



LJ DEVICE CO., LTD.

力臻股份有限公司

LJ DEVICE CO., LTD.

零件規格書/承認書

SPECIFICATION FOR APPROVAL

CUSTOMER : _____

DESCRIPTION : φ 4*11mm , R2.5*3.5mm , 導線式

MODEL : Z4KJ1B0030472

CUSTOMER PART NO : _____

APPROVED SIGNATURES

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Rev	Date	Description	Designed	Checked	Approved
A	2010/11/8	Release		Kevin	

臺北市北投區吉利街 131 號 2 樓

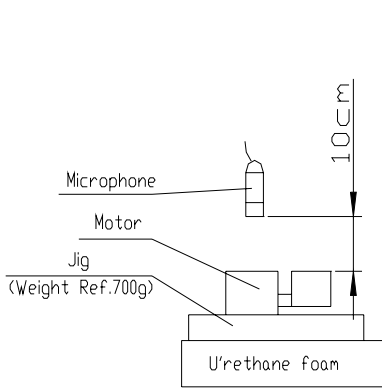
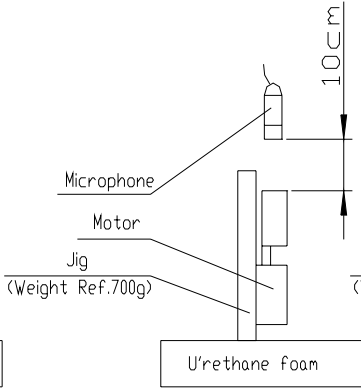
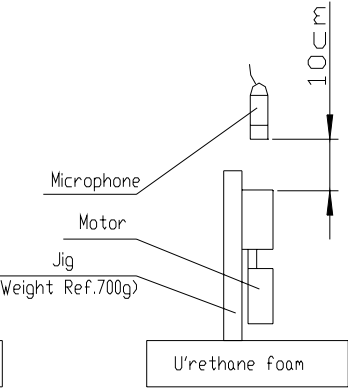
2F, NO. 131, JILI ST., PEITOU, TAIPEI, TAIWAN, R.O.C.

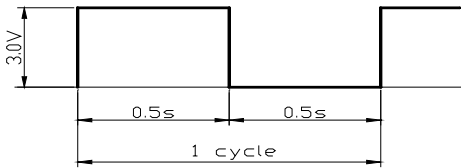
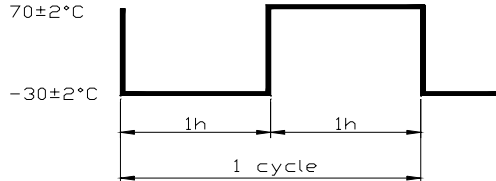
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规格书内容/Contents

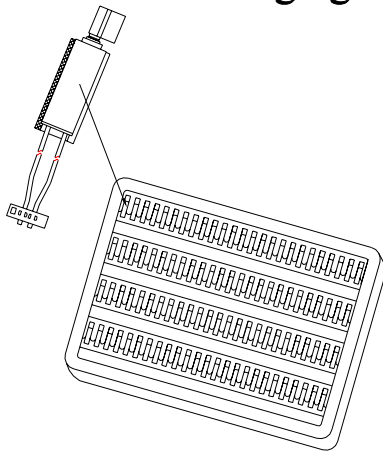
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2010.11.06		说明书/Specification		编号/No KOTL-B-S241		代码/code:0		3/9	
型号/Part No.				Z4KJ1B0030472					
1. 适用范围/General Scope 本说明书适用于圆筒式永磁直流电机 Z4KJ1B0030472 型 This specification applies to cylindrical permanent-magnetic motors DC model Z4KJ1B0030472.									
2. 使用条件/Operating Conditions									
项目/Item			规格/Specifications			条件·备注/Conditions & Remarks			
2-1		额定电压 Rated voltage		3.0V DC					
2-2		额定负荷 Rated load		振子 Counterweight			见 10. 外形图 As specified in 10. Outline Drawing		
2-3		旋转方向 Rotation		C.W/C.C.W (clockwise or counter clockwise)					
2-4		马达位置 Motor position		全方位 All position					
2-5		使用电压范围 Operating voltage		2.2～3.6V DC					
2-6		使用环境 Operating environment		-30～70℃,Ordinary Humidity			无水气凝结 No condensation of moisture		
2-7		保存环境 Storage environment		-40～80℃,Ordinary Humidity			无水气凝结 No condensation of moisture		
3. 测定条件/Measuring Conditions									
项目/Item			规格/Specifications			条件·备注/ Conditions & Remarks			
3-1		温度 Temperature		20±2℃					
3-2		湿度 Humidity		63%～67% RH					
3-3		位置 Motor position		轴向水平 Motor shaft horizontal			将马达固定在试验台上 Lock the motor in a test fixture		
标准测试条件为温度 20℃，湿度 65%。如无疑异，也可在温度 5～35℃、湿度 45～85%的条件下测试。 马达测试时，放置方向为轴向水平。/The measurement at 20℃ & 65%RH is standard. If the judgment is not questionable, recognize measurement at 5℃ to 35℃ & relative humidity 45% to 85%. Direction of motor is shaft horizontal.									
4. 机械要求/Mechanical Specifications									
项目/Item			规格/ Specifications			条件·备注/ Conditions & Remarks			
4-1		结构 Configuration		见 10. 外形图 As specified in 10. Outline Drawing			Outline drawing No: Z4KJ1B0030472		
4-2		外观 Appearance		不含有机械损坏及不充分的浸蚀等。 There shall be no evidence of mechanical damage and shall not have inadequate corrosion and so on			目测（容许范围根据样品外形） Visual examination(allowable extent is based on boundary sample)		
4-3		轴向间隙 Shaft end play		0.05mm～0.2mm					
4-4		振子固定力 Holding strength of vibration weight		49N (5kgf) Min					

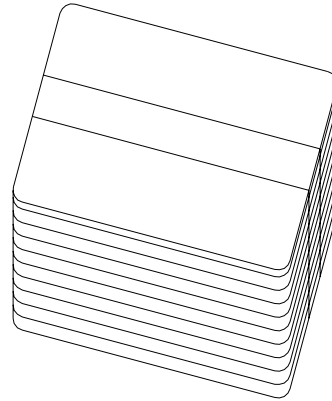
2010.11.06		说明书/Specification	编号/No KOTL-B-S241	代码/code:0	4/9
5. 性能特征/Performance and Characteristics					
项目/Item		规格/ Specifications		条件·备注/ Conditions & Remarks	
5-1	额定转速 Rated speed	10,500±2500rpm		在额定电压和额定负载（振子）下。 At rated voltage and rated load (Counterweight).	
5-2	额定电流 Rated current	70 mA Max			
5-3	堵转电流 Stall current	90 mA Max		在额定电压下。 At rated voltage	
5-4	起动电压 Starting voltage	1.7V DC Max		在额定负载（振子）下电枢的任意位置。 At rated load (Counterweight) any position of rotor.	
5-5	绝缘电阻 Insulation resistance	1MΩ Min		在 100V 直流下，端子和机壳间。 At DC 100V between Terminal and case.	
5-6	端子阻抗 Terminal resistance	41 Ω (±20%)		在 20℃ 下。 At 20℃	
机械噪音 Mechanical noise		50dB(A)Max			
在额定电压、额定负载（振子）下 背景噪音：不大于 28dB.A 计权 测试仪器：B&k 夹具重量：700g At rated voltage and rated load (Counterweight). Back ground noise 28dB(A) Max Measuring instruments: B&k Weight of jig:700g 5-7  Fig. A  Fig. B  Fig. C					

2010.11.06		说明书/Specification				编号/No KOTL-B-S241		5/9	
6. 可靠性/Reliability									
项目/Item		规格/ Specifications						判定标准/Judgment	
6-1	寿命 Life time							试验后,马达应符合项 7-1 的要求。 After the test, motors shall be approved as specified in item 7-1.	
		位置 Position	电压 Volt	负荷 Load	温度 Temp	湿度 Humi	寿命 Life		
		轴水平 Horizon	Rated 额定	Weight 振子	20℃	65%	200,000 Cycles		
6-2	低温放置 Low temp exposure	温度 时间 /Temperature: -40±2℃ /Time: 96h						在常温常湿下放置 2h 后, 马达应符合项 7-2 的要求。 After 2 hours exposure in ordinary temperature and humidity, Motors shall be approved as specified in item 7-2.	
6-3	高温放置 High temp. Exposure	温度 时间 /Temperature: 80±2℃ /Time: 96h							
6-4	湿度放置 Humidity exposure	温度 湿度 /Temperature: 40±2℃ /Humidity: 90~95%RH 放置时间 /Exposure time: 96h 无水气凝结/No condensation of moisture							
6-5	振动 Vibration	全振幅 /Displacement : 1.5mm (p-p) 频率 /Frequency: 10 ~ 55Hz 周期 /Period: 1min 范围内 10~55~10Hz /20 Minutes log sweep10~55~10Hz 方向 /Direction: x, y, z 时间 /Time: 每 2h/Every 2 hours						测试结果应符合项 7-2 的要求。 After the test motors shall be approved as specified in item 7-2.	
6-6	自然跌落 Free fall	试验状态/Test state:将马达固定在约 100 克（包括马达本身）的物体上，落向水泥地面。 Set the motor to the approximately 100g (include the motor) weight of block drop the motor on the concrete floor. 高度 /Height: 1.5m 方向 /Direction: ±x, ±y, ±z 次数 /Number of times:每个方向 2 次 / Twice 2 each						测试结果应符合项 7-2 的要求。 After the test motors shall be approved as specified in item 7-2.	
6-7	热冲击 Heat shock test	试验循环 /Test cycle :20 cycles 						在常温常湿下放置 2h 后, 马达应符合项 7-2 的要求。 After 2 hours exposure in ordinary temperature and humidity, Motors shall be approved as specified in item 7-2.	

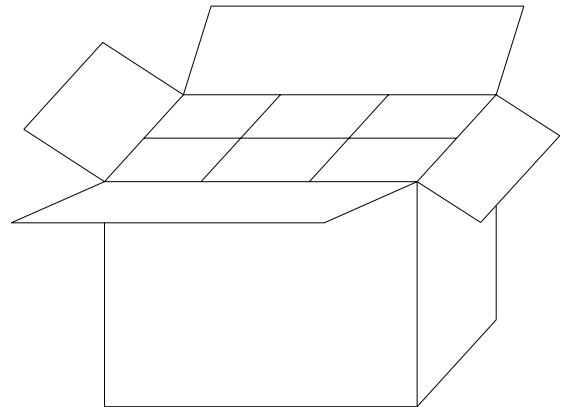
4mm(L型) 圆柱马达包装 Packaging drawing of 4mm cylindrical motor



100PCS (1 tray) × 10



1000PCS (1 bundle) × 6



包装试验要求

1. 标准

- (1) 整箱重量小于等于9kg的, 跌落高度设定为75cm.
- (2) 整箱重量大于9kg但小于等于23kg的, 跌落高度设定为60cm.

2. 试验方法:

跌落要求为六面三棱一角.

- (1) 六面: 先从最大两面跌, 然后是中间大小的两面, 最后跌最小的两面, 一共六次.
- (2) 三棱: 指任选三条同一角的棱, 跌落秩序: 最长棱, 中间长度, 最短的, 一共三次.
- (3) 一角: 指上一步三条棱所组成的角, 跌落一次.

3. 判定基准

经过跌落试验后, 产品外观、性能无不良.

Package Test Requirement:

1. Criteria

- (1) The weight of the whole carton less than 9kg, the dropping height is 75cm.
- (2) The weight of the whole carton more than 9kg and less than 23kg, the dropping height is 60cm.

2. Test Methods:

Dropping requirement is 6 faces, 3 aris, 1 angle.

- (1) 6 faces: First dropping with two biggest faces, then dropping with another two middle faces, at last dropping with two smallest faces, once per face, total 6 faces.
- (2) 3 aris: Choose any 3 aris which make up of the same the angle, the dropping sequence is the longest aris, middle aris, shortest aris. Total 3 times.
- (3) 1 angle: Point to the angle which is made up with the 3 aris in the above step. Dropping for 1 time.

3. Judgement Criterion

After drop test, no evidence of damage on the appearance and performance.

Remarks:

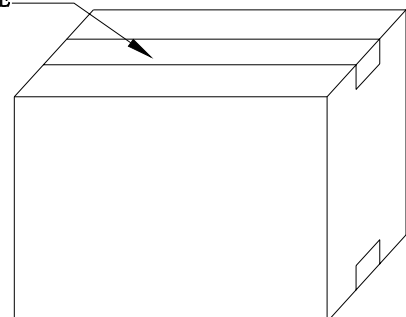
1000PCS/CTN: 23.5cm × 17cm × 27cm

2000PCS/CTN: 33.5cm × 23.5cm × 27cm

4000PCS/CTN: 46.5cm × 33.5cm × 27cm

6000PCS/CTN: 50.5cm × 46.5cm × 27cm

OPP TAPE



[illegible]