

	发行日期 Date:	2017年3月2日 Mar 2, 2017
	承认 NO	

薄膜电容器 Film Capacitors

FCCR2DL128KP165051C2	900V1200 μ F	Φ 116 \times 165
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规格书 Specification

制 作 Designed	审 核 Checked	批 准 Approved
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FILM CAPACITOR 薄膜电容器				APPROVAL NO: 承认号:		
RECORD OF REVISION (修改履历)						
G/S PART NO:				MAKER SPEC:		
REV. NO.	REASON	CONTENTS	DATE OF APPROVAL	CHECKED	REMARKS (Case size)	
A	First edition (初版)	900V1200uF	Mar 2, 2017	Zhuxiang	Φ116×165	

SPEC LIST FOR CBB131 SERIES

Jianghai P/N	U _R (VDC)	C _R (μF) 100Hz	D*H (mm)	R _s (mΩ)	I _{max} (Arms) at Θ _A			I _{peak} (KA)	R _{th} K/W	dv/dt V/us	L _s (nH)
					40 °C	50 °C	60 °C				
FCCR2DL128KP165051C2	900	1200	Φ116×165	1.0	100	92	75	9.6	3.6	8	70

1. 适用范围 Adapt Range



本产品规格书适用于南通江海电容器股份有限公司 CBB131 系列薄膜电容器产品。

The product specification is adapted to CBB131 series Film Capacitors of Nantong Jianghai Capacitor Co.,Ltd

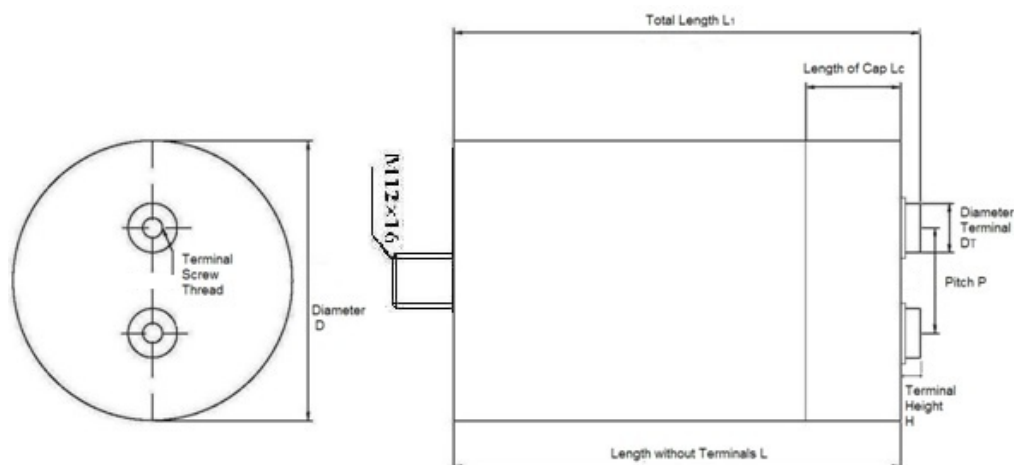
2. 部品编号 Part Number

FC	C	R2	DL	128	K	P	165	0	5	1	C	2
电容器类型 Capacitor type	产品外形 Product shape	额定电压 代码 Rated voltage	系列代码 Series	容量代码 Capacitance	容量偏差 Capacitance tolerance	直径 diameter	高度 height	引出端子 类型 terminals type	引出端子 间距 terminals pitch	底部螺栓 bottom-bolt	图号 Style	内部特征 码 Internal use
Film Capacitor =FC	Column=C	900=R2	CBB131=DL	1200uF=128	±10%=K	Φ 116=P	165=165	M6=0	50=5	有=1 With=1	Style =图 C	

3. 标识 Marking (Example)

 — 1 CBB131 — 2 650uF ±10% — 3 U_R = 600VDC SH — 4 U_{TC} = 3000V 50/60Hz — 5 -55~+85 °C IEC61071 — 6 Discharge before handling — 7 E37F26 ₁₀₄  — 8	NO	项 目 Item
	1	商 标 Brand
	2	产品系列 Products series
	3	容量和偏差 Capacitance and Tolerance
	4	额定电压和自愈性 Rated voltage and Self-healing property
	5	端子与铝壳电压 U _{TC} Voltage Between Terminals and Case
	6	温度范围 Temperature Range 引用标准 Reference Standard
	7	安全警示 Safety warning
8	日期代码 DateCode 二维码 QR Code	

4. 外型图 Dimensions



1. 本体高度 L	165 (±1) mm
2. 总高度 L1	170 (±1) mm
3. 直径 D	Φ 116 (±1) mm
4. 端子间距 P	50 (±0.5) mm
5. 端子外径 DT	Φ 15 mm
6. 端子尺寸	M6*10 mm
7. 底部螺栓尺寸	M12*16 mm
8. 端子安装最大扭矩	5 Nm
9. 底部螺栓安装最大扭矩	12 Nm

5. 主要材料表 Main Material Table

NO	构成部件 parts	材质 Material	NO	构成部件 parts	材质 Material
1	芯棒 plastic core	聚碳酸酯 PC	6	铝壳 aluminum case	铝 Al
2	金属化膜 metallized film	聚丙烯+铝、锌 PP+ Al、Zn	7	填充树脂 filling with resin	聚氨酯 PU
3	喷金电极 metal sprayed electrode	锌+锌锡 Zn+ Sn/Zn	8	绝缘纸 Insulation paper	纸膜复合 Paper + PP
4	端子 terminals	铜 Cu	9	绝缘盖 insulation cover	聚丙烯 PP
5	盖板 deck	PC	10	连接电极 connection electrode	铜 Cu

6. 性能特性 Specifications

No	项目 Item	特性 Characteristics
1	产品设计 Product Design	铝外壳 aluminum case 树脂灌封（干式）Resin filling (dry type)
2	引用标准 Reference Standard	IEC 61071 UL810
3	最高使用海拔 Max. Altitude	2000 m
4	外观检查 Visual examination, marking (Non-Destructive)	外观: 无任何异常 Appearance: no remarkable abnormality
5	外形尺寸 Dimensions (Non-Destructive)	见外形图 See to dimensions
6	容量 Capacitance (Non-Destructive)	见表 1 See to table 1
7	损耗角正切 Dissipation Factor	0.0015 (20°C, 100Hz)
8	介质损耗因素 Dielectric Dissipation factor tgδ ₀	≤2×10 ⁻⁴
9	绝缘电阻 Insulation Resistance	≥5000MΩ·μF (20°C, 100VDC, 1min)
10	气候类别 Climatic Category	40/85/56
11	工作温度范围 Operating Temperature Range	-40~+85 °C
12	最高允许热点温度 Maximum Hotspot Temperature	+85 °C
13	存储温度范围 Storage Temperature Range	-40~+85 °C
14	电容量偏差 Capacitance Tolerance	±10% (K)
15	端子与端子电压 U _{TT} Voltage Between Terminals	1.5×U _R V _{DC} , 10s
16	端子与外壳电压 U _{TC} Voltage Between Terminals and Case	4000V _{AC} , 60s (20°C, 50Hz)
17	过电压 Over Voltage	1.1 UR (30 % of on-load-duration)
		1.15 UR (30 min/day)

		1.2 UR (5 min/day)
		1.3 UR (1 min/day)
		1.5 UR (30 ms every time, 100 ms/day)
18	预期寿命 Life Expectancy	100000hours (U_R , $\Theta_{\text{hotspot}}=70^\circ\text{C}$)
19	失效率 Failure Rate	100 Fit
20	冲击放电试验 Impulse discharge test	充电: 1.1 U_R 试验电流 testing current: $1.1*2* C_R*(dv/dt)$ 在 10min 中需承受 5 次这样的冲击放电 In the 10min need to withstand such a shock discharge 5 times 静电容量变化: $\Delta C/C \leq \pm 1\%$ Capacitance change: $\Delta C/C \leq \pm 1\%$ 损耗角正切: $\Delta \tan\delta \leq 1.2* \tan\delta_0 + 1.0*10^{-4}$ Dissipation Factor: $\Delta \tan\delta \leq 1.2* \tan\delta_0 + 1.0*10^{-4}$
21	自愈性试验 Self healing test	电压: 1.5 U_R 如果自愈击穿次数少于 5 次, 则缓慢升高电压, 升压速率 200v/min。直至发生 5 次自愈击穿 If the self healing breakdown is less than 5 times, then the voltage is slowly increased and the boost rate is 200v/min. Until the occurrence of 5 self-healing breakdown 当电压达到 2.5 U_R , 自愈击穿仍未达到 5 次, 则试验结束 When the voltage is up to 2.5 U_R , the self-healing breakdown is still not up to 5 times, then the test is over. 静电容量变化: $\Delta C/C \leq \pm 0.5\%$ Capacitance change: $\Delta C/C \leq \pm 0.5\%$ 损耗角正切: $\Delta \tan\delta \leq 1.2* \tan\delta_0 + 1.0*10^{-4}$ Dissipation Factor: $\Delta \tan\delta \leq 1.2* \tan\delta_0 + 1.0*10^{-4}$
20	温度快速变化 Rapid change of temperature	$\theta_A = -40 \pm 3^\circ\text{C}$, $\theta_B = +85 \pm 2^\circ\text{C}$ 5 次循环, 持续时间: $t=60\text{min}$, 转换时间: 1min 5 cycles, Duration: $t=60\text{min}$, transition time: 1min 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 Appearance: No remarkable abnormality 静电容量变化: $\Delta C/C \leq \pm 0.5\%$ Capacitance change: $\Delta C/C \leq \pm 0.5\%$
21	耐焊接热 Resistance to soldering heat	焊槽温度: $260^\circ\text{C} \pm 5^\circ\text{C}$ 浸渍时间: $10\text{s} \pm 1\text{s}$ Solder temperature: $260^\circ\text{C} \pm 5^\circ\text{C}$ Immersion time: $10\text{s} \pm 1\text{s}$ 静电容量变化: $\Delta C/C \leq \pm 0.5\%$ Capacitance change: $\Delta C/C \leq \pm 0.5\%$
22	引出端强度 Terminal strength	M6, $T=5.0\text{Nm}$ M8, $T=6.0\text{Nm}$ 无明显损伤 There shall be no visible damage 静电容量变化: $\Delta C/C \leq \pm 0.5\%$ Capacitance change: $\Delta C/C \leq \pm 0.5\%$

23	振动 Vibration	频率范围 Frequency range: 10—55Hz 振幅: $\pm 0.35\text{mm}$ Total Amplitude: 0.35mm 条件: X.Y.Z 方向各 2 小时, 共 6h。 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 Appearance: No remarkable abnormality 静电容量变化: $\Delta C/C \leq \pm 0.5\%$ Capacitance change: $\Delta C/C \leq \pm 0.5\%$
24	碰撞	1 000 次, 加速度 390m/s 脉冲持续时间: 6ms 1000times, Acceleration: 390m/s ² Pulse duration: 6ms 外观无可见损伤 There shall be no evidence of deterioration. 静电容量变化: $\Delta C/C \leq \pm 0.5\%$ Capacitance change: $\Delta C/C \leq \pm 0.5\%$
25	稳态湿热 Damp heat	温度 (Temperature): $40 \pm 2\text{ }^\circ\text{C}$ 湿度 (Humidity): $93\% \pm 2\text{RH}$ 时间 (Time): 56 days 静电容量变化: $\Delta C/C \leq \pm 0.5\%$ Capacitance change: $\Delta C/C \leq \pm 0.5\%$
26	热稳定性 Thermal stability test	温度 (Temperature): $25 \pm 3\text{ }^\circ\text{C}$ 电流 (Current): 1.1Irms 频率 (frequency): 10kHz 时间 (Time): 48h 在最后 6h 内每隔 1.5h 测试一下电容器的温度 During the last 6h, the temperature of the case near of the top rise shall be measured per 1.5h. $\Delta T < 1\text{ }^\circ\text{C}$
27	耐久性 Endurance	时间 (Time): 1000h 电压 (Voltage): $1.3U_R$ 温度 (Temperature): $70 \pm 2\text{ }^\circ\text{C}$ 湿度 (Humidity): $85\% \pm 2\text{RH}$ 试验后常温放置 24h 测定 The capacitors shall then be removed from the test chamber and stabilized at room temperature for 16 hrs. after. 静电容量变化: $\Delta C/C \leq \pm 3\%$ Capacitance change: $\Delta C/C \leq \pm 3\%$ 损耗角正切: 不超过规定值 Dissipation Factor: Not more than the specified value 绝缘电阻: 不超过规定值 Insulation Resistance: Not more than the specified value

8. 预期寿命曲线 Expected lifetime curve

