



湖南艾华集团股份有限公司

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客户Customer

日期Date: 2018年2月27日

承 认 书 SPECIFICATION

种 类: 固态铝电解电容器
Description: Aluminum Solid Electrolytic Capacitors
艾华料号 AISHI P/N: SVZ1EM101E06E00RAXXX
系 列 SERIES: VZ
规 格 尺 寸 ITEM: 25V100uF(Φ6.3*6)
客户料号 CustomerP/N: /
编 号No.: CRS-FX-1802069

批准 APPROVED BY		
制作 PREPARED BY	审核 CHECKED BY	批准 APPROVED BY
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制订/修订履历表Make/revised curriculum vitae

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6.1 电性能Electrical Characteristics

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序号 No.	项目 Item	测试方法 Test method				性能 Performance
6.1.6	高温&低温性 Characteristicsat Hight Temperature & Low Temperature					Step 1:容量、损失角在规格值内 Capacitance,tanδ shall meet the specified value
		步骤 Step	温度(℃) Temperature	时间 (h) Time	测试项目 Measurement item	Step 2:容差±10% Capacitance change :Within±10% of step1 阻抗比率小于1.25 Z (-55℃) / Z (20℃) Less than 1.25
		1	20±2	2	容量、损失角正切、阻抗 Capacitance,tanδ, Z	
		2	-55±3	2	容量、阻抗 Capacitance, Z	
		3	20±2	0.5		Step 4: 漏电小于规格值的150% Leakage current≤ 150% of the initial value.
		4	105±2	2	阻抗、漏电 Z ,LC	阻抗比率小于1.25 Z (105℃) / Z (20℃) Less than 1.25
		5	20±2	2	容量、损失角正切 Capacitance,tanδ	Step 5: 容差±5% Capacitance change :Within±5% of step1 损失角在规格值内 tanδ shall meet the specified value.
		备注Remarks: 120Hz: Capacitance,tanδ 100KHz: Z ,ESR				
6.1.7	浪涌电压 Surge voltage	额定浪涌电压充电30秒后，在室温下放电330秒。这一过程要重复1000次，每一次循环的时间为6分钟，测试温度为15℃-35℃。 Rated surge voltage shall be applied (switch on) for 30 seconds and then shall be applied (switch off) with discharge for 330 seconds at room temperature . This cycle shall be repeated for 1000 cycles . Duration of one cycle is 6 minutes . Test temperature: 15℃-35℃				漏电流≤规格值 Leakage current≤ initial specified value 容量改变在初始值的±20%内 损失角≤规格值的150% Capacitance change Within±20% of the initial value tanδ≤150% of the initial value. 等效串联电阻≤规格值的150% ESR≤150% of the initial specified value.

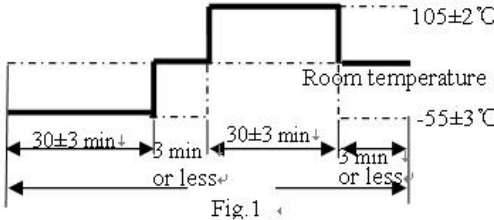
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6.2.1	振动试验 Resistance to Vibration	依照JIS C 5102 8.2和 JIS C 5025 To comply with JIS C 5102 8.2 and JIS C 5025 频率：10到55Hz(1分钟间隔/10→55→10Hz) Frequency: 10 to 55Hz (1 minute interval/10→55→ 10Hz) 振幅：0.75mm(整体偏移1.5mm) Amplitude : 0.75mm (Total excursion 1.5mm) 方向：X, Y, Z (3 轴) Direction : X , Y , Z (3 axes) 持续时间：2小时/轴 （共6小时） Duration : 2 hours / axial (Total 6 hours)	容量在30分钟内测量，与初始值相比不应有较大的差异，其改变在±5%以内 Capacitance value should not show drastic change compared to the initial capacitance when the value is measured within 30 minutes.Prior to the completion of exam, capacitance change should be within ±5% compared to the initial value after the exam 外观：导针不得断裂 Appearance:Don't lead wire broken
6.2.2	可焊性Solder ability	温度：235 ± 5 °C Temperature : 235 ± 5 °C 持续时间：2 ± 0.5秒 Duration : 2 ± 0.5 seconds 焊料:25wt%的松香(JIS K5902)//乙醇(JIS K 8101) Flux:Rosin (JIS K5902)//Ethanol(JIS K8101); About 25 wt.%	至少95%的浸渍表面覆盖有新的焊料 At least 95% of surface area of the dipped portion of the terminal shall be covered with new solder.

6.3 耐受能力Endurance Performance

序号 No.	项目 Item	测试方法 Test method	性能 Performance
6.3.1	耐焊接热Resistance to soldering heat	测试条件Test condition (1)汽相焊接的方法: 焊膏用于印刷电路板上后, 再安装电容器, 电容器应保持在气相液 $260\pm5^{\circ}\text{C}$ 的温度下 10 ± 1 秒。 Vapor phase soldering method: Solder paste should be applied to the printed wiring boards and then the capacitors are mounted on it. After that, the capacitor should be maintained in the vapor phase bath at a temperature of $260\pm5^{\circ}\text{C}$ for 10 ± 1 seconds. (2)焊接方法Soldering iron method: 温度Temperature: $400\pm10^{\circ}\text{C}$ 持续时间Duration: $3+1/-0$ seconds	容量变化在初始值的 $\pm5\%$ 内 Capacitance change: Within $\pm 5\%$ of initial capacitance 损失角 $\leq$ 规格值的150% $\tan\delta\leq 150\%$ of the initial specified value. 等效串联电阻 $\leq$ 规格值的150% $\text{ESR}\leq 150\%$ of the initial specified value. 漏电流 $\leq$ 规格值 Leakage current $\leq$ initial specified value.
6.3.2	稳态湿热 (恒稳态) Resistance to damp heat (steady state)	温度Temperature : $60\pm2^{\circ}\text{C}$ 相对湿度Relative humidity : $90\% \sim 95\%$ 持续时间Duration : $1000 (-0/+48)$ hrs 使用电压: 无负荷 Applied voltage : without load	电容变化在初始值的 $\pm20\%$ 内 Capacitance change within $\pm20\%$ of initial value 损失角 $\leq$ 规格值的150% $\tan \delta \leq 150\%$ of the initial specified value. 等效串联电阻 $\leq$ 规格值的150% $\text{ESR}\leq 150\%$ of the initial specified value. 漏电流 $\leq$ 规格值Leakage current $\leq$ initial specified value.

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序号 No.	项目 Item	测试方法 Test method	性能 Performance
6.3.3	快速变温 Rapid change of temperature	 使用电压：无负荷 Applied voltage : without load 循环次数：5次 Cycle number : 5 Cycles 测试图:Fig. 1Test diagram: Fig. 1	容量变化：在初始值的±10%内 Capacitance change : Within ±10% of the initial capacitance 损失角：小于或等于规格值 tanδ ≤ initial specified value. 漏电流：小于或等于规格值 Leakage current ≤ initial specified value
6.3.4	负荷寿命试验 Load Life Test	电容在105±2℃,加载直流电2000小时后，需在室温下放置2小时才可进行测试 After 2000hours continuous application of DC rated working voltage at 105 ± 2℃,the measurements shall be measured after 2 hours exposed at room temperature	容量变化：在初始值的±20%内 Capacitance change within ±20% of the initial value 损失角：小于规格值的150% tan δ ≤ 150% of the initial specified value. 等效串联电阻≤规格值的150% ESR ≤ 150% of the initial specified value. 漏电流≤规格值 Leakage current ≤ initial specified value 外观：没有明显的损伤 Appearance:No significant damage

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序号 No.	项目 Item	测试方法 Test method	性能 Performance																								
6.3.5	端子强度 Terminal Strength	测试方法 Test method 端子抗拉强度： 沿电容器端子引线方向施加拉力（如下表），10±0.1s <table><tr><td>引线直径Φ</td><td>0.45 mm</td><td>0.5 mm</td><td>0.6 mm</td><td>0.8 mm</td><td>1.0 mm</td></tr><tr><td>拉力N</td><td colspan="2">5N</td><td colspan="2">10N</td><td>20N</td></tr></table> 端子抗弯强度： 在电容器引线施加固定重力（如下表），然后，将电容器弯折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。 <table><tr><td>引线直径Φ</td><td>0.45 mm</td><td>0.5 mm</td><td>0.6 mm</td><td>0.8 mm</td><td>1.0 mm</td></tr><tr><td>拉力N</td><td colspan="2">2.5N</td><td colspan="2">5N</td><td>10N</td></tr></table>	引线直径Φ	0.45 mm	0.5 mm	0.6 mm	0.8 mm	1.0 mm	拉力N	5N		10N		20N	引线直径Φ	0.45 mm	0.5 mm	0.6 mm	0.8 mm	1.0 mm	拉力N	2.5N		5N		10N	特性 Performance 测量电容器应无接触不良、LC超规格值、开路或短路，无可见机械损伤 When the capacitor is measured, there shall be no intermittent contacts, no over specification LC, or open or short-circuiting. There shall be no such mechanical damage.
引线直径Φ	0.45 mm	0.5 mm	0.6 mm	0.8 mm	1.0 mm																						
拉力N	5N		10N		20N																						
引线直径Φ	0.45 mm	0.5 mm	0.6 mm	0.8 mm	1.0 mm																						
拉力N	2.5N		5N		10N																						

备注 REMARKS

如果有任何疑问，在电压处理后测量漏电流。

电压：直流额定电压适用于电容器在105℃下120分钟。

需在室温下放置2小时才可进行测试

If any doubt arises, measure the leakage current after following voltage treatment.

Voltage treatment : DC rated voltage are applied to the capacitors for 120 minutes at 105°C.

The measurements should be measured after 2 hours exposed at room temperature

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7.物料编码PART No. SYSTEM

S	VZ	1E	M	101	E06	E00	R	AXXX
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特殊编码 Special code(7.9)
 奈印编码 Marking code(7.8)
 成型方式编码 Terminal code(7.7)
 尺寸编码 Size code(7.6)
 电容量编码 Capacitance Code(7.5)
 电容公差 Capacitance tolerance
 电压编码 Voltage Code(7.3)
 系列编码 Series Code(7.2)
 类别编码 Category Code(7.1)

7.1 类别编码Category Code

编码Code	S
类别编码Category Code	固态电容Solid Capacitor

7.2 系列编码Series Code

编码Code	VZ
系列编码Series Code	VZ

7.3 电压编码Voltage Code

编码Code	0E	0J	1C	1E	1V	1J
电压编码VoltageCode(W.V)	2.5	6.3	16	25	35	63

7.4 电容公差Capacitance tolerance

“M”代表 -20 % ~ +20 % “M”stands for -20 % ~ +20 %

7.5 电容量编码Capacitance Code

编码Code	470	101	221	471	561	681	821	152
电容量Capacitance (uF)	47	100	220	470	560	680	820	1500

7.6 尺寸编码Size Code

编码Code	D08	B09	E06	E09	E11	F09	F11	G10	K18
直径D (Φ)	5	5.5	6.3	6.3	6.3	8	8	10	13
高度H (mm)	8	9	6	9	11	9	11	10	18

7.7 成型方式编码 Terminal Code

编码Code	D00	E00
其他 Other	贴片、散装SMD&Bulk	贴片、编带SMD&Taping

7.8 捺印编码Marking Code

编码Code	S	R
捺印Marking	天藍Sky blue	紅色Red

7.9 特殊编码 Special Code

“AXXX” 代表正常品, “AXXX” stands for normal products.

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8. 结构Construction



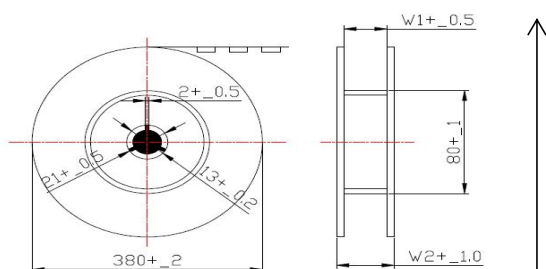
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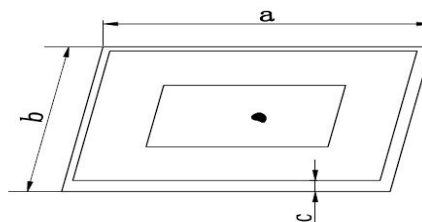
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13. 包装Packing

Bulk: Standard



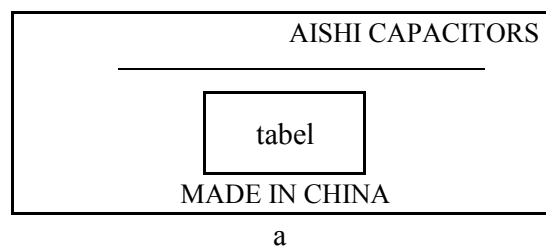
Direction
of
Unreeling



Carrier reel

Zipper bag

Aishi	
P/N:	
CUSTOMER P/N	
SIZE:	
Q'TY	
DATE	



13.1 散装包装In bulk Packing

散装Bulk: 标准Standard & 剪脚Cutting

分类Classification	标准Standard			
产品尺寸 Product size D*L(mm)	承载卷轴 Carrier reel/ (pcs)	外包箱 Outer carton/ (reel) 410x390x130 (mm)	承载卷轴尺寸Carrier reel size/ (mm)	
			W1±0.5	W2±1.0
6.3*6	1000	1	17/25	21.5/29.5
8*11	500	1	17/25	21.5/29.5
10*10	500	1	17/25	21.5/29.5

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Recommended reflow soldering condition

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It is conducted under an advance consultation with you if this specification is changed.

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