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客户:

Customer:

日期: 2026.6.25

Date: 2026.6.25

承 认 书 SPECIFICATION

种 类: 叠片式聚合物固体电容器

艾华料号: SA10JM330A19R80XXX

系 列: A1

编 号: GRS-DC-2606021

产品尺寸: 7.3*4.3*1.9

DESCRIPTION: Multi-layer Polymer Aluminum Solid Capacitor

AIHUA P/N: SA10JM330A19R80XXX

SERIES: A1

FILE NUMBER: GRS-DC-2606021

PRODUCT SIZE: 7.3*4.3*1.9

客户端批准 CLIENT APPROVED BY

制作 PREPARED BY	审核 CHECKED BY	批准 APPROVED BY
		

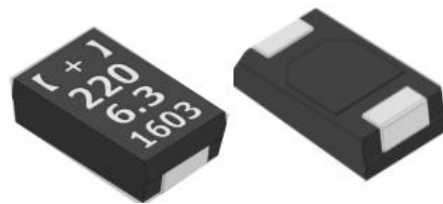
File Description	File number:
Specification-A1	GRS-DC-2606021

制订/修订履历表Make/revised curriculum vitae

编号NO.	版本Version	日期Date	内容Content
GRS-DC-2606021	CRS-2018-A/ 01	2026.6.25	Initial Release

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This specification is applicable to laminated solid aluminum electrolytic capacitors containing conductive polymer

●Recommended application:server,system motherboard, video card, small charger, smart TV,notebook etc.

艾华料号 AIHUA P/N	额定工作电压 Voltage (V.DC)	电容量 Capacitance (μ F,@120Hz,20℃)	尺寸 Size (L×W×H/mm)	运行温度范围 Operature Temp. range (℃)	浪涌电压 Surge voltage (V.DC)
SA10JM330A19R80XX X	6.3	33	7.3*4.3*1.9	-55~105	7.2
电容量公差Capacitance Tolerance	等效串联电阻 E.S.R (mΩ)	漏电流 Leakage current (μ A)	损耗因数 D.F (%)	纹波电流 Ripple Current (100KHz,45℃) (mA.rms)	寿命 Lifetime (Hrs)
-20%~+20%	80	41.6	6	2000	2000

纹波电流的温度补偿倍率Temperature Compensation Multipliers for Ripple Current		
$T \leq 45^{\circ}\text{C}$	$45^{\circ}\text{C} < T \leq 85^{\circ}\text{C}$	$85^{\circ}\text{C} < T \leq 105^{\circ}\text{C}$
1.0	0.7	0.25

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四. 电性能测试项目Electrical performance test project						
NO.	项目Item	测试方法Test method	判定标准Judging standard			
1	标称电容量范围 Capacitance Range	测试频率:120Hz 测试温度:20℃ 测试电压:0.5Vrms 测试电路:等效串联电路	用LCR仪测量并参照规格特性表 Measure by LCR meter and comply with specification			
2	损耗因数 Dissipation Factor (tan δ)	Test frequency: (120Hz) Test temperature: 20℃ Test voltage: 0.5Vrms Test circuit: equivalent series circuit	用LCR仪测量并参照规格特性表 Measure by LCR meter and comply with specification			
3	直流漏电流 DC Leakage Current	测试温度:20℃ 串联电阻:1000 Ω 电压: 额定电压 测试时间:2分钟 Temperature: 20℃ Series resistor:1000 ohm Voltage: Rated Voltage Measuring time:2min	用LC仪测量并参照规格特性表 Measure by LC meter and comply with specification			
4	等效串联电阻 ESR	测试温度:20℃ 测试频率:100KHz±10% 测试电压:0.5Vrms Test temperature: 20℃ Test frequency: 100KHz±10% Test voltage: 0.5Vrms	用LCR仪测量并参照规格特性表 Measure by LCR meter and comply with specification			
5	耐浪涌电压 Surge voltage	测试温度: 15℃~35℃ 浪涌电压:1.15倍额定电压 电压保持时间:30 ± 5 秒 无压时间 (包含放电时间):5min 30s 充放电次数: 1000次 Test temperature: 15℃~35℃ Surge voltages:1.15*Ur Duration of charge: 30 ± 5s Duration of no-load:5min 30s Number of cycles:1000times	外观:无可见损伤 (10倍放大镜), 按我司限度样本 容量变化率在±10%内 损失角DF≤规格值 漏电流LC≤规格值 Appearance:no visible damage (10x magnifier), according to the limit sample Capacitance change rate ≤ ±10% tanδ≤ initial specified limit LC≤initial specified limit			
6	振动试验 Vibration Test	频率: 10 to 55Hz, 每个循环1分钟 幅度: 全振幅1.5mm、半振幅0.75mm 方向和时间: X, Y, Z轴各2小时, 总计6小时 Frequency: 10 to 55Hz (1 minute per circle) Amplitude: total 1.5mm,half 0.75mm Direction and time: 2 hours for each of the X, Y, and Z axes, totaling 6 hours	外观:无可见损伤 (10倍放大镜), 按我司限度样本 容量变化率在±10%内 Appearance:no visible damage (10x magnifier), according to the limit sample Capacitance change rate ≤ ±10%			

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No.	项目 Item	测试方法 Test method	判定标准 Judging standard
7	可焊性 Solderability	锡膏: Sn96.5/Ag3.0/Cu0.5 焊剂: 非活性天然松香基液体焊剂 ROL0 焊料温度: 245℃±5℃ (锡银铜焊料) 235℃±5℃ (锡铅焊料) 浸渍时间: 2秒±0.5秒 Solder paste: Sn96.5/Ag3.0/Cu0.5 Flux: Non active natural rosin based liquid flux ROL0 Solder temperature: 245℃±5℃ (tin-silver-copper solder), 235℃±5℃ (tin-lead solder); Immersion time: 2 seconds ±0.5 seconds	10X放大镜: 至少95%的浸渍表面覆盖有新的焊料 10X magnifier: at least 95% of surface area covered with new solder.
8	稳态湿热 Resistance to damp heat	温度: 60±2℃ 相对湿度: 90%~95% 持续时间: 500(-0/+24) hrs 施加电压: 无电压 Temperature: 60±2℃ Relative humidity: 90%~95% Duration: 500(-0/+24) hrs Applied voltage: without load	外观: 无可见损伤 (10倍放大镜), 按我司限度样本 容量变化率: +50~-20% 损失角DF≤2倍规格值 漏电流LC≤3倍规格值 Appearance: no visible damage (10x magnifier), according to the limit sample; Capacity change rate: +50~-20%; tanδ≤2 times initial specified limit LC≤3 times initial specified limit
9	高温储存 High temperature Storage	温度: 105±2℃ 持续时间: 500(-0/+24) 小时 在室温下放置2小时后测试. Temperature: 105±2℃ Duration: 500(-0/+24) hrs Cool the capacitor at room temperature for 2 hours before measurements	外观无可见损伤 (10倍放大镜), 按我司限度样本 容量变化率在±20%内 损失角DF≤1.5倍规格值 漏电流LC≤规格值 Appearance: no visible damage (10x magnifier), according to the limit sample Capacitance change rate ≤ ±20% tanδ≤1.5 times initial specified limit LC ≤ initial specified limit
10	负荷寿命试验 Load Life Test	温度: 105±2℃ 施加电压: VR 持续时间: 2000(-0/+24) 小时 在室温下放置2小时后测试 Temperature: 105±2℃ Applied voltage: VR Duration: 2000(-0/+24) hrs Recovered at room temperature for 2 hours before measurements	外观无可见损伤 (10倍放大镜), 按我司限度样本 容量变化率在±20%内 损失角DF≤2倍规格值 漏电流LC≤2倍规格值 Appearance: no visible damage (10x magnifier), according to the limit sample Capacitance change rate is within ±20% tanδ≤2 times initial specified limit LC≤2 times initial specified limit

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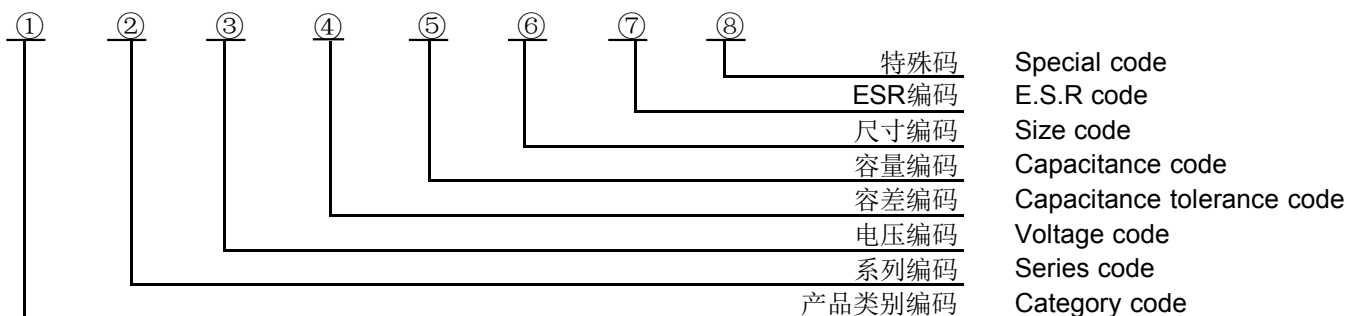
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五、物料编码Material code



1. 类别编码Category Code

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

2. 系列编码Series Code

编码Code	A1	A2
系列编码 Series Code	A1	A2

3. 电压编码Voltage Code

编码Code	0B	0E	0G	0H	0J	1A	1C	1E	1V	1H
电压编码Voltage Code(W.V)	2	2.5	4	8	6.3	10	16	25	35	50

4. 电容公差Capacitance tolerance

编码Code	Y	K	M	Q	V	A	C	J	B	W	G	L
电容公差 Capacitance	-25~ +20	-10~ +10	-20~ +20	-10~ +30	-10~ +20	-0~ +20	-5~ +20	+6~ +20	-10~- 20	-15~ +15	-15 ~+20	-35 ~+10

5. 电容量编码Capacitance Code

编码Code	4R7	100	150	220	330	470	680	820	101	151	181
电容量Capacitance (uF)	4.7	10	15	22	33	47	68	82	100	150	180
编码Code	201	221	331	471	561						
电容量Capacitance (uF)	200	220	330	470	560						

6. 尺寸编码Size Code

编码Code	A10~A19	A20~A29
(L×Wmm)	7.3×4.3	7.3×4.3
高度T(mm)	1.0~1.9	2.0~2.9

7. ESR编码E.S.R Code

编码Code	E.S.R(mΩ)	编码Code	E.S.R(mΩ)
R04	4.5	R10	10
R06	6.0	R15	15
R07	7.0	R35	35
R09	9.0	R60	60
R70	70	R80	80

8. 特殊编码Special Code

编码Code	XXX
特殊编码Special Code	Special Code
备注：此代码为预留代码 Remark: This code is reserved code	

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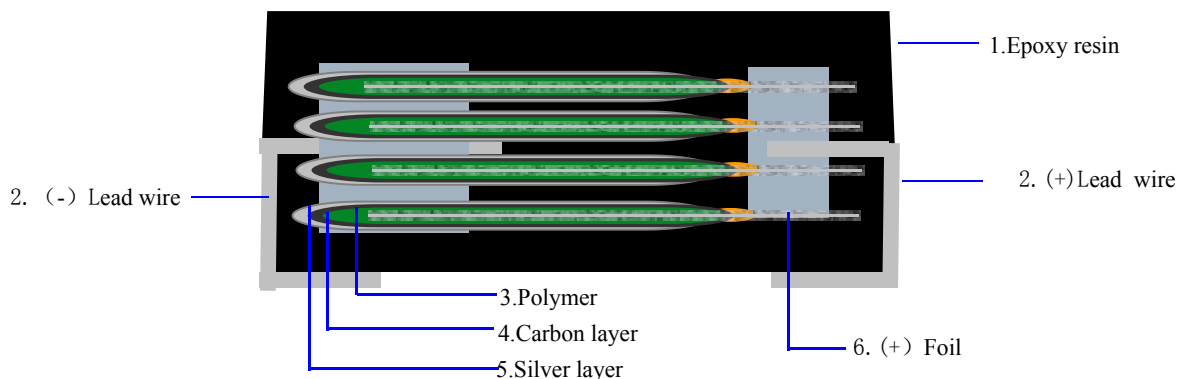
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六. 内部结构图Internal structure diagram



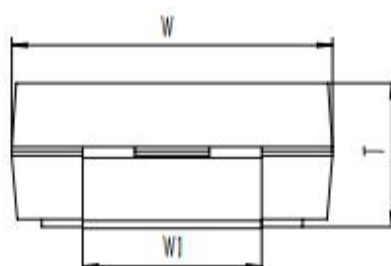
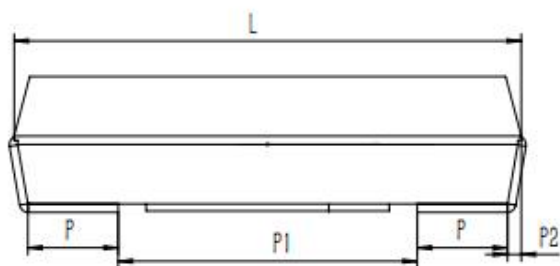
内部结构说明

1. 树脂：环氧树脂，用作密封；
2. 引线：固体镀锡铜，用作引出；
3. 导电高分子聚合膜：负极；
4. 碳浆层：降低阻抗，填充聚合物的空缺；
5. 银浆层：降低阻抗，起连接导电作用；
6. 铝箔：（正极）高纯铝，表面有绝缘电介质三氧化二铝。

The internal structure description:

- 1.Epoxy Resin: Epoxy resin is used for sealing;
- 2.solid copper leads: Solid copper leads plate with tin;
- 3.Conductive polymer film:Cathode;
- 4.Carbon pulp layer: fill in the interspace on ploymer surface and reducing ESR;
- 5.Silver pulp layer: connection and conduction , reducing ESR;
- 6.Aluminum foil (Anode) : High pure aluminum.The surface has insulating dielectric aluminum oxide.

七、外部结构图及尺寸； External structure and size;



Series Code	L(±0.2)	W(±0.2)	T(±0.2)	P(±0.2)	P1(±0.2)	P2 (+0.05 -0.15)	W1(±0.2)
A1	7.3	4.3	1.9	1.3	4.4	0.15	2.4

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八.标识Marking



正极标识

Polarity code

容量代码

Capacitance code

额定电压代码

Rated Voltage code

周期

Date code

1、年代码Year Code

代码Code	23	24	25	26	27	28	29	30
年份year	2023	2024	2025	2026	2027	2028	2029	2030

2、周代码Week Code

按照每年52周计周数

Based on 52 weeks per year

3、电压代码Voltage Code

代码Code	2	2.5	4	6.3	7	7.5	16	25	35	50
电压Voltage Code(W.V)	2	2.5	4	6.3	7	7.5	16	25	35	50

4、容量代码Capacitance Code

代码Code	4.7	10	22	33	47	100	150	220	330	470
容量 (μ F) Capacitance Code (μ F)	4.7	10	22	33	47	100	150	220	330	470

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十.使用注意事项Cautions for use**1. 上电注意事项Charging cautions**

- ①极性：聚合铝电解电容器是有极性的。使用时不可反向充电。如果反向充电，其会损坏电容氧化膜和电容器。
- ②允许纹波电流：纹波电流的使用不可超出“特性表”中所示的允许数值。如果超出，其会导致电容器发热并损坏电容器。电压使用总量及AC电压峰值不可超过额定电压。电压使用总量及AC电压峰值也不允许有反向电压。

- ①Polarity: Polymer Aluminum Electrolytic Capacitors have polarity. When used, it can not be reverse charged, because it will damage the capacitor oxide film and capacitors.
- ②Allowable ripple current: The use of the ripple current is not beyond the allowable values shown in the "characteristic table", which can cause the capacitor to heat and damage the capacitor. The total voltage and AC voltage peak value can not exceed the rated voltage.

2.保管条件Storage condition

- ①此产品采用防潮袋密封包装，在运输和存储过程中应加以适当的防护，以便保持防潮袋的密封功能不受损坏。在干燥且避免阳光照射的条件下，保证期为2年；
- ②此产品为湿度敏感器件，拆封后应按IPC/JEDEC J-STD-20 MSL3 规定的环境条件使用和管理，并于7天内使用完毕。

- ①This product is packaged in a moisture-proof bag and sealed. During transportation and storage, appropriate protection should be taken to maintain the sealing function of the moisture-proof bag. Under dry and sunshine-free conditions, the warranty period is 2 years;
- ②This product is a humidity-sensitive device. After unpacking, it should be used and managed according to the environmental conditions specified in IPC/JEDEC J-STD-20 MSL3, and it should be used up within 7 days.

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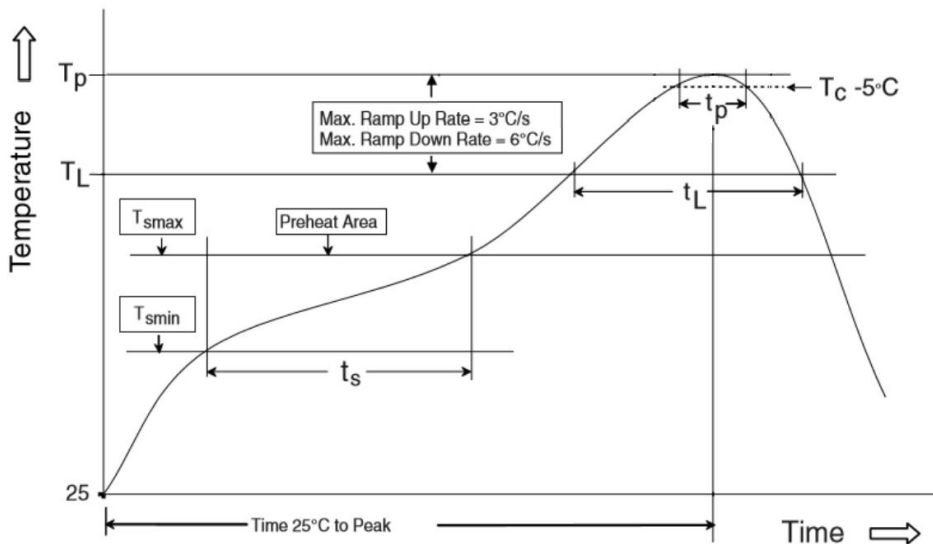
3.回流焊接Reflow

- ①回流焊的测试方法见下图，循环不超过两次；第1次回流后，必须确保电容器温度完全冷却至室温(15~35℃)后方可进行第2次回流。
- ②当在插板或焊接过程中，电容器不能受到过大的挤压，这可能会损坏电极端，或导致电性能发生变化。
- ③在高温无负载/高温高湿/温度突变等无负载状态下，即使使用环境在规定范围内，漏电流在回流焊后也可能会增加，而在大多数情况下，即使漏电流暂时增加，当施加电压时，由于其自修复作用，具有漏电流减小的特性。

①The test method of reflow welding is shown in the figure below. The cycle shall not be more than twice; After the first reflow, it is necessary to ensure that the capacitor temperature is completely cooled to room temperature (15-35℃) before proceeding with the second reflow.

②Please not to apply excessive force to the capacitor during insertion as well as after soldering, which will damage the electrode end, or/and causing changes of electrical performance.

③Under no-load conditions such as high temperature, high temperature and high humidity, or sudden temperature changes, even if the usage environment is within the specified range, the leakage current may increase after reflow soldering. In most cases, even if the leakage current temporarily increases, when the voltage is applied, due to its self-healing effect, it has the characteristic of reducing the leakage current.



T_P	T_L	T_{smax}	T_{smin}
260℃	217℃	200℃	150℃
t_P	t_L	t_s	Time 25℃ to peak
10S max	120S max	120S max	6min max

4.处置Disposal Method

聚合铝电解电容器需按法律以工业废物进行合理处置。

Polymer aluminum electrolytic capacitors need to be in accordance with the law to the rational disposal of industrial waste.

5.建议Suggestion

- ①在使用时请评估贵司产品贴装状态。
- ②此规格书所提及内容与用途，只针对此产品使用。

①Please evaluate your product placement status in use.

②The contents and purposes mentioned in this specification are for the use of this product only.

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6.电路设计.PCB design.

- ①请勿在高阻抗电压保持电路, 耦合电路, 时间常数电路, 漏电流影响大的电路, 或2个以上串联的电路中使用本产品。
- ②若施加超过规格书中规定的额定电压的过电压/逆电压, 则会导致漏电流增加或短路故障。施加电压是指包括过渡的瞬时电压峰值和纹波电压峰值的电压值, 并不只表示稳态线电压值。请进行电路设计, 使得峰值电压不超过规定电压。在冲击电压电路, 短时间施加超高电压的过渡现象及施加脉冲高电压等情况下, 请在额定电压以下使用。
- ③使用温度应在规格书中规定的范围内。设计时不仅要考虑设备所处的周围温度, 设备内的温度, 还要考虑本产品的温度, 包括设备内发热元件(功率晶体管, 电阻等)的辐射热, 由纹波电流引起的自发热等。
- ④请在确认本产品的额定值(静电电容, 额定电压), 极性, 焊盘尺寸后将其安装到基板上。在利用贴装机进行贴装时, 若贴装时施加的压力大则可能会导致漏电流增大或短路, 断线, 从基板脱落等。
- ⑤电烙铁作业应在烙铁头温度360℃以下进行, 作业时间在10秒钟以内, 并且不要对本产品施加强力。此外, 请勿拆下一度安装的本产品再使用。在规定条件外锡焊时, 会导致短路故障和ESR增加等。
- ⑥请勿对紧靠本产品贴装部下的基板表面进行绝缘处理。焊盘尺寸要参考规格书中规定的贴装规格进行设计。实际设计电路的尺寸应设计为可根据基板/零部件/回流焊等条件进行最佳贴装尺寸。
- ①Do not use this product in high-impedance voltage holding circuits, coupling circuits, time constant circuits, circuits with a large influence of leakage current, or circuits where two or more are connected in series.
- ②If overvoltage/reverse voltage exceeding the rated voltage specified in the specification is applied, it will lead to an increase in leakage current or a short circuit fault. The applied voltage refers to the voltage value that includes the transitional instantaneous voltage peak and the ripple voltage peak, and does not only represent the steady-state line voltage value. Please design the circuit so that the peak voltage does not exceed the specified voltage. In cases of impulse voltage circuits, short-term application of ultra-high voltage transition phenomena, and application of pulse high voltage, etc., please use below the rated voltage.
- ③The operating temperature should be within the range specified in the specification sheet. When designing, not only the ambient temperature where the equipment is located and the temperature inside the equipment should be taken into account, but also the temperature of the product itself, including the radiant heat of the heat-generating components (power transistors, resistors, etc.) inside the equipment and the self-heating caused by ripple current.
- ④Please install it on the substrate after confirming the rated value (electrostatic capacitance, rated voltage), polarity and pad size of this product. When using a mounting machine for mounting, if a large pressure is applied during mounting, it may lead to an increase in leakage current, short circuits, wire breaks, or detachment from the substrate, etc.
- ⑤The soldering iron operation should be carried out when the temperature of the soldering iron tip is below 360℃, and the operation time should be within 10 seconds. Do not apply strong force to this product. In addition, do not remove and reuse this product that has been installed before. When soldering outside the specified conditions, it may lead to short-circuit faults and an increase in ESR, etc.
- ⑥Do not insulate the surface of the substrate adjacent to the mounting part of this product. The pad size should be designed in reference to the mounting specifications specified in the specification sheet. The actual size of the designed circuit should be designed to be the size that can be optimally mounted according to conditions such as the substrate, components, and reflow soldering.

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