

CD110 Series

Aluminum Electrolytic Capacitors

Item Name	Rating	Case size
CD1102G680M	400V68uF	D18X26L ±1.5

1. Operating Temp. Range

-40+105°C

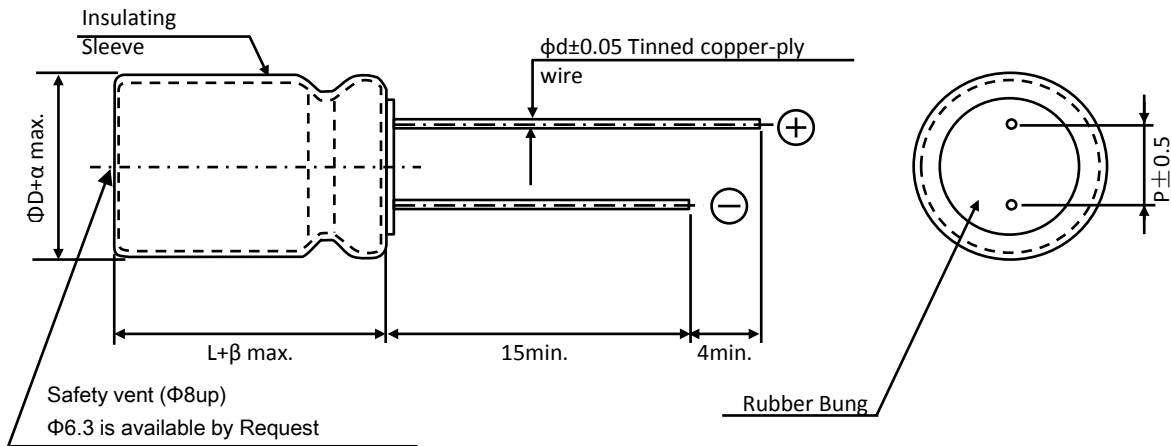
2. Electrical Characteristics

See Table 1.

【Table 1】

Rated Voltage VDC	Surge Voltage VDC	Nominal Static Capacitance (μF)	Tolerance on Capacitance (%) 20°C 120Hz	Dissipation Factor (tanδ) max 20°C 120Hz	Leakage Current 2min. 20°C(μA)	Permissible Ripple Current (mA _{rms}) 105°C120Hz	Impedance (Ω) 100KHz 20°C
400	450	68	±20%	0.20	559	400	/

3. Dimensions



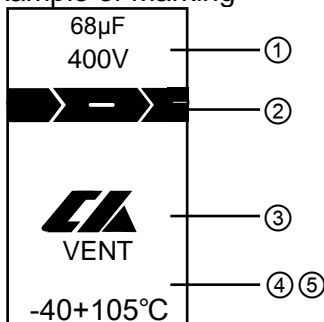
Unit(mm)

ΦD	α	L	β	Φd	P
18	0.5	26.0	2.0	0.8	7.5

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(μF)	0.8	1	1.25	1.34	1.5

②. Temperature Coefficient

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

6. Characteristics

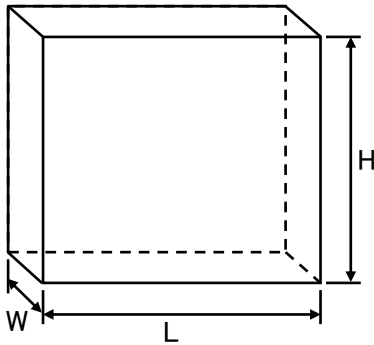
No.	Item	Performance	Test Method																							
1	Leakage Current	$I \leq 559\mu A$	Protection Resistor: $1000 \pm 10\Omega$ Applied Volt: Rated Voltage Measuring time: 2 minutes																							
2	Static Capacitance	$\pm 20\%$	Measured Frequency: $120\text{Hz} \pm 20\%$ Measured Voltage: $\leq 0.5\text{Vrms}, 1.5 \sim 2.0\text{VDC}$																							
3	Dissipation Factor ($\tan\delta$)	0.20 and Under	Same as condition of Capacitors																							
4	Load Life	<table border="1"> <tr> <td>Leakage Current</td> <td>\leq the value specified in Table 1</td> </tr> <tr> <td>Cap. Change</td> <td>$\leq \pm 20\%$ of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>$\leq 200\%$ of value specified in Table 1</td> </tr> <tr> <td>Appearance</td> <td>No remarkable abnormality</td> </tr> </table>	Leakage Current	\leq the value specified in Table 1	Cap. Change	$\leq \pm 20\%$ of initial value	Dissipation Factor	$\leq 200\%$ of value specified in Table 1	Appearance	No remarkable abnormality	Test condition: $105 \pm 2^\circ\text{C}$ 120Hz Applied voltage: Rated voltage Applied Ripple Current: $400\text{mA}_{\text{rms}}$ Test Time: 2000 +72, -0 hours															
Leakage Current	\leq the value specified in Table 1																									
Cap. Change	$\leq \pm 20\%$ of initial value																									
Dissipation Factor	$\leq 200\%$ of value specified in Table 1																									
Appearance	No remarkable abnormality																									
5	Shelf Life	<table border="1"> <tr> <td>Leakage Current</td> <td>\leq the value specified in Table 1</td> </tr> <tr> <td>Cap. Change</td> <td>$\leq \pm 20\%$ of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>$\leq 200\%$ of value specified in Table 1</td> </tr> <tr> <td>Appearance</td> <td>No remarkable abnormality</td> </tr> </table>	Leakage Current	\leq the value specified in Table 1	Cap. Change	$\leq \pm 20\%$ of initial value	Dissipation Factor	$\leq 200\%$ of value specified in Table 1	Appearance	No remarkable abnormality	Test Temp. : $105 \pm 2^\circ\text{C}$ No voltage applied Test Time 1000 hours +24, -0 hours															
Leakage Current	\leq the value specified in Table 1																									
Cap. Change	$\leq \pm 20\%$ of initial value																									
Dissipation Factor	$\leq 200\%$ of value specified in Table 1																									
Appearance	No remarkable abnormality																									
6	Terminal Strength	<table border="1"> <tr> <td>Tensile Strength</td> <td>45N {4.5kg}</td> </tr> <tr> <td>Bending Strength</td> <td>25N {2.5kg}</td> </tr> </table>	Tensile Strength	45N {4.5kg}	Bending Strength	25N {2.5kg}	Keeping time Tensile: 1 ~ 5 sec Bending: 30 ± 5 sec																			
Tensile Strength	45N {4.5kg}																									
Bending Strength	25N {2.5kg}																									
7	Impedance Ratio	<table border="1"> <tr> <td>$Z(-25^\circ\text{C}) / Z(+20^\circ\text{C})$</td> <td>6</td> </tr> <tr> <td>$Z(-40^\circ\text{C}) / Z(+20^\circ\text{C})$</td> <td>0</td> </tr> </table>	$Z(-25^\circ\text{C}) / Z(+20^\circ\text{C})$	6	$Z(-40^\circ\text{C}) / Z(+20^\circ\text{C})$	0																				
$Z(-25^\circ\text{C}) / Z(+20^\circ\text{C})$	6																									
$Z(-40^\circ\text{C}) / Z(+20^\circ\text{C})$	0																									
8	Temperature Characteristics	<table border="1"> <thead> <tr> <th>Stage</th> <th>Item</th> <th>Performance</th> </tr> </thead> <tbody> <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>$\leq \pm 25\%$ against value in stage 4</td> </tr> </tbody> </table> <p>After the capacitor is held at temperature of each stage and reaches temperature stability, measure performance.</p>	Stage	Item	Performance	2,3	Impedance Ratio	less than the value mentioned in 6-7	5	Cap. Change	$\leq \pm 25\%$ against value in stage 4	<table border="1"> <thead> <tr> <th>Stage</th> <th>Test Temp($^\circ\text{C}$)</th> </tr> </thead> <tbody> <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> </tbody> </table>	Stage	Test Temp($^\circ\text{C}$)	1	20 ± 2	2	-25 ± 3 ;	3	-40 ± 3 ;	4	20 ± 2	5	105 ± 2	6	20 ± 2
Stage	Item	Performance																								
2,3	Impedance Ratio	less than the value mentioned in 6-7																								
5	Cap. Change	$\leq \pm 25\%$ against value in stage 4																								
Stage	Test Temp($^\circ\text{C}$)																									
1	20 ± 2																									
2	-25 ± 3 ;																									
3	-40 ± 3 ;																									
4	20 ± 2																									
5	105 ± 2																									
6	20 ± 2																									
9	Surge Voltage	<table border="1"> <thead> <tr> <th>Item</th> <th>Performance</th> </tr> </thead> <tbody> <tr> <td>Leakage Current</td> <td>\leq the initial specified value</td> </tr> <tr> <td>Cap. Change</td> <td>$\leq \pm 15\%$ against value before test</td> </tr> <tr> <td>Dissipation Factor</td> <td>\leq the initial specified value</td> </tr> <tr> <td>Appearance</td> <td>No remarkable abnormality</td> </tr> </tbody> </table>	Item	Performance	Leakage Current	\leq the initial specified value	Cap. Change	$\leq \pm 15\%$ against value before test	Dissipation Factor	\leq the initial specified value	Appearance	No remarkable abnormality	Test Temp.: $15 \sim 35^\circ\text{C}$ 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.													
Item	Performance																									
Leakage Current	\leq the initial specified value																									
Cap. Change	$\leq \pm 15\%$ against value before test																									
Dissipation Factor	\leq the initial specified value																									
Appearance	No remarkable abnormality																									
10	Vibration Resistance	<table border="1"> <tr> <td>Capacitance</td> <td>Stability required</td> </tr> <tr> <td>Cap. Change</td> <td>$\leq \pm 5\%$ of the initial specified value</td> </tr> <tr> <td>Appearance</td> <td>No remarkable abnormality</td> </tr> </table>	Capacitance	Stability required	Cap. Change	$\leq \pm 5\%$ of the initial specified value	Appearance	No remarkable abnormality	Frequency: $10 \sim 55\text{Hz}$ Width of vibration: 1.5mm Direction and duration: X, Y and Z directions, each for 2 hours																	
Capacitance	Stability required																									
Cap. Change	$\leq \pm 5\%$ of the initial specified value																									
Appearance	No remarkable abnormality																									
11	Solderability	3/4 area of surrounding directions of surface should be covered with new solder.	Solder: Sn-Ag, Sn-Cu Type Soldering Temp: $240 \pm 5^\circ\text{C}$ Dipping degree: $2 \sim 2.5\text{mm}$ Flux: Ethanol solution (JIS K8101) or Isopropylalcohol (JIS K8839) solution of Rosin (JIS K5902)																							
12	Resistance to Soldering	<table border="1"> <tr> <td>Leakage Current</td> <td>\leq the initial specified value</td> </tr> <tr> <td>Cap. Change</td> <td>$\leq \pm 15\%$ against value before test</td> </tr> <tr> <td>Dissipation Factor</td> <td>\leq the initial specified value</td> </tr> <tr> <td>Appearance</td> <td>No remarkable abnormality</td> </tr> </table>	Leakage Current	\leq the initial specified value	Cap. Change	$\leq \pm 15\%$ against value before test	Dissipation Factor	\leq the initial specified value	Appearance	No remarkable abnormality	Soldering Temp. $280 \pm 5^\circ\text{C}$ Soldering Time . 10 ± 1 sec.															
Leakage Current	\leq the initial specified value																									
Cap. Change	$\leq \pm 15\%$ against value before test																									
Dissipation Factor	\leq the initial specified value																									
Appearance	No remarkable abnormality																									

6-2. Characteristics

No.	Item	Performance	Test Method								
13	Resistance to Humidity	<table border="1"> <tr> <td>Leakage Current</td> <td>≤ Initial specified value</td> </tr> <tr> <td>Cap. Change</td> <td>≤ ±15% of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>≤ Initial specified value</td> </tr> <tr> <td>Appearance</td> <td>No remarkable abnormality</td> </tr> </table>	Leakage Current	≤ Initial specified value	Cap. Change	≤ ±15% of initial value	Dissipation Factor	≤ Initial specified value	Appearance	No remarkable abnormality	Test Temp. : 40±2°C Humidity 90 ~ 95% Test Time : 500 ± 8 hours After the above condition, restored to normal temp, and then measured.
Leakage Current	≤ Initial specified value										
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	D18X26L ±1.5
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°C

Operating time : within 3 sec.

10-2 Flow soldering.

Preheat : PCB surface temperature 120°C±5°C

Solder temp.: 260°C±5°C

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°C.
- 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.

单击下面可查看定价，库存，交付和生命周期等信息

[>>KINGTOP\(勤拓\)](#)