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TO: 深圳市创华维科技有限公司

规格书

SPECIFICATIONS

产 品 类 型 Product type	铝电解电容器 Aluminum Electrolytic Capacitor
产 品 系 列 Series	CD261L
产 品 规 格 Description	200 V 270 μF φ 16 × 30
产 品 编 码 Part No.	ECR2DDE271MLL160030E
客 户 编 码 Customer P/N	/

湖北海成电子有限公司

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日 期 Date	批 准 Approved by	审 核 Checked by	制 定 Drawn by
2025/10/24	姚玉建	朱志双	黄熊惑

客户承认栏 User

目 录 Contents

规格书变更记录
(Change history of specification)

发行日期 Issued date	版本 Edition	原因 Reason	内容 Contents	页码 Page	标记 Mark	发行编号 Issue No.
2025/10/24	A	首次发行 Original	-	1 to 14	-	Y.261L.202510068

SPEC LIST FOR CD261L SERIES

JH P/N		额定电压 Rated Voltage UR(V)	标称容量 Capacitance CAP(uF)	容量偏差 Capacitance Tolerance (%)	损耗角正切 Dissipation Factortgδ(%) 20℃ 120Hz	漏电流 Leakage Current LC(uA) 20℃ 1 min
ECR2DDE271MLL160030E		200	270	±20	15	2260
标准尺寸 D*L(mm)	极限尺寸 D*L(mm)	Pin距 (mm)	额定纹波 Ripple current mArms 105 ℃ 100k Hz	寿命 Lifetime H 105 ℃	脚型 (mm)	备注
16 × 30	16.5 × 32	7.5	2360	12000	长脚	PET黑色套管

部品号说明Explanation of Part Number：

ECR	2D	DE	271	M	LL	160030	E	*
引线式	标称电压代号	产品系列代码	额定容量代号	容量偏差	脚型	产品尺寸	套管材质	特殊要求代码
Radial	Rated Voltage Code	Series Code	Nominal Capacitance Code	Capacitance Tolerance	Lead Form Code	Size Code	Sleeve Code	Customer Special Requirements Code
	200	CD261L	270	±20	Long Lead	16 × 30	(PET)	-

1. 适用范围 Adapt Range

本产品规格书适用于 CD261L 系列铝电解电容器产品。

This product specification is adapted to CD261L series Aluminum Electrolytic Capacitors produced.

2. 使用温度范围 Operating Temperature Range:

-40 ～ 105 ℃

3. 浪涌电压 Surge Voltage

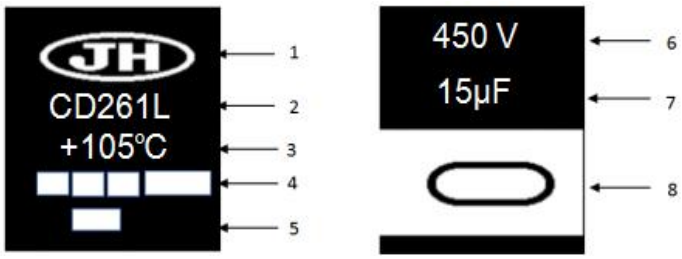
工作电压(V) Rated voltage	160	200	250	350	400	420	450	500
浪涌电压(V) Surge voltage	200	250	300	400	450	470	500	550

4. 损 耗 Dissipation Factor（20℃，120Hz）

工作电压(V) Rated voltage	160	200	250	350	400	420	450	500
损耗角正切值 Tan（%）MAX	15	15	15	20	20	20	20	20

5. 静电容量范围 Capacitance Range 10 μF ～ 820 μF

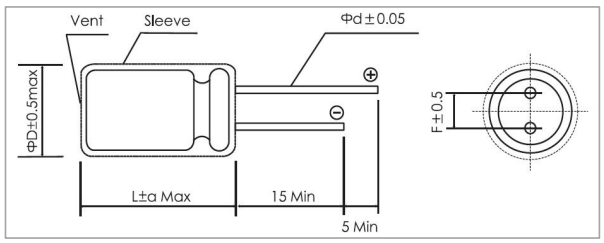
6. 标识 Marking（Example： CD261L 450 V 15 μF ）



NO.	项 目 Item	NO.	项目 Item
1	商 标 Brand	5	容量偏差 Capacitance Tolerance（对于 ϕD≤8mm产品，容量偏差表示位置调整到上限温度后面 ）
2	产品系列 Products series	6	额定电压 Rated voltage
3	上限温度 Max temperature	7	静电容量 Capacitance
4	年度标记 Year code	8	极 性 Polarity（对于 ϕD＞10mm 产品，极性标志为 ▫ 〉）

注：我司有以下套管印字方式：1. 双面印刷（正反面均采用油墨印刷）；2. 年度标记激光打印，其余内容油墨印刷；如客户有特殊要求时，按客户要求执行。

7. 外形图 Dimensions



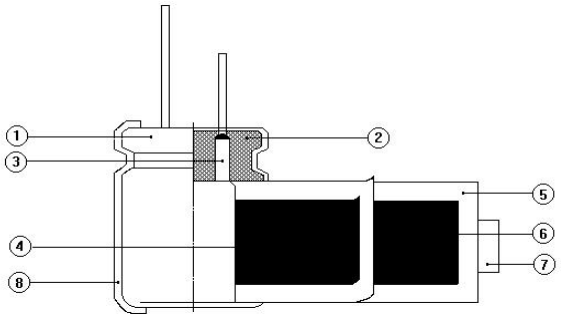
ΦD	16.0
L	30.0
F	7.5
Φd	0.8
α	2.0

8.纹波电流系数 Multiplier for Ripple Current

Freq(Hz) / Cap(μF)	50/60	120	500	1K	10K	100K
10～82	0.32	0.40	0.52	0.60	0.84	1.00
100～220	0.36	0.44	0.58	0.67	0.93	1.00
270～820	0.40	0.50	0.65	0.75	0.95	1.00

9.构造图及材料表 Frame drawing and Material list

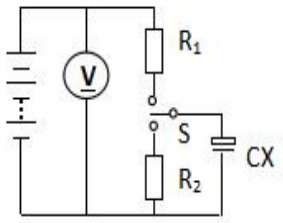
9.1构造图 (Frame drawing)

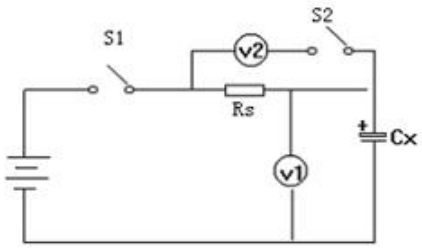


9.2 材料表 (Material Table)

NO	构成部件 parts	材 质 Material	NO	构成部件 parts	材 质 Material
1	铝壳 Case	铝 Aluminum	6	负极箔 Cathode Foil	铝 Aluminum
2	橡皮塞 Rubber	合成橡胶 Synthetic rubber	7	胶带 Tape	聚丙烯 Polypropylene
3	引出线 Terminal	铝+CP线 Aluminum + CP wire	8	套管 Sleeve	PET
4	正极箔 Anode Foil	铝 Aluminum	9	电解液 Electrolyte	有机溶剂 Organic Solvent
5	隔离纸 Separator	电解电容器纸 Electrolytic Capacitors paper			

10. 性能特征 Specifications

NO	项 目 Items	条 件 Conditions	规 格Specifications
10.1	最大允许纹波电流 Maximum permissible ripple current	温度 Temperature： 105 ±2℃ 电压：直流电压值+交流电压峰值≤标称电压 Voltage:DC. Voltage +peak ripple voltage ≤ Rated voltage	见规格表 Refer to SPEC LIST
10.2	浪涌电压 Surge Voltage	在下面规定的温度下，通过指定的浪涌电压，6.0分钟(充电30秒，放电5分30秒)为一周，往返1000回合，常温常湿下放置1～2小时达到热平衡状态测定满足 The capacitor shall be subjected to 1000 cycles at a temperature specified below, each consisting of a charge period of 30±5s, followed by a discharge period of approx 5min.30 s. And the capacitor shall be stored 1～2 hours under standard atmospheric conditions to obtain thermal stability , after which measurement shall be made 应加电压：见3项 Test voltage: see 3 温度:15～30℃ Test Temperature : 15～30℃ 测试回路 Measurement circuit  R1：串联保护电阻（1KΩ） Protective series resistor（1KΩ） V：直流电压表 DC Voltage R2：放电电阻 Discharge resister（1KΩ） S：切换开关 Switch Cx：待测电容器 Test Capacitor	漏电流：不超过规定值 Leakage Current: Not more than the specified value 容量变化：初始值的±15%以内 Capacitance change: Within ±15% of the initial value 损耗角正切：不超过规定值 Dissipation Factor : Not more than the specified value
10.3	静电容量 (允许偏差) Capacitance (Tolerance)	测试频率：120 Hz， Measuring frequency : 120 Hz 测试电压：0.5 Vrms or less Measuring voltage : 0.5Vrms or less DC bias voltage : +1.5～ 2.0 V DC	静电容量允许偏差±20% Capacitance Tolerance ±20%
10.4	损耗角正切(tgδ) Dissipation Factor	测试条件与静电容量相同 Measurement shall be made under the same conditions as those given for the measurement of capacitance	见规格表 Refer to SPEC LIST

NO	项 目 Items	条 件 Conditions	规 格Specifications
10.5	漏电流 Leakage Current	电容器接1000±10Ω.的保护电阻施加电压 1 分钟后的测试电流。 The rated voltage shall be applied across the capacitor and its protective resistor which shall be 1000±10Ω.The leakage Current shall then be measured after an electrocution period of 1 min . The leakage current shall calculated by the following equation. 漏电流：（I）=E/Rs Leakage current： E：直流电压表的电压值 Voltage measured with DC voltmeter Rs:标准电阻的电阻值 Resistance of the protective resistor 测定电路measurement circuit:  电压将下法(voltage drop method) Rs:标准电阻的电阻值（1000±10Ω） protective resistor 直流电压表或电子电压表 DC voltmeter or electronic voltmeter S1:开关switch S2:电压表保护用变换开关 Protective switch for a voltmeter CX:待测电容器test capacitor	0.04CV+100以下(1分钟) Less than 0.04CV+100 (1min) C：标称静电容量（uF ） Capacitance V：额定电压（V） Rated voltage

<table>
<tr><th>NO</th><th>项 目 Items</th><th>条 件 Conditions</th></tr>
<tr><td>10.6</td><td>高低温特性
Characteristic at High and low temperature</td><td>
电容器根据下表的次序处理
The capacitor shall be subjected in turn to the procedures specified below.
<table>
<tr><th>阶段
Step</th><th>温 度
Temperature</th><th>时 间
Time</th></tr>
<tr><td>1</td><td>20±2℃</td><td>热平衡状态
Thermal equilibrium</td></tr>
<tr><td>2</td><td>-40 ±3℃</td><td>*2 hours</td></tr>
<tr><td>3</td><td>20±2℃</td><td>热平衡状态
Thermal equilibrium</td></tr>
<tr><td>4</td><td>105 ±2℃</td><td>*2 hours</td></tr>
<tr><td>5</td><td>20±2℃</td><td>热平衡状态
Thermal equilibrium</td></tr>
</table>

* 电容器放置在每一温度下，待阻抗或电容量稳定后方可测试。
The capacitor should be stored at each temperature until measured impedance or capacitance are stabilized .
<table>
<tr><td>阶段2
Step 2</td><td>阻抗比（对阶段1）
Impedance ratio</td><td>见10.10项
refer to No 10.10</td></tr>
<tr><td rowspan="2">阶段4
Step 4</td><td>静电容量变化率(对阶段1)
Change in capacitance</td><td>静电0～+20%
within 0～+20% of step 1</td></tr>
<tr><td>漏电流
Leakage Current</td><td>规定值5倍以下
Less than 500% of the specified value</td></tr>
</table>

阶段1：测定容量，损耗和阻抗值。
Step 1: Capacitance, Dissipation Factor and impedance shall be measured.
阶段2：放置2小时后，达到热平衡状态再测。
Step 2 : After the capacitor being stored for 2 hours, Capacitance, Dissipation Factor and impedance shall be Measured. The measurement shall be made at thermal stability.
阶段4：放置2小时后，达到热平衡状态再测。
Step 4 : After the capacitor being stored for 2 hours, Capacitance, Dissipation Factor and impedance shall be Measured. The measurement shall be made at thermal stability.
</td></tr>
</table>

<table>
<tr><th>NO</th><th>项 目 Items</th><th>条 件 Conditions</th><th>规 格Specifications</th></tr>
<tr><td>10.7</td><td>压力释放
Pressure relief
（仅适用于有防爆要求产品 Only applicable to products with explosion-proof requirements）</td><td>一．交流试验 A.C. test
施加电压值：Applied voltage
交流电压不超过0.7倍的额定直流电压或250V交流电压，两者取小值。
A.C. voltage not exceeding 0.7 times the rated Direct voltage or 250V AC whichever is the lower.
频率 Frequency ： 50 Hz或60 Hz
串联电阻参照下表
Series resistor refer to the table below.
<table>
<tr><td>Capacitance</td><td>Series resistor</td></tr>
<tr><td>C ≤1 μF</td><td>1000±100Ω</td></tr>
<tr><td>1 μF ＜C ≤10 μF</td><td>100±10Ω</td></tr>
<tr><td>10 μF ＜C ≤100 μF</td><td>10±1Ω</td></tr>
<tr><td>100 μF ＜C ≤1000 μF</td><td>1±0.1Ω</td></tr>
<tr><td>1000 μF＜C≤10000 μF</td><td>0.1±0.01Ω</td></tr>
<tr><td>10000 μF ＜C</td><td>*</td></tr>
</table>
* 电阻相当于试验频率阻抗的 1/2
Resistance is equivalent to a half of Impedance by test frequency.

二．直流试验 D.C. test
施加同额定电压相等的反电压 。
Reversed polarity D.C. rated voltage shall be applied to the capacitor.

注：
1、该规定适用于铝壳直径6mm 以上的电容器。
2、试验开始30 Min 后，防爆装置不动作时，停止试验。
3、以上选择一种试验方法进行试验，若有异议可参考GB/T 2693-2001中4.28的其中一种试验。
Note:
1. This requirement applies to capacitors with a diameter of 6mm or more.
2. When the pressure relief device does not open even 30 minutes after commencement of this test, the test may be ended.
3. One of the above test methods is selected for the test. If there is any objection, please refer to one of the tests in 4.28 of GB / T 2693-2001.</td><td>防爆装置释放时，无燃烧、无爆炸或铝壳和封口材料的分离。

The pressure relief device shall open in such a way as to avoid any danger of fire or explosion of Capacitor elements .</td></tr>
</table>

<table>
<tr><th>NO</th><th>项 目 Items</th><th>条 件 Conditions</th><th>规 格Specifications</th></tr>
<tr><td>10.8</td><td>高温负荷
Load life</td><td>在 105 ±2℃的恒温箱内，对电容器施加电压。施加直流电压和交流电压的峰值的和要等于额定电压，产生的纹波电流不能超过最大纹波电流，时间 12000 小时，试验结束后，在标准状态下放置16小时后进行测试。
The capacitor shall be placed in a circulating air oven at an ambient temperature of 105 ±2℃. The sum of the DC voltage and peak AC voltage must not exceed the full rated voltage of the capacitor.The ripple current generated shall not exceed the maximum ripple current, DC voltage and the rated ripple current shall be applied for a period of 12000 hours. It shall be subjected to standard atmospheric for 16 hours, after which measurement shall be made.</td><td>漏电流：不超过规定值
容量变化：初测值的±30 % 以内
损耗角正切：不超过规定值的3倍
Leakage current :
≤Initial specified value
Capacitance change :
Within ±30% of initial value
Dissipation factor :
≤300% of initial specified value
试验后底部允许轻微鼓起：
A little bulged is accepted.
The criteria is as follows:
<table>
<tr><th>壳号(Φ)</th><th>判定基准</th></tr>
<tr><td>＜12.5</td><td>≤0.8mm</td></tr>
<tr><td>12.5~16</td><td>≤1.0mm</td></tr>
<tr><td>18~22</td><td>≤1.6mm</td></tr>
<tr><td>25</td><td>≤1.8mm</td></tr>
</table></td></tr>
<tr><td>10.9</td><td>高温存储
Shelf Life</td><td>温度 Temp： 105 ±2℃
时间 Time：1000+36 小时
电压处理：在常温下电容器串联保护电阻(1KΩ)，加额定电压30分钟，放电，常温放置24～ 48小时后测量。
Condition :
The DC rated voltage shall be applied across the capacitor and its protective resistor (1KΩ) for 30 minutes ,The capacitor shall then be stored under standard Atmospheric conditions for 24 ～ 48 hours.

若判定有疑义，则按JIS C5141 5.2进行电压处理
If any doubt arises on the judgment ,the capacitors shall be subjected to voltage treatment specified in JIS C5141 5.2。</td><td>漏电流:不超过规定值
容量变化:初测值的±20 % 以内
损耗角正切:不超过规定值的2倍
Leakage current :
≤Initial specified value
Capacitance change :
Within ±20% of initial value
Dissipation factor :
≤200% of initial specified value</td></tr>
<tr><td>10.10</td><td>阻抗特性
Impedance Stability</td><td colspan="2">
<table>
<tr><td colspan="2">Rated voltage (V)</td><td>160</td><td>200</td><td>250</td><td>350</td></tr>
<tr><td rowspan="2">Impedance (120Hz)</td><td>Z -25℃/+20℃</td><td>3</td><td>3</td><td>4</td><td>6</td></tr>
<tr><td>Z -40℃/+20℃</td><td>6</td><td>6</td><td>6</td><td>8</td></tr>
</table>
<table>
<tr><td colspan="2">Rated voltage (V)</td><td>400</td><td>420</td><td>450</td><td>500</td></tr>
<tr><td rowspan="2">Impedance (120Hz)</td><td>Z -25℃/+20℃</td><td>6</td><td>6</td><td>6</td><td>6</td></tr>
<tr><td>Z -40℃/+20℃</td><td>8</td><td>8</td><td>8</td><td>8</td></tr>
</table>
</td></tr>
</table>

NO	项 目 Items	条 件 Conditions	规 格Specifications
10.11	可焊性 Solder Ability	浸渍时间Solder press time: 2±0.5s 焊接温度 Solder temperature: 230±5℃	浸渍面积90%以上附着 At least 90% of Circumferential surface of the dipped portion of termination shall be covered with new solder .
10.12	耐焊接热 Resistance to Soldering Heat	温度:260±5℃ Test Temperature: 260±5℃ 时间:10±1 s Test time: 10±1s	漏电流:不超过规定值 Leakage Current : Not more than the specified value 电容量变化:初测值的±10%以内 Capacitance Change : within±10% of the initial value 损耗角正切;不超过规定值 Dissipation Factor : Not More than the specified value 外观：无明显异常 Appearance : No remarkable abnormality
10.13	耐湿性 Resistance of Dump Heat	温度: 40±2℃ Test Temperature : 40±2℃ 湿度：90-95% RH Relative Humidity: 90-95%RH 时间：240±8hrs试验后常温放置24-48小时 To expose in the atmospheric condition for 24 to 48 hours after completion of test .	漏电流：不超过规定值 Leakage Current :Not more than the specified value 电容量变化:初测值的±10%以内 Capacitance Change : within ±10% of the initial value 损耗角正切；不超过规定值 Dissipation Factor: Not more than the specified value 外观：无明显异常 Appearance: No remarkable abnormality
10.14	耐振性 Resistance to Vibration	频率：10-55-10 Hz/分 总振幅：1.5mm Frequency :From 10 to 55 Hz and return to 10 Hz, shall be transferred in 1 Min . Total Amplitude: 1.5 mm 条件：X. Y. Z方向各2小时，共6小时 Direction and duration of vibration: 3 orthogonal directions mutually each for 2 hours, Total 6 hours .	静电容量测试时无接触不良，断线及短路，端子无机械损伤 Capacitance :During the test, measured value to be stabilized (when measured several times within 30min before completion of test) Appearance : No remarkable abnormality 静电容量变化:初始值的±5%以内，外观无明显异常 Capacitance change: Within ±5% of the initial value, No remarkable abnormality

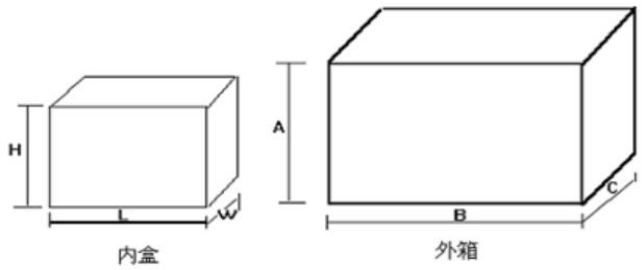
<table>
<tr><th>NO</th><th colspan="2">项 目 Items</th><th colspan="3">条 件 Conditions</th><th>规 格Specifications</th></tr>
<tr><td>10.15</td><td colspan="2">耐溶剂性
Resisting Solvent</td><td colspan="3">溶剂Solvent：异丙醇Isopropyl alcohol
温度Temperature：20-25℃
时间Time：30±5s</td><td>外观：无显著异常
Appearance :
No remarkable abnormality</td></tr>
<tr><td rowspan="6">10.16</td><td rowspan="6">端子强度
Terminal
Strength</td><td rowspan="3">拉伸度
Tensile test
intensity</td><td>线径
Diameter of
terminal
(mm)</td><td>拉伸力
Tensile
Strength
(N)</td><td>维持时间
Continued time</td><td rowspan="6">测定静电容量时,无接触不良,开路和短路现象,另外无机械损伤和端子损伤。
When the capacitance is measured,there shall be no intermittent contacts or open or short circuiting.There shall be no such mechanical damage as terminal damage etc.</td></tr>
<tr><td>0.3<d≤0.5
0.5<d≤0.8
0.8<d≤1.25</td><td>5
10
20</td><td>10±1 sec</td></tr>
<tr><td rowspan="3">弯曲强度
winding
intensity</td><td colspan="3">2回合 2 bends</td></tr>
<tr><td>线径
Diameter of
terminal
(mm)</td><td>弯曲力
Tensile
Strength
(N)</td><td>锥质量
Awl
quality</td></tr>
<tr><td>0.3<d≤0.5
0.5<d≤0.8
0.8<d≤1.25</td><td>2.5
5
10</td><td>0.25 kg
0.51 kg
1.0 kg</td></tr>
</table>

11. 包装 Packing

引线式长脚及成型产品散式包装 Long lead and Forming products Packing

内外盒尺寸及数量 Size and Quantity of inbox and outbox

ϕD*L	内盒inbox				外盒outbox			
	L±5	W±5	H±3	Quantity (PCS)	A±5	B±5	C±3	Quantity (PCS)
16×30	280	210	145	500	310	445	295	2000



Inner box Outer carton

12. 储存条件 Storage conditions

一、储存环境 Environment

1）建议将电容器储存在 5℃~35℃和相对湿度小于 75%的环境中，注意电容器不能长期保存于高温、高湿条件下。

1) It is recommended to store capacitors in an environment of 5 ℃~35 ℃ and a relative humidity of less than 75%. It is important to note that capacitors should not be stored under high temperature and humidity conditions for a long time.

2）确认储存环境中不会出现以下情况：

2) Confirm that the following situations will not occur in the storage environment:

① 电容器可能接触到水、盐或油污的环境；

① Capacitors may come into contact with water, salt, or oil contaminated environments;

② 空气中含有毒酸气（如硫化氢、硫酸、亚硝酸、氯、溴、甲基溴等）；

② The air contains toxic acid gases (such as hydrogen sulfide, sulfuric acid, nitrite, chlorine, bromine, methyl bromide, etc.);

③ 电容器暴露于紫外线或放射性射线环境中 。

③ Capacitors are exposed to ultraviolet or radioactive radiation environments.

二、储存期 Storage period

铝电解电容器长期储存后其漏电流会趋于上升，因此，对于其储存期做如下说明（储存期用 T 表示）：

After long-term storage, the leakage current of aluminum electrolytic capacitors tends to increase. Therefore, the storage period is explained as follows (represented by T):

1）T≤2 年：电容器可以正常使用。

1) T ≤ 2 year: The capacitor can be used normally.

2）2年＜T≤3 年：在使用前需要抽样检测电性能参数，如检测漏电流超标，则必须重新对电容器进行充电处理 。

2) 2 year<T ≤ 3 years: Before use, it is necessary to sample and test the electrical performance parameters. If the leakage current exceeds the standard, the capacitor must be subjected to "voltage treatment" again.