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产 品 规 格 书

Product specification

产品名称： 铝电解电容器

Products Name: Aluminum Electrolytic capacitor

产品系列： CD263 系列

Products Series: CD263 Series

南 通 江 海 电 容 器 股 份 有 限 公 司

Nantong Jianghai Capacitor Co.,Ltd

制 作 Designed	审 核 Checked	批 准 Approved
魏金京	何霄云	丁继华

客户承认栏 User recognition bar	
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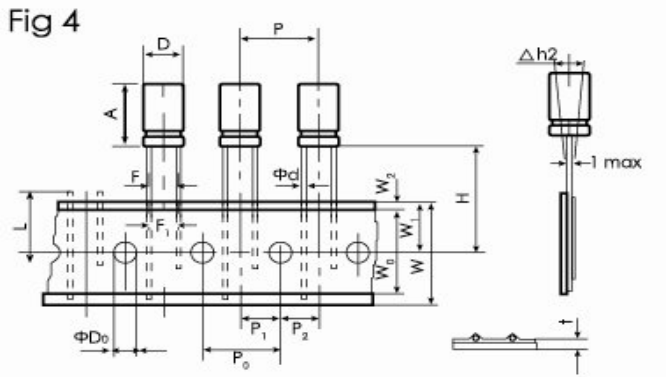
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SPEC LIST FOR CD263 SERIES

JH P/N	额定电压 U _R (V)	标称容量 CAP (uF)	容量偏差 (%)	损耗角正切 tg δ (%, 20℃, 120Hz)	漏电流 LC (uA, 20℃, 1min)	ESR (Ω, 20℃, 120Hz)	寿命 (Hr, 105℃)	额定纹波 Ripple current (mA _{rms} , 105℃, 120Hz)	外形尺寸 DXL (mm)		脚型 LeadType
									D	L	
ECR2GBK100MLL100016	400	10	±20	20	260	26.5	2000	100	10	16	LL
ECR2DBK100MFA100012	200	10	±20	12	130	15.9	2000	90	10	12.5	TB5.0

TB5.0 脚型及尺寸如下：



ΦD	A	Φd	P	P0	P1	P2	F	F1	W	W0	W1	W2	H	H0	L	ΦD0	Δh2	t	Fig.	Taping Code
+0.5 max		± 0.05	± 1.0	± 0.2	± 0.5	± 1.0	+0.8 -0.2	± 1.0	± 0.5	min	± 0.5	max	+0.75 -0.5	± 0.5	max	± 0.5	max	± 0.2		
10	12.5~20 (+2.0)	0.6	12.7	12.7	3.85	6.35	5	5	18.0	12.0	9.0	1.5	18.5	-	11.0	4.0	1.0	0.7	4	FA

铝电解电容器代码编制说明

Aluminum Electrolytic Capacitor Code Compilation

江海公司铝电解电容器的代码最多由 21 位组成，一般情况下只编至 20 位。

Jianghai's aluminum electrolytic capacitors Code composed of a maximum of 21, under normal circumstances only the series to 20.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
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1) 第 1、2 位代表铝电解电容器，用“EC”表示

No. 1,2 representatives electrolytic capacitors, use "EC" said

2) 第 3 位代表铝电解电容器引出脚形式 No.3 on behalf of terminal form

引线形状 lead form	引线式 Radial
代码 Code	R

3) 第 4、5 位代表铝电解电容器的额定电压档

No. 4、5 representatives electrolytic capacitors rated voltage

额定电压 rated voltage (V)	200	400
代码 Code	2D	2G

4) 第 6、7 位代表铝电解电容器的产品型号

No. 6,7 representatives electrolytic capacitors series

产品型号 series	CD263
代码 Code	BK

5) 第 8、9、10 位代表铝电解电容器标称容量的组成

No. 8,9,10 representative nominal capacitance

标称容量 capacitance	10
代码 Code	100

6) 第 11 位代表铝电解电容器的标称容量偏差 No. 11 representative capacitance tolerance

标称容量偏差 capacitance tolerance	±20%
代码 Code	M

7) 第 12、13 位代表铝电解电容器的成型或编带的形状 No. 12、13 representative lead form

脚型 Lead Form	长脚 (Long Lead)	编带 (TP)		
代码 Code	LL	FA	FB	FD

8) 第 14、15、16、17、18、19 位代表铝电解电容器的体积

No. 14、15、16、17、18、19 representative dimension

9) 第 20 位代表铝电解电容器套管材质 No. 20 representative sleeve material of sleeve V:PVC , E:PET

10) 第 21 位代表客户特殊要求 (无特殊要求时, 省略)

No. 21 on behalf of clients specific requirements (no special requirements, omitted)

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 CD263 型铝电解电容器产品。
This product specification is adapted to CD263 series Aluminum Electrolytic Capacitors produced by Nantong jianghai Capacitor Co.,Ltd

2. 使用温度范围 Operating Temperature Range:

6.3 ~ 250WV : -40~+105 ℃ 315 ~ 500WV : -25~+105 ℃

3. 浪涌电压 Surge voltage

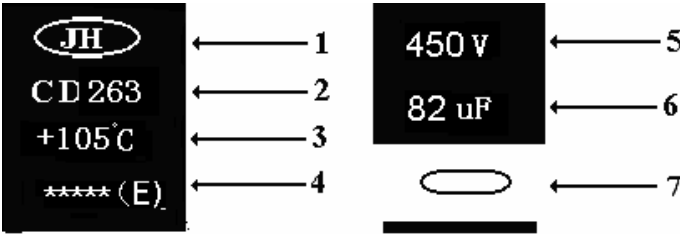
工作电压 (V) Rated voltage	6.3	10	16	25	35	50	63	100	160	200	250	315	350	400	450	500
浪涌电压 (V) Surge voltage	8	13	20	32	44	63	79	125	200	250	300	365	400	440	500	550

4. 损耗 Dissipation Factor (20℃, 120Hz)

工作电压 (V) Rated voltage	6.3	10	16	25	35	50	63	100	160	200	250	315	350	400	450	500
损耗角正切值 Tan (%) MAX	22	19	16	14	12	10	9	8	15	15	15	20	20	20	20	20

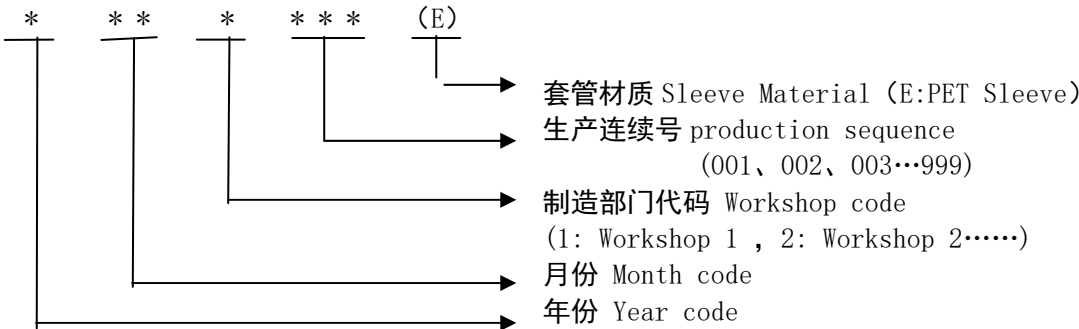
When nominal capacitance is over 1000 μF, Tan shall be added 0.02 to the listed valued with increase of every 1000 μF

5. 表示 Marking (Example: CD263 450V82)

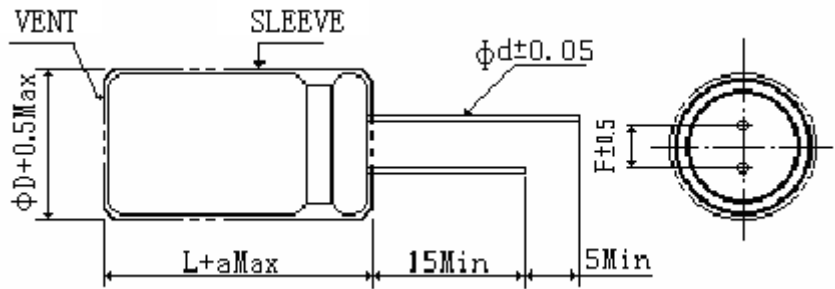


NO.	项 目 Item	NO.	项 目 Item
1	商 标 Brand	5	额定电压 Rated voltage
2	产品系列 Products series	6	静电容量 Capacitance
3	上限温度: High temperature	7	极 性 Polarity
4	*年度标记 Year code		

* 年度标记 Year code



6. 外形图 Dimensions



ΦD	5.0	6.3	8.0	10.0	12.5	16.0	18.0	20	20	22	25
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	7.5	10	10	12.5
Φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8	0.8	0.8	1.0	1.0
α	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.5	3.0

7. 纹波电流系数 Multiplier for ripple current

7. 1 频率系数 Frequency Coefficients

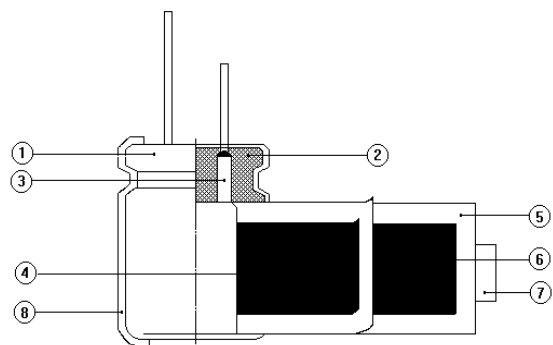
Rated Voltage (v)	Freq (Hz)	50, 60	120	1k	10k	50k	100k
	Cap (μF)						
6. 3~100	0. 1~4. 7	0. 32	0. 4	0. 7	0. 8	0. 92	1. 0
	10~47	0. 40	0. 5	0. 8	0. 9	0. 96	1. 0
	100~220	0. 56	0. 7	0. 9	0. 9	0. 96	1. 0
	330~1000	0. 64	0. 8	0. 9	1. 0	1. 0	1. 0
	2200~15000	0. 72	0. 9	1. 0	1. 0	1. 0	1. 0
160~500	0. 47~10	0. 8	1. 0	1. 75	2. 0	2. 4	2. 5
	22~47	0. 8	1. 0	1. 6	1. 8	1. 9	2. 0
	56~220	0. 8	1. 0	1. 3	1. 4	1. 6	1. 65

7. 2 温度系数 Temperature Coefficients

Temperature Coefficients							Voltage
40℃	60℃	70℃	85℃	90℃	95℃	105℃	
2.2	2.1	2	1.7	1.55	1.4	1	6.3~100V
2	1.9	1.8	1.4	1.3	1.2	1	160~500V

8. 构造图及材料表 (Frame drawing and Material list)

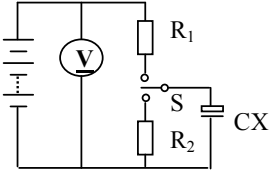
8. 1 构造图 (Frame drawing)



8. 2 材料表 (Material table)

NO	构成部件 parts	材 质 Material	供 应 商 Supply Factory	NO	构成部件 parts	材 质 Material	供 应 商 Supply Factory
1	铝壳 Case	铝 Aluminum	临安奥星、 通州新联	6	负极箔 Cathode Foil	铝 Aluminum	K-JCC、佳信电子、 吴江飞乐、万盛
2	橡皮塞 Rubber	合成橡胶 Synthetic rubber	浙江天台祥和、 苏州毅丰、玉环鑫庄、 联铭橡胶、	7	胶带 Tape	聚丙烯 Polypropylene	日东电工、 湖州润科、 杭州和联
3	引出线 Terminal	铝+CP 线 Aluminum + CP wire	南通全用电子、 南通南鑫电子	8	套管 Sleeve	PET	无等电子 苏州启联、 顺鹏塑胶、嘉宾发
4	正极箔 Anode Foil	铝 Aluminum	南辉电子、内蒙古海 立、海源、新疆众和、 四川立业、	9	电解液 Electrolyte	有机溶剂 Organic Solvent	江海电容器 有限公司
5	隔离纸 Separator	电解电容器纸 Electrolytic Capacitors paper	NKK、日本大福造纸、 浙江凯恩、山东新凯电 子				

9. 性能特征:Specifications

NO	项 目 Items	条 件 Conditions	规 格 Specifications
9.1	最大允许纹波电流 Maximum permissible ripple current	温度 Temperature : $105\pm 2^{\circ}\text{C}$ 纹波:120Hz 正弦交流实际电流值+交流电压峰值 $\leq$ 标称电压 Ripple frequency: The maximum sinusoidal alternating current of a frequency specified below at which the capacitor can be operated continuously, Where DC. Voltage +peak ripple voltage $\leq$ Rated voltage	见规格表 Refer to SPEC LIST
9.2	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 $30\pm 5\text{s}$, 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 $^{\circ}\text{C}$ Test Temperature : 15~30 $^{\circ}\text{C}$ 测试回路 Measurement circuit  R1: 串联保护电阻 (1K Ω) Protective series resistor (1K Ω) V: 直流电压表 DC Voltage R2: 放电电阻 Discharge resistor (1K Ω) 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 $\pm 15\%$ 以内 Capacitance change: Within $\pm 15\%$ of the initial value 损耗角正切: 不超过规定值 Dissipation Factor : Not more than the specified value $\times$
9.3	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 $\pm 20\%$ Capacitance Tolerance $\pm 20\%$
9.4	损耗角正切 (tg δ) 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

9.5

漏电流

Leakage Current

电容器接 $1000 \pm 10 \Omega$ 的保护电阻施加电压 1 或 2 分钟后的测试电流。

The rated voltage shall be applied across the capacitor and its protective resistor which shall be $1000 \pm 10 \Omega$. The leakage Current shall then be measured after an electrocution period of 2min. The leakage current shall be calculated by the following equation.

漏电流: $(I) = E/R_s$

Leakage current:

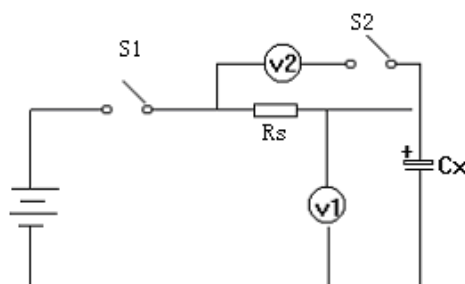
E: 直流电压表的电压值

Voltage measured with DC voltmeter

R_s : 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)

R_s : 标准电阻的电阻值 ($1000 \pm 10 \Omega$)

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

6.3~100WV: 0.01CV
或 3uA 以下

(2 分钟取大值)

Less than 0.01CV or 3uA
whichever larger
(2min)

160~500WV: (1min)

$CV \leq 1000$: $0.1CV + 40 \mu A$

$CV > 1000$: $0.04CV + 100 \mu A$

C: 标称静电容量 (μF)

Capacitance

V: 额定电压 (V)

Rated voltage

NO.	项目 Items	条 件 Conditions																												
9.6	高低温特性 Characteristic at High and low temperature	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 border="1"> <thead> <tr> <th>阶段 Step</th><th>温 度 Temperature</th><th>时 间 Time</th></tr> </thead> <tbody> <tr> <td>1</td><td>20±2℃</td><td>热平衡状态 Thermal equilibrium</td></tr> <tr> <td>2</td><td>-25 (-40) °C ±3℃</td><td>*2 小时 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 小时 2 hours</td></tr> <tr> <td>5</td><td>20±2℃</td><td>热平衡状态 Thermal equilibrium</td></tr> </tbody> </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 border="1"> <tbody> <tr> <td rowspan="2">阶段 2 Step 2</td><td>阻抗比 (对阶段 1) Impedance ratio</td><td>见 9.10 项 refer to No 9.10</td></tr> <tr> <td>静电容量变化率 (对阶段 1) Change in capacitance</td><td>静电 -20~0% within -20~0%</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> </tbody> </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.	阶段 Step	温 度 Temperature	时 间 Time	1	20±2℃	热平衡状态 Thermal equilibrium	2	-25 (-40) °C ±3℃	*2 小时 2 hours	3	20±2℃	热平衡状态 Thermal equilibrium	4	105℃±2℃	*2 小时 2 hours	5	20±2℃	热平衡状态 Thermal equilibrium	阶段 2 Step 2	阻抗比 (对阶段 1) Impedance ratio	见 9.10 项 refer to No 9.10	静电容量变化率 (对阶段 1) Change in capacitance	静电 -20~0% within -20~0%	阶段 4 Step 4	静电容量变化率 (对阶段 1) Change in capacitance	静电 0~+20% within 0~+20% of step 1	漏电流 Leakage Current	规定值 5 倍以下 Less than 500% of the specified value
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No.	项目 Items	条 件 C o n d i t i o n s	规 格 Specifications														
9. 7	压力释放 Pressure relief	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><th>Capacitance</th><th>Series resistor</th></tr><tr><td>$C \leq 1 \mu F$</td><td>$1000 \pm 100 \Omega$</td></tr><tr><td>$1 \mu F < C \leq 10 \mu F$</td><td>$100 \pm 10 \Omega$</td></tr><tr><td>$10 \mu F < C \leq 100 \mu F$</td><td>$10 \pm 1 \Omega$</td></tr><tr><td>$100 \mu F < C \leq 1000 \mu F$</td><td>$1 \pm 0.1 \Omega$</td></tr><tr><td>$1000 \mu F < C \leq 10000 \mu F$</td><td>$0.1 \pm 0.01 \Omega$</td></tr><tr><td>$10000 \mu F < C$</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。 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.	Capacitance	Series resistor	$C \leq 1 \mu F$	$1000 \pm 100 \Omega$	$1 \mu F < C \leq 10 \mu F$	$100 \pm 10 \Omega$	$10 \mu F < C \leq 100 \mu F$	$10 \pm 1 \Omega$	$100 \mu F < C \leq 1000 \mu F$	$1 \pm 0.1 \Omega$	$1000 \mu F < C \leq 10000 \mu F$	$0.1 \pm 0.01 \Omega$	$10000 \mu F < C$	*	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 .
Capacitance	Series resistor																
$C \leq 1 \mu F$	$1000 \pm 100 \Omega$																
$1 \mu F < C \leq 10 \mu F$	$100 \pm 10 \Omega$																
$10 \mu F < C \leq 100 \mu F$	$10 \pm 1 \Omega$																
$100 \mu F < C \leq 1000 \mu F$	$1 \pm 0.1 \Omega$																
$1000 \mu F < C \leq 10000 \mu F$	$0.1 \pm 0.01 \Omega$																
$10000 \mu F < C$	*																

No.	项目 Items	条 件 Conditions	规 格 Specifications																																		
9.8	高温负荷 Load life	在 105±2℃的恒温箱内，电容器施加最大允许纹波电流，施加直流电压和交流电压的峰值的和要等于额定电压，时间 2000 小时（$\phi \leq 8$:1000 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℃. It must not be subjected to direct radiation from heating elements. DC voltage and the rated ripple current shown in table shall be applied for a period of 2000 hours（$\phi \leq 8$: 1000 hours）. The sum of the DC voltage and peak AC voltage must not exceed the full rated voltage of the capacitor. It shall be subjected to standard atmospheric for 16 hours, after which measurement shall be made.	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 : $\leq$ Initial specified value Capacitance change : Within $\pm 20\%$ of initial value dissipation factor : $\leq$ 200% of initial specified value 试验后底部允许轻微鼓起：After test allow slight plump <table><tr><th>壳号（Φ）</th><th>判定基准</th></tr><tr><td><12.5</td><td>$\leq 0.8\text{mm}$</td></tr><tr><td>12.5~16</td><td>$\leq 1.0\text{mm}$</td></tr><tr><td>18~22</td><td>$\leq 1.6\text{mm}$</td></tr><tr><td>25</td><td>$\leq 1.8\text{mm}$</td></tr></table>	壳号（ Φ ）	判定基准	<12.5	$\leq 0.8\text{mm}$	12.5~16	$\leq 1.0\text{mm}$	18~22	$\leq 1.6\text{mm}$	25	$\leq 1.8\text{mm}$																								
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18~22	$\leq 1.6\text{mm}$																																				
25	$\leq 1.8\text{mm}$																																				
9.9	高温存储 Shelf life	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。	漏电流：不超过规定值的 5 倍 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 : $\leq 500\%$ Initial specified value Capacitance change : Within $\pm 20\%$ of initial value dissipation factor : $\leq$ 200% of initial specified value																																		
9.10	阻抗特性 Impedance stability	<table><tr><td colspan="2">Rated voltage（V）</td><td>6.3</td><td>10</td><td>16</td><td>25~100</td></tr><tr><td rowspan="2">Impedance radio</td><td>Z -25℃/+20℃</td><td>4</td><td>3</td><td colspan="2">2</td></tr><tr><td>Z -40℃/+20℃</td><td>8</td><td>6</td><td>4</td><td>3</td></tr></table> <table><tr><td colspan="2">Rated voltage（V）</td><td colspan="2">160~250</td><td>315 ~ 450</td><td>500</td></tr><tr><td rowspan="2">Impedance radio</td><td>Z -25℃/+20℃</td><td colspan="2">3</td><td>3</td><td>6</td></tr><tr><td>Z -40℃/+20℃</td><td colspan="2">8</td><td>6</td><td>10</td></tr></table>	Rated voltage（V）		6.3	10	16	25~100	Impedance radio	Z -25℃/+20℃	4	3	2		Z -40℃/+20℃	8	6	4	3	Rated voltage（V）		160~250		315 ~ 450	500	Impedance radio	Z -25℃/+20℃	3		3	6	Z -40℃/+20℃	8		6	10	
Rated voltage（V）		6.3	10	16	25~100																																
Impedance radio	Z -25℃/+20℃	4	3	2																																	
	Z -40℃/+20℃	8	6	4	3																																
Rated voltage（V）		160~250		315 ~ 450	500																																
Impedance radio	Z -25℃/+20℃	3		3	6																																
	Z -40℃/+20℃	8		6	10																																
9.11	可焊性 Solder ability	浸渍时间 Solder press time: 2±0.5s 焊接温度 Solder temperature: 235±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																																		
9.12	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 Appearance :无明显异常 No remarkable abnormality																																		

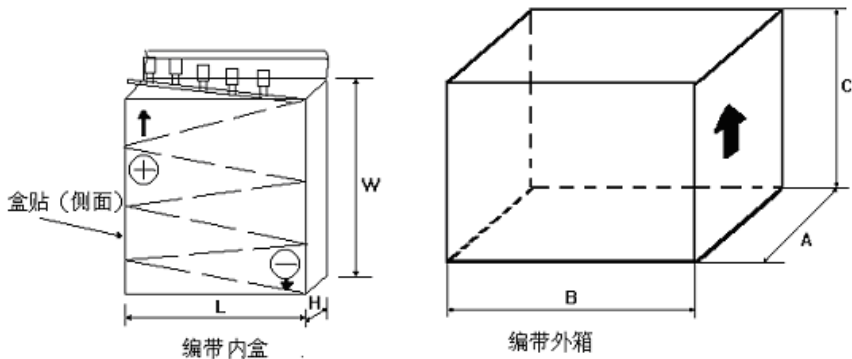
No.	项目 Items		条 件 Conditions			规 格 Specifications
9.1 3	耐湿性 Resistance of dump heat		温度: 40±2℃ Test Temperature : 40±2℃ 湿度: 90-95% RH Relative Humidity: 90-95%RH 时间: 240±8hrs Time: 240±8hrs 试验后常温放置 24-48 小时 To expose in the atmospheric condition for 24to 48 hours after completion of test			漏电流: 不超过规定值的 5 倍 Leakage Current :Not more than the 500% 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 Appearance :无明显异常 No remarkable abnormality
9.1 4	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 .			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
9.1 5	耐溶剂性 Resisting Solvent		溶剂: 异丙醇 Solvent :Isopropyl alcohol 温度: 20-25℃ Temperature: 20-25℃ 时间: 30±5s Time : 30±5s			外观: 无显著异常 Appearance :No remarkable abnormality
9.1 6	端子强度 Terminal Strength	拉伸度 Tensile test intensity	线径 Diameter of terminal (mm)	拉伸力 Tensile Strength (N)	维持时间 continued time	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.
			0.3<d≤0.5	5	10±1 sec	
			0.5<d≤0.8	10		
			0.8<d ≤	20		
			1.25			
		弯曲强度 winding intensity	2 回合 2 bends			
线径 Diameter of terminal (mm)	弯曲力 Tensile Strength (N)		锥质量 Awl quality			
0.3<d≤0.5	2.5		0.75 kg			
	0.5<d≤0.8	5	0.51 kg			
	0.8<d ≤	10	1.0 kg			
		1.25				

No.	项目 Items	条 件 Conditions	规 格 Specifications
9.17	温度循环 Temperature cycle	1) 低温: $-40^{+0}_{-3}^{\circ}\text{C}$ Low Temp: $-40^{+0}_{-3}^{\circ}\text{C}$ 2) 高温: $+85^{+3}_{-0}^{\circ}\text{C}$ High Temp: $+85^{+3}_{-0}^{\circ}\text{C}$ 3) Cycle 数: 100 回 Cycle :100 Cycle 4) 维持时间: 各阶段 30 分钟 Times: 30mins each step 若判定有疑义, 则按 JIS C5101-4 4.1 进行 电压处理 If any doubt arises on the judgment ,the capacitors shall be subjected to voltage treatment specified in JISC5101-4 4.1	漏电流: 不超过规定值的 5 倍 Leakage Current :Not more than the 500% specified value 电容量变化: 初测值的 $\pm 15\%$ 以内 Capacitance Change :within $\pm 15\%$ 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. 编带包装 Taping packing

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

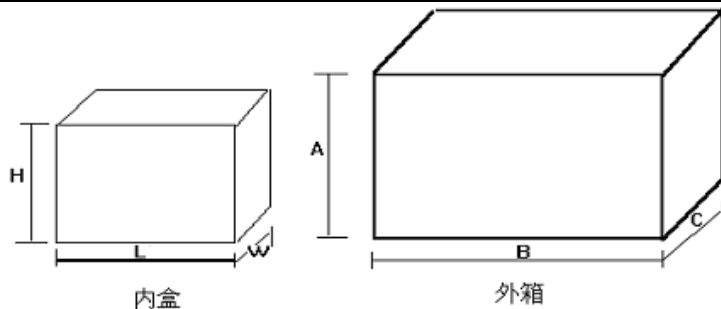
$\phi D \times L$	内盒 inbox				外盒 outbox			
	$W \pm 5$	$L \pm 5$	$H \pm 3$	Quantity (PCS)	$A \pm 5$	$B \pm 5$	$C \pm 3$	Quantity (PCS)
4×7	230	330	45	2500	345	500	250	25000
5×7	230	330	45	2000	345	500	250	20000
6.3×7	230	330	45	1500	345	500	250	15000
8×7	245	330	44	1000	350	520	270	10000
8×9	245	330	44	1000	350	520	270	10000
5×11.5	230	330	45	2000	345	500	250	20000
5×15	175	340	55	1500	360	615	200	15000
6.3×11.5	230	330	45	1500	345	500	250	15000
6.3×14	220	330	50	1500	350	480	270	15000
6.3×15	220	330	50	1500	350	480	270	15000
8×11.5	245	330	50	1000	345	540	270	10000
8×12	245	330	50	1000	345	540	270	10000
8×14	245	330	50	1000	345	540	270	10000
8×15	190	340	58	800	356	408	260	6400
8×16	190	340	58	800	356	408	260	6400
8×20	190	340	58	800	356	408	260	6400
10×12.5	190	340	50	500	356	408	225	4000
10×16	190	340	50	500	356	408	225	4000
10×20	190	340	58	500	356	408	260	4000
10×25	190	340	58	500	356	408	260	4000
10×30	190	340	68	500	356	408	295	4000
12.5×20	220	325	62	400	235	340	335	2000
12.5×25	220	325	62	400	235	340	335	2000
12.5×30	225	345	63	500	240	358	270	2000
16×20	225	345	63	250	240	358	270	1000
16×25	225	345	63	250	240	358	270	1000
16×30	218	345	68	250	230	358	295	1000
16×31.5	218	345	68	250	230	358	295	1000
18×35.5	275	345	73	250	290	358	330	1000
18×36	275	345	73	250	290	358	330	1000
18×40	275	345	78	250	290	358	330	1000



10.2 引线式长脚及成型产品散式包装 long Lead and molding products Packing

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

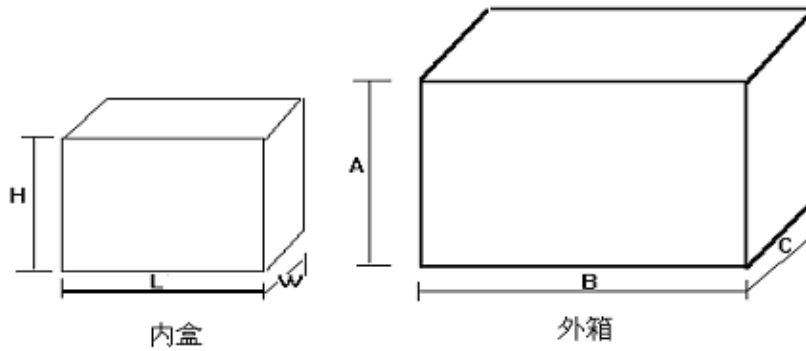
$\Phi D \times L$	内盒 inbox				外盒 outbox			
	$L \pm 5$	$W \pm 5$	$H \pm 3$	Quantity (PCS)	$A \pm 5$	$B \pm 5$	$C \pm 3$	Quantity (PCS)
4×7	280	210	145	Long lead:5000 Lead Cut and forming :10000	310	445	295	Long lead:20000 Lead Cut and forming :40000
5×7	280	210	145		310	445	295	
6.3×7	280	210	145		310	445	295	
5×11.5	280	210	145		310	445	295	
5×15	280	210	145					
8×7	280	210	145	5000	310	445	295	20000
8×9	280	210	145		310	445	295	
6.3×11.5	280	210	145		310	445	295	
6.3×15	280	210	145		310	445	295	
8×11.5	280	210	145	2500	310	445	295	10000
8×12	280	210	145		310	445	295	
8×14	280	210	145		310	445	295	
8×16	280	210	145		310	445	295	
8×20	280	210	145		310	445	295	
10×12.5	280	210	145		310	445	295	
10×16	280	210	145	2000	310	445	295	8000
10×20	280	210	145	1000	310	445	295	4000
10×30	280	210	145		310	445	295	
12.5×20	280	210	145		310	445	295	
12.5×25	280	210	145		310	445	295	
12.5×30	280	210	145	500	310	445	295	2000
12.5×35	280	210	145		310	445	295	
16×20	280	210	145		310	445	295	
16×25	280	210	145		310	445	295	
16×30	280	210	145		310	445	295	
18×18	280	210	145		310	445	295	
18×20	280	210	145		310	445	295	
18×25	280	210	145		310	445	295	
16×31.5	280	210	145	500	310	445	295	2000
16×35	280	210	145	Long lead:400 Lead Cut and forming :500	310	445	295	Long lead:1600 Lead Cut and forming :2000
16×40	280	210	145		310	445	295	
18×31.5	280	210	145	250	310	445	295	1000
18×35.5/36	280	210	145		310	445	295	
18×40	280	210	145		310	445	295	
18×45	280	210	145		310	445	295	
20×41	280	210	145	250	310	445	295	1000
22×40	280	210	145	150	310	445	295	600
22×35	280	210	145		310	445	295	
25×40	280	210	145		310	445	295	



10.3 引线式出口长脚产品排放式包装 long Lead export product packing

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

$\Phi D \times L$	内盒 inbox				外盒 outbox			
	$L \pm 5$	$W \pm 5$	$H \pm 3$	Quantity (PCS)	$B \pm 5$	$C \pm 5$	$A \pm 3$	Quantity (PCS)
10×51	145	115	93	100	300	250	210	800
12.5×20	166	135	60	100	290	350	210	1200
12.5×25	166	135	60	100	290	350	210	1200
12.5×51	166	135	93	100	290	350	210	800
16×25	185	175	70	100	362	195	300	800
16×30	185	175	70	100	362	195	300	800
16×31.5	185	175	70	100	362	195	300	800
16×35.5	185	175	80	100	362	195	350	800
16×40	185	175	80	100	362	195	350	800
18×31.5	225	195	70	100	415	240	240	600
18×36	225	195	70	100	415	240	240	600
18×40	225	195	80	100	415	240	260	600
18×45	225	195	90	100	410	245	290	600
18×50	225	195	90	100	410	245	290	600
20×41	245	212	80	100	450	255	175	400
20×46	245	212	90	100	450	260	200	400
22×35	265	236	85	100	490	280	190	400
22×41	265	236	85	100	490	280	190	400
22×45	265	236	90	100	490	285	200	400
22×51	265	236	90	100	490	285	200	400
25×40	295	270	85	100	285	315	360	400



11. 我公司目前生产的产品已经满足欧盟 RoHS 指令规定的标准，具体江海禁用限用物质标准如下：

Jianghai products have meet the RoHS directive standards, specific jianghai disable restricted substances as standard

序号	禁用物质名称 Name of prohibited substances	最大含量标准 Maximum content standard (PPM or mg/kg)	备注 remarking
1	Cadmium and - compounds (镉及其化合物)	5	
2	Mercury and - compounds (汞及其化合物)	2	
3	Pb and compounds (铅及其化合物)	90	
4	Cr VI (六价铬)	75	
5	PBBs, poly brominated biphenyl ethers (聚溴化苯醚) /PBDE	10	
6	PBBs, poly brominated biphenyl (聚溴化苯)	10	
7	PCBs, poly chlorinated biphenyl (聚氯化苯)	10	
8	PCTs, poly chlorinated terphenyls (聚氯烃)	10	
9	PCP, Pentachlorophenol (五氯酚)	10	
10	All types Asbestos (所有类型石棉)	10	
11	CFCS, Chlorofluorocarbons (氟氯化碳)	0	
12	HCFCs, Hydrogenated chlorofluorocarbons (加氢氟氯化碳)	0	
13	CHCs, Chlorinated hydrocarbons (氯烃化合物)	0	
对于所供产品的包装材料还需满足下列标准：For the packaging materials for products, need to meet the following criteria:			
14	Cadmium, Mercury, Lead and Chromium VI (镉、汞、铅和铬的总和)	100	参考 94/62/EC Reference 94/62/EC
补充要求：此标准未列明的其它重金属和化学物质含量标准以各个国家为准； Additional requirements: This standard does not indicate any other heavy metals and chemical substance content standards to all countries subject;			

* 欧盟 RoHS 指令规定的豁免不在上面标准之内。

RoHS exemption under the EU directive is not within the above criteria

* 环保物料定义：满足上述标准，并且已经无铅化；

Environmentally friendly materials Definition: meet the above criteria, and have been lead-free;

* 参考文件：94/62/EC(包装材料与包装废气物指令)、2002/95/EC(RoHS 指令)、

91/157/EEC(电池及蓄电池标准)、91/338/EEC(镉含量指令)、EN71-3(欧盟玩具重金属标准)

References: 94/62/EC (packaging material and packaging waste are Directive), 2002/95/EC (RoHS Directive), 91/157/EEC (the standard battery and battery), 91/338/EEC (cadmium content of instruction), EN71-3 (EU toy heavy metal standards)

二. 本公司符合欧盟 ROHS 指令的产品在电性能、尺寸方面没有任何改变，在焊接工艺方面没有任何要求，贵公司可以继续采用原有含铅焊接工艺。

Our company is in compliance with the European Union ROHS directive in electric products, no change.

In the soldering process, without any requirements of your company can continue using the original lead-based welding technology.

三. 满足欧盟无卤化要求。To meet the requirements without halogenated.