

规格承认书

Specification For Approval

客户名称:

(Customer Name)

产品名称:

(Product Name)

客户料号:

(Customer part number)

科尼盛料号:

(KNSCHA number)

型号规格:

(Specifications)

日期:

DATE

电解电容

Aluminum Electrolytic Capacitor

227EC0115

E/C 250V/12000 μ F 90*145mm 105°C KNSCHA KHC
5000H P:31.4mm 黑体金字

2026. 7. 11

制 造 Manufacture	
核 准 APPROVAL	制 作 PREPARED
	

客户承认栏 CUSTOMER APPROVED		
核 准 APPROVED	确 认 CHECKED	经 办 DESIGNED

广东科尼盛电子科技有限公司

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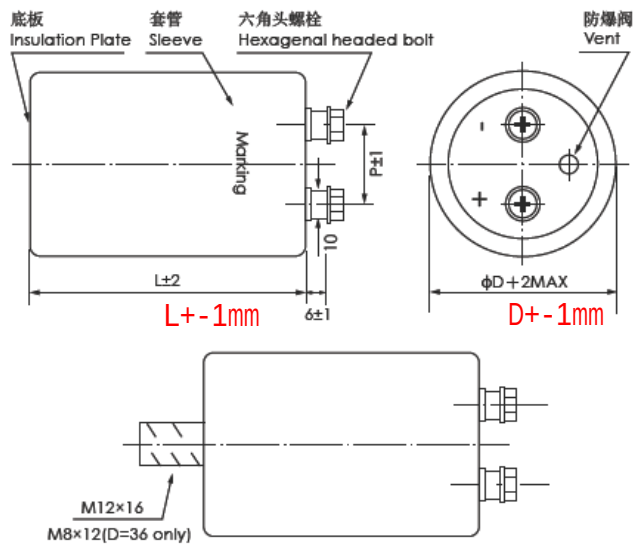
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TABLE-1

外形图尺寸表 Case Size Table:



ϕD	P	Screw
90	31.4	M6*17

TABLE-2

序号 No.	额定电压 Rated Voltage (Vdc)	标称电容量 Nominal Capacitance (μF)	外形尺寸 Dimension $\phi D \times L$	标称电容量允许偏差 Capacitance Tolerance (%)	浪涌电压 Surge Voltage (Vdc)	损耗角正切值 Dissipation Factor ($\tan \delta$) (20°C 120Hz)	漏电流 Leakage Current (μA) (300S)	纹波电流 Max ripple current(Arms) 85°C 120Hz)	温度寿命 Endurance at 105°C (Hours)
1	250	12000	90*145 (+-1)	-20%~+20%	400	≤ 0.15	≤ 5000	36.7	5000

一、适用范围 Adapt range

本产品规格书适用于广东科尼盛电子科技有限公司HC型铝电解电容器产品, 本技术规范条文解释权 归本公司所有。

The products specification is adapted to series HC Aluminum Electrolytic Capacitors of KNSCHA ELECTRONICS CO.,LIMITED, Sancon reserves the right of final interpretation for this technical specification.

二、参考标准 APPLICABLE SPECIFICATION

本规格书参考 JIS-C-5101-1 和 JIS-C-5101-4 制定。

This specification sheet consulted the institute of JIS-C-5101-1 and JIS-C-5101-4.

三、工作温度范围 OPERATING TEMPERATURE RANGE

工作温度范围是电容器在施加额定工作电压条件下, 可以长期可靠工作的环境温度范围。

Operating temperature range is the range of ambient temperature at which the capacitor can be operated continuously at rated voltage.

-40°C~+105°C 250V.DC~450V.DC

四、测试环境 Condition of test

如果没有其他规定, 标准的测试、检验环境条件如下所示:

环境温度: 15°C~35°C

相对湿度: 45%~75%

大气压力: 86kpa~106kpa

如果对测试结果有异议, 可以在一下条件下测试:

环境温度: 20±1°C

相对湿度: 60%~67%

大气压力: 86kpa~106kpa

Unless otherwise specified, the standard range of atmospheric conditions for making measurements and tests are as follows

Ambient temperature : 15°C to 35°C

Relative humidity : 45% to 75%

Air pressure : 86kpa to 106kpa

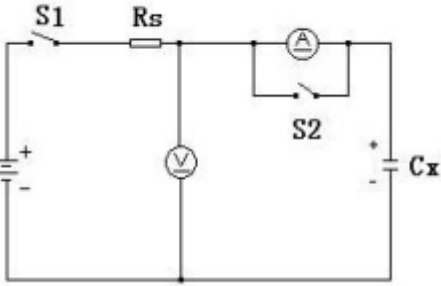
If there may be doubt on the results, measurements shall be made within the following limits

Ambient temperature : 20±1°C

Relative humidity : 60% to 67%

Air pressure : 86kpa to 106kpa

五、技术性能 Specifications

项目 Item	测试方法 Test method	性能 Performance
电容量 Capacitance	测试频率：120Hz(±20%) 测试电路：串联等效 测试电压：0.5Vrms 以下+1.5~ 2.0VDC Measuring frequency: 120Hz±20% Measuring circuit: Series equivalent circuit Measuring voltage: 0.5Vrms or less +1.5 to 2.0 VDC	见表 2 See TABLE-2
损失角正切值 Dissipation factor	测试条件与电容量相同。 The test conditions are the same as the capacitance	见表 2 See TABLE-2
漏电流 Leakage current	在电容器两端施加额定工作电压，并串联 1000±100Ω 电阻，在施加规定时间电压后，测量漏电流。 测试电路如下图： The rated voltage shall be applied across the capacitor and its protective resistor shall be 1000±100Ω . The leakage current shall then be measured after an electrification period of schedule time. Measurement circuit:  Rs: Protective resistor(1000±100Ω) DC ammeter DC voltmeter S1: Switch S2: Protective switch for an ammeter	$I \leq 0.01CV$ 或 $5mA$ ，取小值（5 分钟后） $I \leq 0.01CV$ or $5mA$, whichever is smaller (after 5 min) I: 漏电流 (μ A) C: 容量 (μ F) V: 额定工作电压 (V) I: Leakage current(μ A) C: Capacitance(μ F) V: Rated voltage (V)

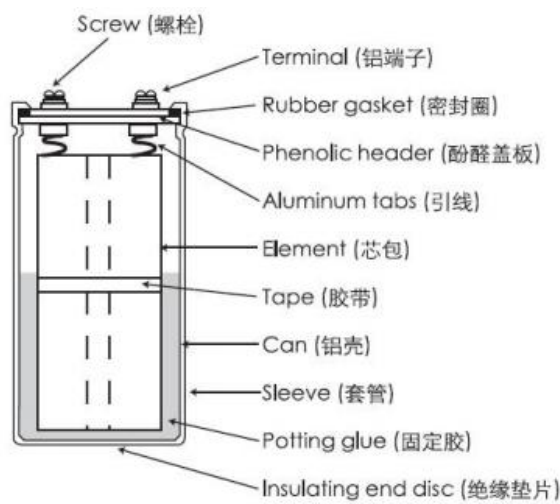
六、试验方法及要求 Test methods and requirements

项目 Item	试验条件 Test Conditions	性能要求 Requirements
浪涌电压 Surge Voltage	温度+15 ~ +35℃, 施加规定的浪涌电压, 充电 30 秒, 放电 330 秒, 共循环 1000 次。 At +15 ~ +35℃, applying the Us 1000 cycles of 30s on and 330s off	无可见损伤及电解液漏出。 No visible damage, noleakage of electrolyte $\Delta C/C \leq \pm 15\%$ 初始测量值 Initial measured value $\text{tg}\delta \leq$ 初始规定值 Initial specified value $I \leq$ 初始规定值 Initial specified value
耐久性 Load Life	+105℃施加带额定纹波电流的额定电压 5000 小时,恢复 24 小时后: After applying rated voltage with specified ripple current for 5000 hours at +105℃ and then resumed 24 hours:	无可见损伤及电解液漏出。 No visible damage, noleakage of electrolyte $\Delta C/C \leq \pm 20\%$ 初始测量值 Initial measured value $\text{tg}\delta \leq 200\%$ 初始规定值 Initial specified value $I \leq$ 初始规定值 Initial specified value
高温贮存 Shelf Life	+105℃, 无负荷贮存 1000 小时后,加额定工作电压处理 30 分钟,恢复 24 小时后: The capacitors are then stored with no voltage applied at temperature of +105℃ for 1000 hours ,UR to be applied for 30 minutes and then resumed 24 hours	无可见损伤及电解液漏出。 No visible damage, no leakage of electrolyte $\Delta C/C \leq \pm 20\%$ 初始测量值 Initial measured value $\text{tg}\delta \leq 200\%$ 初始规定值 Initial specified value $I \leq$ 初始规定值 Initial specified value
稳态湿热 Stable Humidity	IEC 68-2 试验 Ca: +40℃, 湿度 90~95%, 不施加电压 240 小时, IEC 68-2 Test Ca: 240 hours at +40℃, RH 90% to 95%, no voltage applied.	无可见损伤和电解液漏出, 且标志清晰。 No visible damage; no leakage of electrolyte; marking legible. $\Delta C/C: \leq \pm 10\%$ Initial specified value $\text{tg}\delta \leq 120\%$ 初始规定值 Initial specified value $I \leq$ 初始规定值 Initial specified value
耐振性 Resistance to vibration	IEC 68-2 试验 Fc: 频率范围 10 ~ 55Hz, 振幅为 0.75mm, 持续时间为 3×2 小时。 IEC 68-2 Test Fc; Frequency: 10 ~ 55Hz; Amplitude: 0.75mm; 3 direction, 2 hours per direction.	无可见损伤和电解液漏出, 且标志清晰, 电容量变化率 $\leq \pm 5\%$ 。 No visible damage; no leakage of electrolyte; marking legible; $\Delta C/C \leq \pm 5\%$ 。
端子强度 Terminal strength	IEC 68-2 试验 Ua1: 拉力 10N, 10 秒 IEC 68-2 Test Ua1: Loading force 10N for 10s	无可见损伤且标志清晰 No visible damage; marking legible.

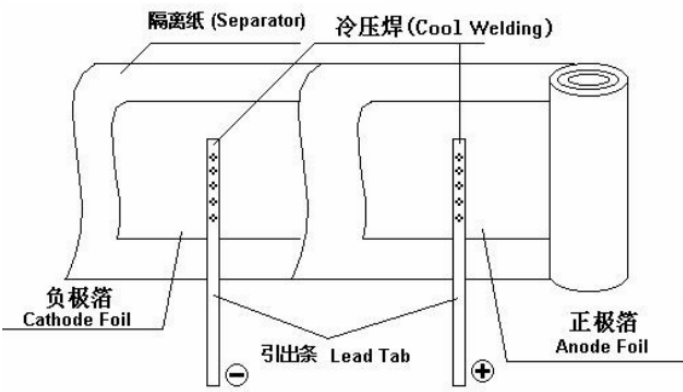
项目 Item	试验条件 Test Conditions	性能要求 Requirements										
温度循环试验 Change of temperature test	Temperature Cycle: 电容器应放在烤箱里, 根据一下条件: Capacitor shall be placed in an oven , the condition according as below: <table><tr><td>温度 Temperature</td><td>时间 Time</td></tr><tr><td>(1)+20℃</td><td>≤ 3 Minutes</td></tr><tr><td>(2)额定最低温度 (-55℃) Rated low temperature(-55℃)</td><td>30±2 Minutes</td></tr><tr><td>(3)额定最高温度 (+105℃) Rated high temperature(+105℃)</td><td>30±2 Minutes</td></tr><tr><td colspan="2">(1)to (3) =1 cycle, total 5 cycle</td></tr></table>	温度 Temperature	时间 Time	(1)+20℃	≤ 3 Minutes	(2)额定最低温度 (-55℃) Rated low temperature(-55℃)	30±2 Minutes	(3)额定最高温度 (+105℃) Rated high temperature(+105℃)	30±2 Minutes	(1)to (3) =1 cycle, total 5 cycle		无可见损伤及电解液漏出。 No visible damage, no leakage of electrolyte measured value tgδ ≤ 初始规定值 Initial specified value I ≤ 初始规定值 Initial specified value
温度 Temperature	时间 Time											
(1)+20℃	≤ 3 Minutes											
(2)额定最低温度 (-55℃) Rated low temperature(-55℃)	30±2 Minutes											
(3)额定最高温度 (+105℃) Rated high temperature(+105℃)	30±2 Minutes											
(1)to (3) =1 cycle, total 5 cycle												
防爆试验 Safety Vent	在电容器两极施加反向工作电压, 其中通过的电流为 1 A(Φ D≤ 22.4mm), 10A(Φ D > 22.4mm)在测试时防爆装置应能在 30 分钟内动作。 D. C. Application test The capacitor shall be subjected to a reverse D.C. voltage equal to the rated D.C. voltage. The current flowing through the capacitor shall be 1A (Φ D≤ 22.4mm), 10A(Φ D > 22.4mm) If the vent does not operate with the voltage applied for 30 minutes, the test is considered to be passed	上述过程中应无引线、铝箔等散射, 无火花产生。 The vent device is actuated under the test conditions, thereby preventing terminals, metal pieces, etc, of the capacitor from scattering due to burst, the case from separating from the seal packing, or the capacitor from producing flame.										

七、构造图及材料表 Frame drawing and material Table

构造图 Frame drawing



芯包分解图 Element drawing



材料表 Material Table

序号 No.	部件名称 Parts	材料名称 Material	
1	引出端子 Terminal	黄铜带 H62 Brass band H62	
2	盖板 Sealing rubber bake	三元乙丙橡胶+酚醛胶木 E.P.T rubber + Bakelite	
3	引出条 Lead tab (+) (-)	99.99%纯度铝 Al-99.99% 99.3%纯度铝 Al-99.3%	
4	铝壳 AL-case	99.5%纯度铝 Al-99.5%	
5	套管 Sleeve	P.V.C (Polyvinyl chloride)	
6	阳极箔 AL-foil (+)	99.99%或 99.98%形成铝箔 Formed AL 99.99% or 99.98%	
7	阴极箔 AL-foil (-)	99.4%腐蚀铝箔 Etched AL 99.4%	
8	电解纸 Separator paper	电解电容器纸 Electrolytic Capacitor paper	
9	胶带 Adhesive tape	聚丙烯薄膜 Polypropylene film	
10	塑料垫片 Bottom plate	P.V.C (Polyvinyl chloride)	
11	电解液 Electrolyte	化学试剂 Chemical	

八、标志 Marking

KNSCHA	商标 Brand
HC	型号 Series
350V 12000μF	容量 电压 Rated voltage Nominal capacitance
105°C(M)	温度 Temperature
+ POSITIVE	极性标识 Polarity identification

九、允许纹波电流的修正系数 Coefficient of allowable ripple current

频率系数 Frequency coefficient:

Frequency (Hz)	50/60	120	300	1K	≥ 10K
coefficient	0.80	1.00	1.10	1.30	1.40

温度系数 Temperature coefficient:

Temperature(°C)	+40	+60	+85	+105
coefficient	2.44	2.16	2.00	1.00

十、自然放置下的储存规定 The provisions of storage under Natural placed

- 1、环境温度：-10~35℃，环境湿度： < 75%RH；

2、产品储存期限为 12 个月；

3、产品储存期限 > 12 个月，需送回工序重新老化；

4、存放时间超过 3 年的电解电容器应立即报废，不可再使用；

5、库存有效期以产品套管上印刷的时间开始计算。
- 1、Ambient temperature：-10~35℃，Ambient humidity： < 75%RH；

2、Storage time：12 months；

3、Storage time > 12 months，need ageing again；

4、Storage time > three years，need to be discarded；

5、Expiry Date：With products marked on time to start calculation.