

BERYL®

# 承认书

## APPROVAL SHEET

铝电解电容器(Aluminium Electrolytic Capacitors)

No:20161012M

客户

深圳市金鹏辉科技有限公司

CUSTOMER

商标

BRAND: BERYL

日期

DATE: 2016-10-12

描述

DESCRIPTION:

100µF/16V Φ5\*11L

本体编带

系列

SERIES: ME

形状: 导针型

TYPE: RADIAL

供应商 VENDOR			客户 CUSTOMER		
Approver 批准	Auditor 审核	Designer 制作	Approver 批准	Auditor 审核	Tester 测试者
殷春禧	黄汝梅	梁贞贞			

承认后, 请签回一份, 在下正式订单前如未签回承认书, 视同默认本公司的相关标准及技术指标。

After approved, please sign back 1 Approval Sheet before order. If not, we will treat it as tacitly acknowledged and accepted our relative standard and technical index.



肇庆绿宝石电子科技股份有限公司

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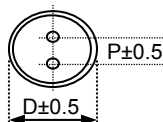
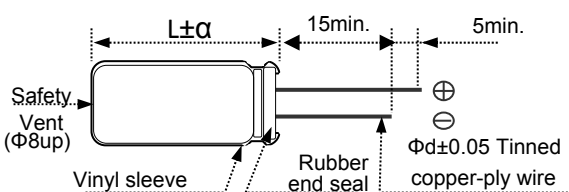
**ME Series**

- 105°C high-temperature resistance, Standard Product
- RoHS Compliant

◆ 规格表 Specifications

项目 Items	特性参数 Characteristics	
使用温度范围 Category Temperature Range	-40 ~ +105°C (16V)	
额定工作电压范围 Rated Voltage Range	16V	
静电容量允许偏差 Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)	
漏电流 Leakage Current	16V	I ≤ 0.03CV or 4uA, which is greater application of rated Voltage after 1 minute . 施加额定工作电压1分钟后读数，二者取大值
	Note: I=Max.leakage current (uA), C=Nominal capacitance(uF), V=Rated voltage(V) (at 20°C)	
损耗角正切值 tanδ Dissipation Factor	Rated voltage(V)	16
	tanδ(Max)	0.20
标称容量超过1000uF,则每增加1000uF,损耗角正切值增加0.02 (at 20°C, 120Hz) When nominal capacitance exceeds 1000µF, add 0.02 to the value above for each 1000µF increase.		
低温特性 Low Temperature Characteristics (Max.Impedance Ratio)	电容器在120Hz下的阻抗比值，不应超过下表所列出的值	
	Rated voltage(V)	16
	Z(-25°C)/Z(+20°C)	3
Z(-40°C)/Z(+20°C)	8	
耐久性 Endurance	105°C施加额定工作电压和最大允许纹波电流1000小时，（额定工作电压≥160V或铝壳≥Φ13的产品，为2000H）恢复到20°C后，产品性能应满足以下要求 The following specifications shall be satisfied when the capacitors are restored at 20°C after subjected to DC voltage with the rated ripple current is applied for 1000hours(2000 hours to meet the following two conditions ≥160V, or ≥13Φ at 105°C.)	
	Capacitance change	≤ ±20% of the initial value
	D.F.(tanδ)	≤ 200% of the specified value
	Leakage current	≤ The specified value
高温储存特性 Shelf Life	105°C存放1000小时，恢复到20°C后，产品性能应满足以下要求 The following specifications shall be satisfied when the capacitors are restored at 20°C after exposing them for 1000 hours at 105°C without voltage applied.	
	Capacitance change	≤ ±20% of the initial value
	D.F.(tanδ)	≤ 200% of the specified value
	Leakage current	≤ The specified value

◆ 外形图 Dimensions (mm)



ΦD	5
P	2.0
Φd	0.5

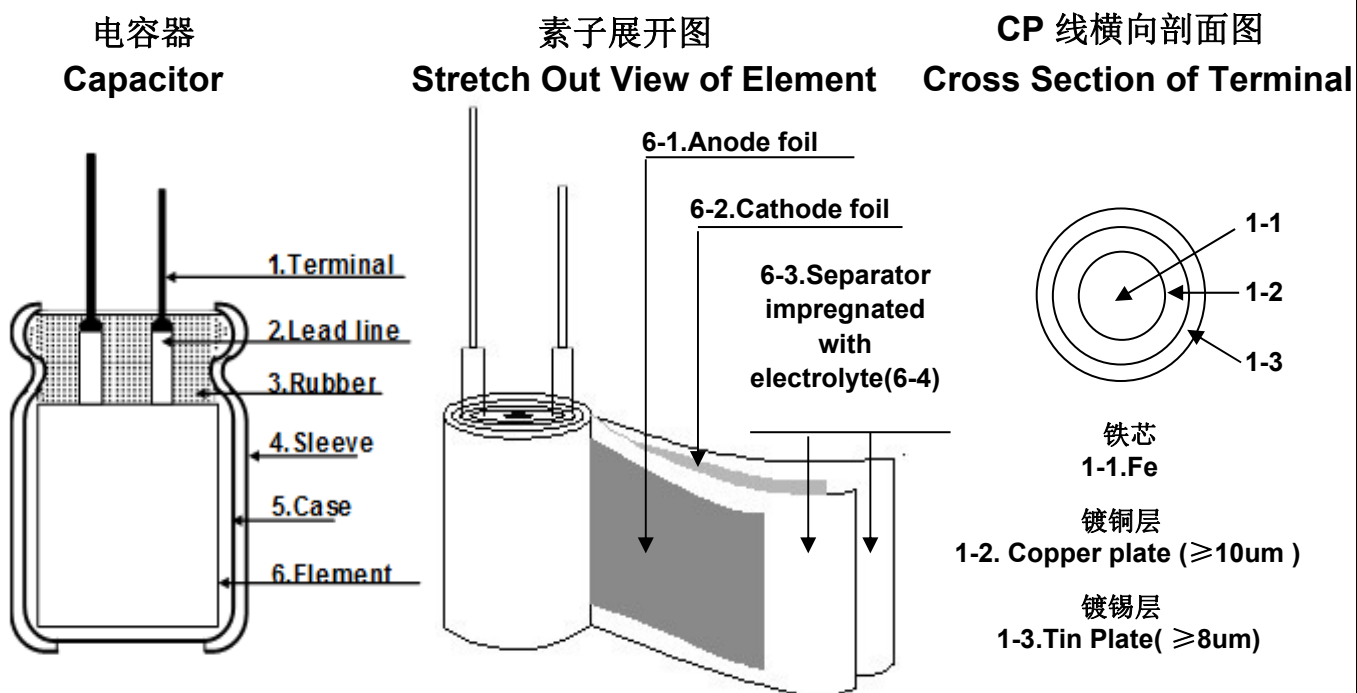
α	(L<20)1.5
	(L≥20)2.0

表中Max和Min均为样品实测数据.Max、Min value in the list is measured value.

BERYL		金鹏辉	主要技术参数									
部品号码	部品名	额定条件下 工作寿命	CX容量 (uF)at120Hz 20℃			DF损失(%)at120Hz 20℃			最大允许纹波 电流(mArms)温 度105℃ 频率 120Hz	LC漏电(uA)1分钟测试		
			80~120			≤20				≤48		
ME016M101PT5*11	100uF/16V Φ5*11L	1000H	Max	Min	$\bar{X}$	Max	Min	$\bar{X}$	115.00	Max	Min	$\bar{X}$
	黑色		102.36	92.70	97.53	9.60	6.27	7.94		3.10	2.20	2.65
PLANNED BY	CHECKED BY	APPROVED BY	BERYL									SHEET
梁贞贞	黄汝梅	殷春禧	BERYL									共8页, 第3页

# 铝电解电容器结构图

## Structure Drawing of Aluminum Electrolytic Capacitors



Item	组成材料 Component	材质 Materials	供应商 Vendor
1	CP线 Terminal	镀铜镀锡铁线 Tinned copper-ply wire	Japan-Funded Enterprises
2	引出线 Lead line	纯度为99.95%或99.97%的金属铝片 Aluminum, 99.95% or 99.97%	Nan Ming、Ri Hui
3	胶盖 Rubber	IIR 橡胶 IIR rubber	Lian An、Tian Hua
4	胶管 Sleeve	PET PET	Yun Lin
5	铝壳 Case	纯度为99.8%的金属铝 Aluminum, 99.8%	An Qi Li、Ao Xing
6-1	阳极箔 Anode Foil	纯度99.99%或99.98%的化成铝箔 Formed aluminum, 99.99% or 99.98%	Domestic or Imported
6-2	阴极箔 Cathode Foil	纯度99.7%或99.4%的腐蚀铝箔 Etched aluminum, 99.7% or 99.4%	Lun Yang、Guan Ye
6-3	电解纸 Separator	纤维纸 fiber paper	KAN、MHSSP
6-4	电解液 Electrolyte	乙二醇、铵盐等 Ethylene glycol, ammonium salt, etc.	BERYL、Xin Zhou Bang、Jiu Zhi

TITLE/DESCRIPTION

ALUMINUM ELECTROLYTIC CAPACITOR

铝电解电容器

BERYL

SHEET

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● Don't change written contents and append it.

● 记载内容不变更与添加

- 1.此部品不使用含有RoHS的指定物质.
- 2.对于RoHS物质使用的有无在承认书上要明确规定.
- 3.为部品易区分处理. 对塑料材料要标识材料记  
所谓标识记号详细请参照RoHS[塑料制部品的材料标识规定]  
但, 标识困难时除外.

「困难例」

- . 无记入标识记号的场所.
- . 因要记入标识可能会造成机能损坏.
- . 因生产方法标识困难.

4.成型用树脂. 油墨, 涂料, 覆盖电线要从绿色环保伙伴认定厂商购买.

- 1.This part should not contain any substances which are specified in RoHS
- 2.Clarity by delivery specifications about the existence of use of the substance which are specified in RoHS
- 3.In order to make sorting of plastic waste easy, material symbols is marked on the plastic part  
For details on marking symbols, refer to RoHSMarking of plastic parts and packaging material.

Marking may be omitted in the following cases:

- . Not enough space to apply the marking
- . Marking would interfere with performance or functional requirements
- . Marking technically not feasible due to the specific production method

4.Purchase ink, paint,wire rods. And molding resins only from the business partners that approves as RoHS

TITLE/DESCRIPTION  ALUMINUM ELECTROLYTIC CAPACITOR	BERYL	SHEET
----- 铝电解电容器		共8页, 第5页

## 5. Marking

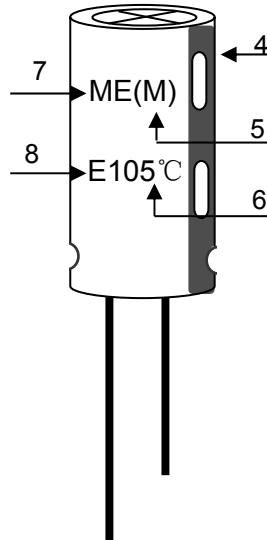
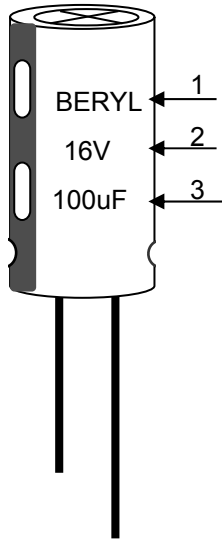
The following items shall be marked indelibly and legibly on specimen or each unit pack.

1. Manufacturer's name (abbreviated manufacturer's name permitted) or trademark.
2. Work voltage
3. Capacitance
4. Polarity of the terminals
5. Capacitance Tolerance
6. Work temperature
7. Series
8. Sleeve

## 5. 标示

每个部品的表面或最小包装单位依下记事项不易消失的方法来标示。

1. 制造者名(料号) 或商标
2. 额定电压
3. 静电容量
4. 极性
5. 静电容量允许误差
6. 最高使用温度
7. 系列
8. 胶管材质: PET



注: 1. 本承认书中所有数据如有异议, 以中文为准。

2. 在使用电解电容器时, 请参考承认书内的使用标准, 由于客户使用超出承认书相关参数和范围, 如额定电压、额定纹波电流、温度等, 不在我司质量保证范围内。

3. 由于电路设计不当或缺陷造成的电解电容器损坏, 不在我司质量保证范围内。

TITLE/DESCRIPTION

ALUMINUM ELECTROLYTIC CAPACITOR

铝电解电容器

BERYL

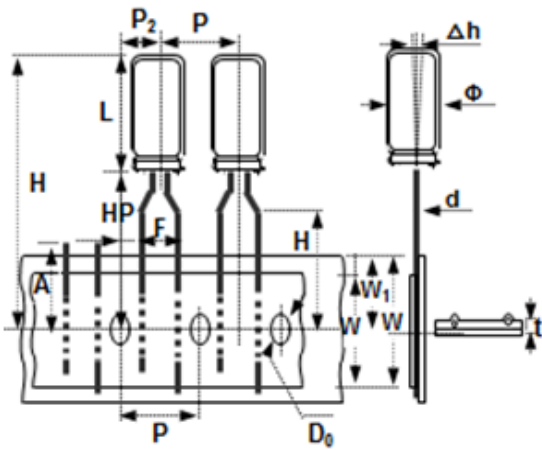
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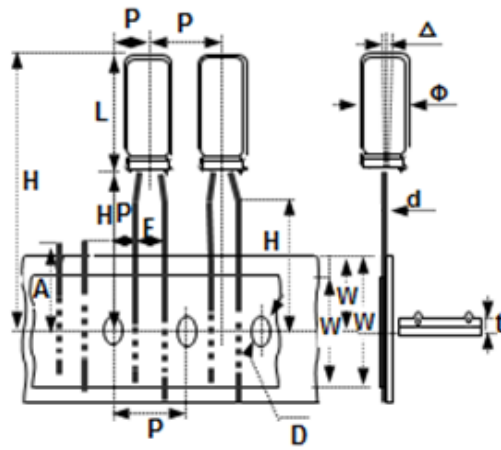
For Automatic Insertion Taping Capacitors

◆ Diagram Of Taping Dimensions (Unit=mm)

[ Fig. 1 ( Diameter for  $\Phi 4$  to  $\Phi 8$  )

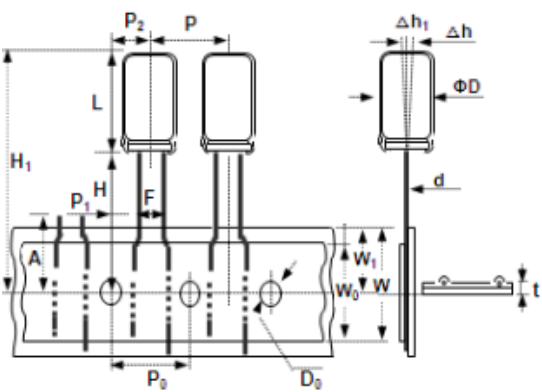


[ Fig. 2 ( Diameter for  $\Phi 4$  to  $\Phi 5$  )

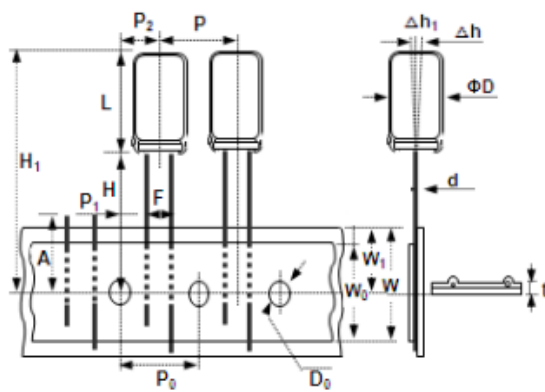


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[ Fig. 3 ( Diameter for  $\Phi 5$  to  $\Phi 8$  )



[ Fig. 4 ( Diameter for  $\Phi 10$  ,  $\Phi 13$  ,  $\Phi 16$  )



## ◆ Dimensions

Item	Symbol	Case Size									Tolerance	Tolerance
		4×7 4×5	5×7 5×5	6.3×7 6.3×5	5×11	6.3×12	8×9	10×12	10×16	10×20		
Lead Wire diameter	d	0.45			0.5			0.6			±0.05	
Body height	L	8.5			12.5	12	10.5	13.5	17.5	22	Max.	
Intervals of bodies	P	12.7									±1.0	
Intervals of punched holes	P <sub>0</sub>	12.7									±0.2	
Distance between holes and lead wire	P <sub>1</sub>	3.85									±0.7	Fig. 1、 Fig. 4
		5.35	5.10	5.10	5.10	5.10	4.60					Fig. 2
			5.4		5.4							Fig. 3
Distance between lead and lead	P <sub>2</sub>	6.35									±1.0	
Distance between lead and lead	F	5.00									+0.8 -0.2	Fig. 1、 Fig. 4
		2.5	2.5	\	2.5	\	\					Fig.2
		\	2.0	2.5	2.0	2.5	2.5					Fig.3
Base tape width	W	18.0									±0.5	
Adhesive tape width	W <sub>0</sub>	12.5									min.	
Deviation between holes and base tape	W <sub>1</sub>	9.0									±0.5	
Deviation between body bottom and tape center	H	18.5									±0.75	Fig. 1、 Fig. 4
												Fig. 2、 Fig. 3
Lead wire clinched height	H <sub>0</sub>	16.0									±0.5	Fig. 1、 Fig. 2
Distance between body top and tape center	H <sub>1</sub>	27.5	32.5				33.0	36.0	41.0	max		
Punched hole diameter	D <sub>0</sub>	4.0									±0.3	
Length of not good lead slit	A	11.0									max	
Base and adhesive tape thickness	t	0.7									±0.3	
Deviation of body alignment	△h	0									±2.0	
Deviation of body alignment	△h1	0									±1.0	