

承认书

APPROVAL SHEET

客户(Customer)	深圳市立创电子商务有限公司
系列(Series)	LR
客户料号(CSTMR P/N)	/
TOPAZCON料号(OUR P/N)	ELR1H101K081200Y
规格(SPEC)	100 μ F/50V/ Φ 8x12/105 $^{\circ}$ C/ \pm 10%/10000H 长脚




日期: 2026/3/16

APPROVED BY

Please Return One Copy with Your Approval

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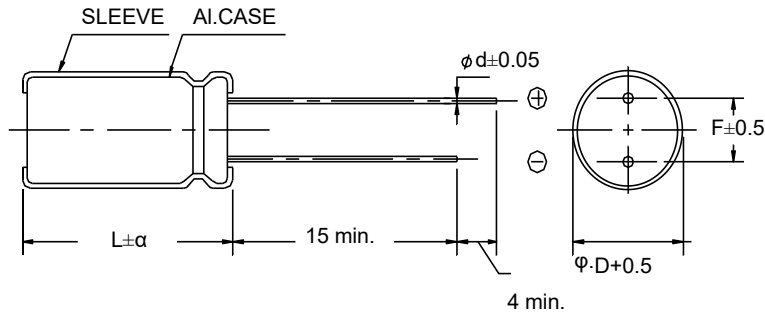
PREPARED BY	CHECKED BY	APPROVED BY
<div style="text-align: center;">  <p>欧毅红 R&D</p> </div>	<div style="text-align: center;">  <p>甘慈 R&D</p> </div>	<div style="text-align: center;">  <p>陈翠萍 R&D</p> </div>

变更记录

版本	更改原因	更改内容	生效日期
A.0	新建		2026.03.16

■外形尺寸 Dimensions

unit:mm



ΦD	L	F	Φd	α
8	12	3.5	0.50	-1/+2

■电气特性 Characteristics

Series	Cap	cap. Tol	WV	SV	Oper. Temp.	ΦD	L	LC	Tan δ	R/C	Imp	Load life
	(uF)	(±%)	(VDC)	(VDC)	(°C)	(mm)	(mm)	Max (uA)	(Max)	(mArms)	(Ω)	(hours)
LR	100	10	50	58	105	8	12	50	0.10	560	0.24	10000

容量测试 Capacitance Test: at 20°C, 120 Hz.
 损失角测试 Dissipation Factor Test: at 20°C, 120 Hz
 漏电流测试 Leakage Current Test: at 20°C after 2 minutes ;
 阻抗测试 Impedance: at 20°C, 100K Hz ;
 纹波电流测试 Ripple Current Test : 105 °C , 100K Hz ;
 工作温度 Operating temperature: -40 °C / 105 °C ;
 如果有特殊要求, 请与我们联系 If you have some other application, please contact with us in advance.

■纹波系数 Rated ripple current multipliers

频率 Frequency (Hz)	120	1K	10K	100K
系数 Multipliers	0.40	0.75	0.90	1.00

■套管图面 Printing



D/C格式说明:D/C用“年 + 周”四位数字表示, 前两位数字为年, 26代表2026年, 后两位数字为周, 第1、2周为01, 第3、4周为03, 第5、6周为05, 以此类推。例如D/C印字为“2609”, 代表2026年第9、10周。

■ 构造图及材料表 Frame drawing and Material list

构造图 Component Structure



材料表 Material list

NO	部件名称 Parts	材料名称 Material	主要供应厂家名称 Main supply Factory
①	铝壳 AL- case	99.5%纯度铝 AL - 99.5%	联亿/奥星
②	橡胶塞 Rubber	丁基橡胶 IIR rubber	联华鑫/天华/城南
③	引出线 Lead Wire	铝线 LG3+镀锡铜钢线 AL- wire LG3+Tin- plating of copper cover stee	晶钻/南平/建兴
④	阳极箔 AL - foil(+)	99.98%形成铝箔 Formed AL 99.98%	中雅/东阳光/宏远/华峰
⑤	电解纸 Separstor pape	电解电容器纸 Electrolytic Capacitor paper	浙江凯恩/创元
⑥	阴极箔 AL - foil(-)	98.7%腐蚀铝箔 Formed AL 98.7%	飞乐/富奕达
⑦	胶带 Tape	聚丙烯 Polypropylene	晖阳/龙美
⑧	套管 Sleeve	聚乙烯 (P. E. T)	云霖/长园/长信源
⑨	电解液 Electrolyte	EG	深圳新宙邦/TOPAZCON

■ 有害物质管制 Hazardous substances control

符合RoHS 指令及 REACH 法规要求

物质清单
(Material Safety Data Sheet)

NO	部件名称 Parts	材料名称 Material	Cd	Pd	Cr	Hg	PBBS	PBDEs	报告编号
									Report No.
①	铝壳 AL- case	99.5%纯度铝 AL - 99.5%	N. D	N. D	N. D	N. D	N. D	N. D	NGBPC25008626902
②	橡胶塞 Rubber	丁基橡胶 IIR rubber	N. D	N. D	N. D	N. D	N. D	N. D	CANEC25017809436
③	引出线 Lead Wire	铝线 LG3+镀锡铜钢线 AL- wire LG3+Tin- plating of copper cover stee	N. D	N. D	N. D	N. D	N. D	N. D	A2250814118101E
④	阳极箔 AL - foil(+)	99.98%形成铝箔 Formed AL 99.98%	N. D	N. D	N. D	N. D	/	/	A2250457132101002C
⑤	电解纸 Separstor pape	电解电容器纸 Electrolytic Capacitor paper	N. D	N. D	N. D	N. D	N. D	N. D	TSNEC25002043002
⑥	阴极箔 AL - foil(-)	98.7%腐蚀铝箔 Formed AL 98.7%	N. D	N. D	N. D	N. D	N. D	N. D	CKGEC25001392406
⑦	胶带 Tape	聚丙烯 Polypropylene	N. D	N. D	N. D	N. D	N. D	N. D	CANEC25016676803
⑧	套管 Sleeve	聚乙烯 (P. E. T)	N. D	N. D	N. D	N. D	N. D	N. D	CANEC25012733805
⑨	电解液 Electrolyte	EG	N. D	N. D	N. D	N. D	N. D	N. D	CANEC25024550604

■ 物料编码原则 Part Number System

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
E	L	R	1	H	1	0	1	K	0	8	1	2	0	0	Y			
①	②		③		④			⑤		⑥			⑦		⑧		⑨	
分类	系列		电压		容量			误差		直径			高度		引脚		颜色	其他
Category	Series		Voltage		Capacitance			ToL.		Dia.			Length		Terminal		Colour	Other

①分类Category

编码Code	代码Code	种类Type	备注Remark
1	E	Electrolytic Capacitor	铝电解电容
	P	Conductive Polymer	导电高分子固体铝
	S	super-capacitor	超级电容

系列Series	②系列Series		③电压Voltage		④容量Capacitance			⑤公差Tolerance		尺寸Size	⑥尺寸Size				⑦引脚Terminal			
	编码Code		电压VV	编码Code		容量Cap	编码Code				公差Tolerance	编码Code	直径编码Dia. Code		高度编码Length Code		形式Specification	编码Code
	2	3		4	5		6	7	8				9	10	11	12		
SS	S	S	4	0	G	0.1	R	1	0	-5~+5	J	3×5	0	3	0	5	Bulk packing	00
NP	N	P	6.3	0	J	0.22	R	2	2	-10~+10	K	4×5	0	4	0	5	Φ3-18 Taping	T1
LL	L	L	10	1	A	0.33	R	3	3	-20~+20	M	5×5	0	5	0	5		T2
RD	R	D	16	1	C	0.47	R	4	7	-5~+20	F	6.3×5	0	6	0	5		T3
RE	R	E	25	1	E	1	1	R	0	-10~+20	V	4×7	0	4	0	7		T4
RF	R	F	35	1	Y	2.2	2	R	2	-10~+30	Q	5×7	0	5	0	7		T5
BG	R	G	40	1	G	3.3	3	R	3	-20~+0	S	6.3×7	0	6	0	7	Lead Cut	A
RJ	R	J	50	1	H	4.7	4	R	7	-0~+20	A	8×7	0	8	0	7		B
RR	R	R	55	1	I	6.8	6	R	8			5×11	0	5	1	1		C
LF	L	F	63	1	J	10	1	0	0			6.3×11	0	6	1	1		E
LJ	L	J	70	1	L	22	2	2	0			8×12	0	8	1	2		F
LR	L	R	80	1	K	33	3	3	0			8×16	0	8	1	6		K
LG	L	G	100	2	A	47	4	7	0			10×12	1	0	1	2		L
RS	R	S	120	2	B	100	1	0	1			10×16	1	0	1	6		M
RN	R	N	140	2	L	220	2	2	1			8×20	0	8	2	0		R
RV	R	V	160	2	C	330	3	3	1			10×20	1	0	2	0		S
LH	L	H	180	2	Q	470	4	7	1			13×20	1	3	2	0	L	
TE	T	E	200	2	D	560	5	6	1			13×25	1	3	2	5	Y	
TF	T	F	220	2	N	1000	1	0	2			16×25	1	6	2	5	Z	
TG	T	G	250	2	E	1500	1	5	2			16×32	1	6	3	2	M Type	G
LP	L	P	300	2	S	2200	2	2	2			16×36	1	6	3	6		
LT	L	T	315	2	F	3300	3	3	2			18×32	1	8	3	2		
LS	L	S	350	2	V	4700	4	7	2			18×36	1	8	3	6		
LV	L	V	385	2	P	6800	6	8	2			18×40	1	8	4	0		
RK	R	K	400	2	G	10000	1	0	3									
RA	R	A	420	2	T	15000	1	5	3									
RX	X	X	450	2	W	22000	2	2	3									
			500	2	H	33000	3	3	3									
			550	2	I	56000	5	6	3									
			600	2	K	68000	6	8	3									

⑧颜色代码 Colour Code

编码Code	颜色Colour	黑色Black	黄色Yellow	墨绿色Ink Green	淡绿色Light Green	橙色Orange	白色White	紫色Purple	银色Silver	咖啡色Brown
16	代码Code	B	Y	I	L	O	W	P	S	C

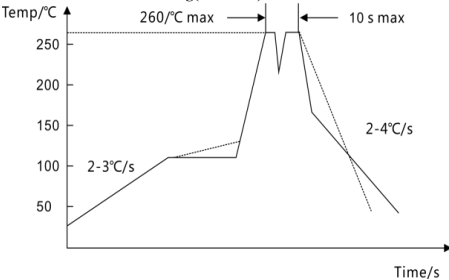
⑨特殊代码 Other

用于标记客户特殊要求

Used to mark special requirements of customers

■ 焊接温度及注意事项 Solder temperature and notes

● 无铅波峰焊 Wave soldering(lead-free)



注意事项 notes:

- ①PCB主面预热温度最高升温斜率:2~3°C / sec , 预热时长:120s左右;
- ②PCB主面预热温度范围:90~130°C;
- ③PCB背面最高预热温度不超过130°C;
- ④波峰温度与预热区温度落差不能大于150°C.
- ⑤波峰焊锡炉温度应控制在250~260°C 之间;
- ⑥波谷温度最好不能低于217°C, 也就是说如果是双波峰, 两个波峰之间落差不能大于60度, 以防造成二次焊接;
- ⑦焊接时间:双波峰" I " 控制在0.5-2s 之间, 波峰" II " 的时间控制在1.5-4s之间, 合计时间:2-6s. 单波时间控制在2-6s.
- ⑧冷却区斜率一般指从最高温降到90°C时间平均负斜率-4~-2°C/s

● 烙铁焊接 Iron soldering

烙铁作业:最高温度: 350 ± 5°C, 焊接时间: 3±0.5 秒.

■ 概述 Scope

本规范规定了所有系列径向引线引出铝电解电容器的技术规范。

This specification covers "ALL series" miniature single-ended aluminium electrolytic capacitors.

■ 参考标准 Standard

本承认书参考 JIS-C-5101-1 和 JIS-C-5101-4 制定

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

■ 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

■ 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: 10°C~35°C

相对湿度: ≤80% RH

大气压力: 860mbar~1060mbar

如果对测试结果有异议,可以在以下条件测试:

环境温度: 20±2°C

相对湿度: 45%RH~60%RH

大气压力: 860mbar~1060mbar

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

Ambient temperature : 10°C to 35°C

Relative humidity : ≤80% RH

ir pressure: 860mbar~1060mbar

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

Ambient temperature : 20±2°C

Relative humidity: 45%RH~60%RH

Air pressure : 860mbar~1060mbar

■ 试验方法及要求 Tests

项目 Item	试验条件 Test Conditions	性能要求 Performance	
浪涌电压 Surge Voltage	温度 15~35℃，施加额定浪涌电压，充电 30 秒，放电 5 分 30 秒，共循环 1000 次。 At 15~35℃, applying Surge Voltage 1000 cycles of 30s on and 330s off.	无可见损伤 No visible damage	
		$\Delta C/C$	$\leq \pm 10\%$
		tg δ	\leq 初始规定值 Not more than specified value
耐久性 Load Life	试验温度: 105 $\pm 2^\circ\text{C}$ ， 施加额定温度电压和额定纹波电流。 Application of the rated voltage and the rated ripple current, Test temperature: 105 $\pm 2^\circ\text{C}$ 试验时间 Test time: 10000 hours	$\Delta C/C$	$\pm 25\%$ 初始测量值以内 Within $\pm 25\%$ of initial value
		DF	$\leq 200\%$ 初始规定值
		tg δ	Not more than 200% of specified value
贮存 Shelf Life	105℃, 1000 小时。试验后: 恢复24小时 1000 hours at +105℃. After test: UR to be >24h before measurement.	$\Delta C/C$	$\pm 25\%$ 初始测量值以内 Within $\pm 25\%$ of initial value
		tg δ	$\leq 200\%$ 初始规定值 Not more than 200% of specified value
		I	$\leq 200\%$ 初始规定值 Not more than 200% of specified value
可焊性 Solderability	焊料槽温度为 235 $\pm 5^\circ\text{C}$ ，浸渍深度占整个引出线的 95%，浸渍持续时间为 2 秒。 Tank temperature : 235 $\pm 5^\circ\text{C}$; Impregnating depth: $\geq 95\%$ of the total lead wire; Impregnating depth: 2s.	引出端的镀层良好，焊料自由流动，引出端湿润。 浸渍面积 95% 以上附着焊锡 The lead wire is coated by tin and wet. At least 95% of Circumferential surface of the dipped portion of termination shall be covered with new solder	
耐焊接热 Resistance to soldering heat	方法: 焊料槽温度为 260 $\pm 5^\circ\text{C}$ ，浸渍深度 6mm，浸渍持续时间为 10 秒。 Tank temperature: 260 $\pm 5^\circ\text{C}$; Impregnating depth: 6mm; Impregnating time: 10s.	无可见损伤 No visible damage	
		$\Delta C/C$	$\leq \pm 10\%$
		tg δ	\leq 初始规定值 Not more than specified value
稳态湿热 Stable Humidity	试验温度: +40℃, 湿度: 90~95%, 不施加电压 240 $\pm 8\text{h}$ at 40℃, RH 90 to 95%, 240 $\pm 8\text{h}$ 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	
		$\Delta C/C$	$\leq \pm 5\%$
		tg δ	\leq 初始规定值 Not more than specified value
耐振性 Resistance to vibration	频率: 10-55-10 Hz/分 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 Direction and duration of vibration : 3 orthogonal directions mutually each for 2 hours Total 6 hours.	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	
		$\Delta C/C$	$\leq \pm 5\%$

■ 试验方法及要求 Tests

项目 Item	试验条件 Test Conditions	性能要求 Performance																								
<p>高低温特性 Characteristic at High and low temperature</p>	<p>电容器根据下表的次序处理 The capacitor shall be subjected in turn to the procedures specified below.</p> <table border="1" data-bbox="450 479 818 779"> <thead> <tr> <th>阶段 Step</th> <th>温度 Temperater</th> <th>时间 Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>20 ± 2°C</td> <td>热平衡状态 thermal stability</td> </tr> <tr> <td>2</td> <td>-40 ± 3°C</td> <td>*2 hours</td> </tr> <tr> <td>3</td> <td>20 ± 2°C</td> <td>热平衡状态 thermal stability</td> </tr> <tr> <td>4</td> <td>105 ± 2°C</td> <td>*2 hours</td> </tr> <tr> <td>5</td> <td>20 ± 2°C</td> <td>热平衡状态 thermal stability</td> </tr> </tbody> </table> <p>*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 are stabilized. 阶段 1：测定阻抗值 Step 1: Measured impedance. 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, 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, Leakage Current shall be Measured. The measurement shall be made at thermal stability.</p>	阶段 Step	温度 Temperater	时间 Time	1	20 ± 2°C	热平衡状态 thermal stability	2	-40 ± 3°C	*2 hours	3	20 ± 2°C	热平衡状态 thermal stability	4	105 ± 2°C	*2 hours	5	20 ± 2°C	热平衡状态 thermal stability	<table border="1" data-bbox="1016 660 1430 840"> <tbody> <tr> <td>阶段 2 Step 2</td> <td>阻抗比(对阶段 1) Impedance ratio</td> <td>≤3</td> </tr> <tr> <td>阶段 4 Step 4</td> <td>漏电流 Leakage Current</td> <td>≤8倍规定值 Not more than 800% of specified value</td> </tr> </tbody> </table>	阶段 2 Step 2	阻抗比(对阶段 1) Impedance ratio	≤3	阶段 4 Step 4	漏电流 Leakage Current	≤8倍规定值 Not more than 800% of specified value
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■ 试验方法及要求 Tests

项目 Item	试验条件 Test Conditions	性能要求 Performance																								
端子强度 Terminal Strength	<p>抗拉强度: 沿电容器端子引线方向施加拉力(如下表), 10±1 秒</p> <table border="1"> <tr> <td>引线直径Φ</td> <td>0.45</td> <td>0.5</td> <td>0.6</td> <td>0.8</td> <td>1.0</td> </tr> <tr> <td>拉力N</td> <td colspan="2">5</td> <td colspan="2">10</td> <td>20</td> </tr> </table> <p>Tensile strength of terminal: A static load(stated in the table above)shall be applied to the terminal in the axial direction and acting in a direction away from the body for 10±1 sec..</p> <p>端子抗弯强度: 在电容器引线施加固定重力(如下表), 然后, 将电容体弯折 90°后回到原位, 再向相反方向弯折 90°后回到原位。上述过程在 5 秒内完成。</p> <table border="1"> <tr> <td>引线直径Φ</td> <td>0.45</td> <td>0.5</td> <td>0.6</td> <td>0.8</td> <td>1.0</td> </tr> <tr> <td>拉力N</td> <td colspan="2">2.5</td> <td colspan="2">5</td> <td>10</td> </tr> </table> <p>Bending strength of terminal: Hang the specified dead weight(stated in the table above),then bend the body through 90°, return to the original position. Next bend it in opposite direction through 90° with the same speed,again return to the original position. Complete this operation in about 5 sec.</p>	引线直径Φ	0.45	0.5	0.6	0.8	1.0	拉力N	5		10		20	引线直径Φ	0.45	0.5	0.6	0.8	1.0	拉力N	2.5		5		10	<p>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 etc. as terminal damage</p>
引线直径Φ	0.45	0.5	0.6	0.8	1.0																					
拉力N	5		10		20																					
引线直径Φ	0.45	0.5	0.6	0.8	1.0																					
拉力N	2.5		5		10																					
压力释放 Pressure relief	<p>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.</p> <p>注: 1. 试验开始 30 Min 后,防爆装置不动作时,停止试验。 2. 该规定适用于铝壳直径6.3mm 以上的电容器。 Note: 1. When the pressure relief device does not open even 30 min after commencement of this test, the test may be ended. 2. This requirement applies to capacitors with a diameter of 6.3mm or more</p>	<p>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 .</p>																								

提示: Notes:

*温度系数不应用在寿命计算公式中,只能作为参考

Temperature coefficient is not used in life formula but for reference.

*每升高5℃,纹波电流产生的温升使电容器的使用寿命减半,从而降低电容器的使用寿命.当实际使用中需延长寿命性能时,必须降低rms纹波电流。

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise.

When long life performance is required in actual use, the rms ripple current has to be reduced.

■铝电解电容器的使用注意事项 Guidelines For Using Aluminum Electrolytic Capacitor

为使您获得电解电容器的最佳性能和延长电解电容器的使用寿命，在使用电解电容器前，请务必阅读本注意事项。

Upon using Aluminum Electrolytic Capacitors, please proper handing and observing to following important points will insure optimum capacitor performance and long life.

①直流电解电容器是有极性的 .DC electrolytic capacitors are polarized.

确定极性，极性标志在电容器的基体上。以免因极性反可能引起电路短路或电容器损坏，当极性不固定或不确定的，使用双极性电容器。

注意直流电解电容器不能使用于交流。

Make sure of the polarity .The polarity is marked on the body of the capacitor .Application of the reversed voltage cause a short circuit or damage to the capacitor .

Use bipolar capacitors when the polarity is not determined or unknown . Note that DC electrolytic capacitors can not be used for AC application .

②使用电压不要大于额定电压 .Do not apply voltage greater than rated voltage .

使用电压大于额定电压，漏电流会增大，可能损坏电容器。建议工作电压为额定电压的70~80%，电容器在建议的工作电压下使用可延长电容器的寿命。

IF a voltage exceeding the rated voltage is applied ,the leakage current will increase , which damage the capacitor . Recommended working voltage is 70 to 80 percent of tatted voltage . Using capacitors at recommended working voltage prolongs capacitor life .

③不要使过大的纹波电流通过电容器 .Do not allow excessive ripple current through the capacitor .

流过电容器的纹波电流超过许可值，将会引起电容器发热，电容量减少，损害电容器。通过电容器的纹波电流不要大于允许值。

The flow of ripple current over permissible ripple current will cause heat of the capacitor ,which may decrease the capacitance and damage the capacitor .

ripple current on the capacitor must be at or bellow allowable level .

④快速的充放电电路中,使用专门设计的电容器 .Use specially designed capacitors for the circuits where charge and discharge are frequency repeated .

在经受快速的周期性充放电电路中，电容器可能受损害，它的寿命因容量下降、温升等原因而缩短，在这种电路中，一定要使用专门设计的电容器。

In the circuit subjected to rapid charge cycles ,capacitors may be damaged ,its life may be shortened by capacitance decrease ,heat rise , ect .

Be sure and use special capacitors in these applications .

⑤工作温度范围 .Operating temperature range .

电容器的特性随工作温度而变化，在温度较高的情况下，容量、漏电流增大， $tg\delta$ 减少；在低温情况下，容量和漏电流下降， $tg\delta$ 增大。

电容器在较低的温度下使用会确保延长寿命。

The characteristics of capacitors change with the operating temperature .The capacitance and leakage current increase and decrease at higher temperatures .

The capacitance and leakage current decrease and $tg\delta$ increase lower temperature .Usage at lower temperature will ensure longer life .

⑥核对工作频率 .Check operating frequency .

电解电容器的容量通常是在 100Hz 或 120Hz 下测得的。然而要记住容量随频率的升高而下降， $tg\delta$ 随频率的升高而增大，并使周围温度升高。

The capacitance of electrolytic capacitors is usually measured at 100Hz or 120Hz . However , remember that capacitance decrease and $tg\delta$ increase as the applied frequency becomes higher whereas the ambient temperature becomes higher .

⑦长时间存放的电容器，在使用前加额定直流电压处理。Apply rated DC voltage treatment to the capacitors which have been stored for a long time 长时间的存放，实际对电容器的容量和 $tg\delta$ 没有多大的影响，然而往往会使漏电流增大，耐压降低。长时间存放后的电容器处理，首先逐渐施加直流电压至额定电压，然后再使用。

Long periods of storage have virtually no effect no a capacitor's capacitance and $tg\delta$.Such periods tend however ,to increase leakage current and decrease withstand voltage .After removing capacitors from long-duration storage ,first apply a gradually increasing DC voltage to rated voltage and then use them .

⑧电容器外壳与阴极端是不绝缘的 .The capacitor case is not insulated from the cathode terminal .

电容器外壳与阴极端是通过电解液连接的，如果电容器的外壳必须与线路绝缘，则电容器的安装位置处，一定要采取绝缘措施。

The capacitor's case and cathode terminal connect through the electrolyte.If the case is to be completely insulated,that insulation must be at the capacitor's mounting point .

⑨电容器的端子或引线上不要施加过大的力 .Do not apply excessive force to the terminals and leads .

过大的力施加到端子和引线上，可能引起引线的断裂或端子分裂，转而引起内部连接的破坏。

The excessive strong force applied to the terminals and lead wires may cause leads to break or terminals to separate and ,in turn ,cause the internal contact to fail .

⑩关于焊接以后的清洗 .Cleaning after soldering

① 电容器不能用卤化有机物系列的清洗剂进行清洗。如果必须进行清洗，请使用能够保证电容器质量的清洗剂。

The aluminum electrolytic capacitors should be free of halogenated solvents during board cleaning after soldering . Use solvent proof capacitors when halogenated solvents are used .

② 请不要让固定剂及镀层（涂层剂）将电容器封口部位（端子一侧）全部封住。

Do not cover up all the sealing area of capacitors with adhesives、fixative or coating materials (coating agent), make coverage only partial .

■ 包装Packing

尺寸	每袋数量	一箱数量	袋数	尺寸	每袋数量	一箱数量	袋数
	(PCS)	(PCS)	(包)		(PCS)	(PCS)	(包)
3/4*5~6	1000	50000	50	10/10.2*14~18	300	5400	18
4*7~11 5*5~6	1000	40000	40	10/10.2*19~26	300	4200	14
5*11~12	1000	25000	25	10/10.2*28~39	150	3000	20
5*13~15	1000	18000	18	10/10.2*40~49	150	2400	16
6.3*5~6	1000	30000	30	10/10.2*50~55	150	2100	14
6.3*7~8	1000	20000	20	12.5/13*13~19	150	3000	20
6.3*9	1000	18000	18	12.5/13*20~24	150	2400	16
6.3*10~12	1000	16000	16	12.5/13*25~30	150	2100	14
6.3*13~14	1000	14000	14	12.5/13*31~35	150	1800	12
6.3*15~16	1000	13000	13	12.5/13*36~42	100	1600	16
8/8.2*7~8	500	15000	30	12.5/13*45~50	50	900	18
8/8.2*9~13	500	10000	20	16*16~23	100	1600	16
8/8.2*14~15	500	9000	18	16*24~27	100	1400	14
8/8.2*16	500	8000	16	16*28~34	50	1000	20
8/8.2*18	500	7000	14	16*35~38	50	900	18
8/8.2*20~24	500	6000	12	16*40~45	50	700	14
8/8.2*25	300	4200	14	16*46~50	50	600	12
10/10.2*7~10	300	7500	25	18*16~34	50	1000	20
10/10.2*11~13	300	6000	20	18*35~40	50	800	16
				18*42~50	50	600	12

