0 hours</td></tr>
<tr><td>5</td><td>Shelf Life</td><td><table><tr><td>Leakage Current</td><td>≤the value specified in Table 1</td></tr><tr><td>Cap. Change</td><td>≤±20% of initial value</td></tr><tr><td>Dissipation Factor</td><td>≤200% of value specified in Table 1</td></tr><tr><td>Appearance</td><td>No remarkable abnormality</td></tr></table></td><td>Test Temp. : 105±2℃
No voltage applied
Test Time 1000 hours
+24, -0 hours</td></tr>
<tr><td>6</td><td>Terminal Strength</td><td><table><tr><td>Tensile Strength</td><td>45N {4.5kg}</td></tr><tr><td>Bending Strength</td><td>25N {2.5kg}</td></tr></table></td><td>Keeping time
Tensile: 1 ~ 5 sec
Bending: 30±5 sec</td></tr>
<tr><td>7</td><td>Impedance Ratio</td><td><table><tr><td>Z(-25℃) /Z(+20℃)</td><td>4</td></tr><tr><td>Z(-40℃) /Z(+20℃)</td><td>8</td></tr></table></td><td></td></tr>
<tr><td>8</td><td>Temperature Characteristics</td><td><table><tr><th>Stage</th><th>Item</th><th>Performance</th></tr><tr><td>2,3</td><td>Impedance Ratio</td><td>less than the value mentioned in 6-7</td></tr><tr><td>5</td><td>Cap. Change</td><td>≤±25% against value in stage 4</td></tr></table>
After the capacitor is held at temperature of each stage and reaches temperature stability, measure performance.</td><td><table><tr><th>Stage</th><th>Test Temp(℃)</th></tr><tr><td>1</td><td>20±2</td></tr><tr><td>2</td><td>-25±3;</td></tr><tr><td>3</td><td>-40±3;</td></tr><tr><td>4</td><td>20±2</td></tr><tr><td>5</td><td>105±2</td></tr><tr><td>6</td><td>20±2</td></tr></table></td></tr>
<tr><td>9</td><td>Surge Voltage</td><td><table><tr><th>Item</th><th>Performance</th></tr><tr><td>Leakage Current</td><td>≤ the initial specified value</td></tr><tr><td>Cap, Change</td><td>≤ ±15% against value before test</td></tr><tr><td>Dissipation Factor</td><td>≤ the initial specified value</td></tr><tr><td>Appearance</td><td>No remarkable abnormality</td></tr></table></td><td>Test Temp.: 15 ~ 35℃
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.</td></tr>
<tr><td>10</td><td>Vibration Resistance</td><td><table><tr><td>Capacitance</td><td>Stability required</td></tr><tr><td>Cap. Change</td><td>≤±5% of the initial specified value</td></tr><tr><td>Appearance</td><td>No remarkable abnormality</td></tr></table></td><td>Frequency: 10 ~ 55Hz
Width of vibration: 1.5mm
Direction and duration:
X,Y and Z directions, each for 2 hours</td></tr>
<tr><td>11</td><td>Solderbility</td><td>3/4 area of surrounding directions of surface should be covered with new solder.</td><td>Solder: Sn-Ag, Sn-Cu Type
Soldering Temp: 240±5℃
Dipping degree: 2 ~ 2.5mm
Flux: Ethanol solution (JIS K8101) or Isopropylalchol (JIS K8839) solution of Rosin (JIS K5902)</td></tr>
<tr><td>12</td><td>Resistance to Soldering</td><td><table><tr><td>Leakage Current</td><td>≤ the initial specified value</td></tr><tr><td>Cap, Change</td><td>≤ ±15% against value before test</td></tr><tr><td>Dissipation Factor</td><td>≤ the initial specified value</td></tr><tr><td>Appearance</td><td>No remarkable abnormality</td></tr></table></td><td>Soldering Temp. 280±5℃
Soldering Time . 10±1sec.</td></tr>
</table>

6-2. Characteristics

No.	Item	Performance	Test Method
13	Resistance to Humidity	Leakage Current: ≤ Initial specified value Cap. Change: ≤±15% of initial value Dissipation Factor: ≤ Initial specified value Appearance: No remarkable abnormality	Test Temp. : 40±2℃ Humidity 90～95% Test Time : 500 ± 8 hours After the above condition, restored to normal temp, and then measured.
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 shap CE680250M13211001A



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):	**2022/8/8**	QUANTITY (数 量):	**10** PCS
CUSTOMER (客户):	华秋电子	BRAND/SERIES (商标 / 系列):	**CH** **CD110**
RATINGS (规格):	**250V68uF**	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℃	Max. Tanδ at 120Hz 20℃	Max. Leakage Current (μA) after 2 min.	Max. Impedance (Ω) at 100KHz 20℃	Max. Ripple Current (mArms) at 120Hz 105 ℃	Working Temp. (℃)	Surge Volt. (V)
Spec	±20%	15%	355.0	/	303	-40+105℃	300

No.	Capcitance (μF)	Tanδ (%)	Leakage Current(μA)	Impedance (Ω)	Remarks
1	64.5	3.4	6.9		
2	64.2	3.3	13.9		
3	64.3	3.5	12.1		
4	64.4	3.5	8.6		
5	64.1	3.4	13.9		
6	64.5	3.3	14.2		
7	64.3	3.4	12.6		
8	64.4	3.4	12.9		
9	64.4	3.5	9.4		
10	64.4	3.3	14.6		
MIN.	64.1	3.3	6.9		
MAX.	64.5	3.5	14.6		
AVE.	64.3	3.4	11.9		

核准	刘劲松	审核	魏小容	制作	邓瑶玲