

力臻股份有限公司
LJ DEVICE CO., LTD.

零件規格書/承認書
SPECIFICATION FOR APPROVAL

CUSTOMER : _____

MODEL NO. : _____ **FD0612Z2530** _____

DESCRIPTION : _____

CUSTOMER PART NO : _____

APPROVED SIGNATURES

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Rev	Date	Description	Designed	Checked	Approved
A	2011/12/22	Release		Ethan	

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1. 使用範圍 Scope

該款 motor 適用於行動電話及無線尋呼機.本規格書只用於本公司 FD0612Z2530 MOTOR

This section motor is suitable for the mobile phone and the pagers

This specification book only uses in this company FD0612Z2530 MOTOR

2. 使用條件 Operating conditions

No.	項目 Items	規格 Specification
2-1	額定電壓 Rated voltage	DC 3.0 V
2-2	額定回轉速 Rated speed	11000rpm (normal)
2-3	額定電流 Rated current	65 mA (normal)
2-4	回轉方向 Rotating direction	CW / CCW 全方向 CW / CCW all directions
2-5	使用電壓範圍 Voltage range for use	DC 2.6 ~ 3.6 V
2-6	許用溫度範圍 Allowable temperature ange	1) 工作溫度範圍 : -20°C ~ 60°C Working temperature
2-7	標準存放條件 Standard depositing condition	2) 存放溫度範圍 : -40°C ~ 80°C Storage temperature 正常溫度正常濕度存放 Measure at normal temperature and humidity

3. 測試條件 Measuring condition

No.	項目 Items	規格 Specification
3-1	溫度 Temperature	20±5°C
3-2	濕度 Humidity	(65±5%)RH
3-3	馬達狀態 Motor position	馬達固定在測定夾具中保證輸出軸水準 The motor fixes in determines in the jig to guarantee the output shaftlevel

所有資料測試請參考 (3-1,3-2)

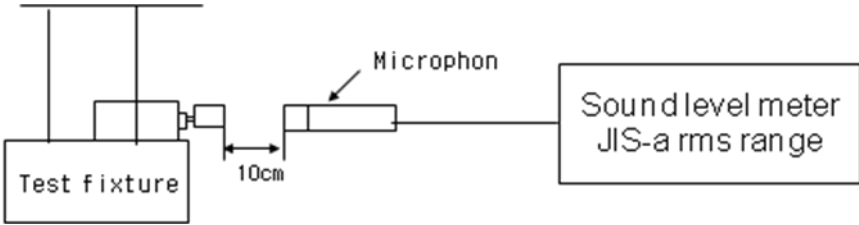
All data test please refer (3-1,3-2,3-3)

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4. 電氣性能 Electrical characteristics

No.	項目 Items	規格 Specification	測定條件 Measuring condition
4-1	額定電流 Rated load	75mA max.	在額定電壓,額定負荷下(擺錘重) At rated voltage and rated load
4-2	額定回轉速 Rated speed	11000±1500 rpm.	在額定電壓下測定 Measure at rated voltage
4-3	啟動電流 Starting current	130 mA max.	在額定電壓輸出軸堵轉 At rated voltage and shaft lock
4-4	啟動電壓 Starting voltage	2.0 V max.	在額定負荷下轉子的任意位置 At rated load (counter weight) any Position of rotor
4-5	電樞阻抗 Armature resistance	(23Ω±10% max.)	AT 20°C
4-6	絕緣強度 Insulation resistance	10 MΩ min.	端子和馬達外殼引加 DC 100V 電壓 Supply with DC 100V between a terminal and case of motor
4-7	機械噪音 Mechanical noise	45 dB(A) max.	背景雜音在 25 dB (A)測定 Back ground noise: 25 dB(A) max.
			

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5. 機械特性 Machinery characteristics

No.	項目 Items	規格 Specification	測定條件 Condition remark
5-1	重量 Weight		
5-2	軸向間隙 End play	0.3mm max	軸向游動的距離 Distance of axial play on shaft
5-3	外觀 Appearance	沒有機械的損害痕跡,並且也沒有腐蝕痕跡等 Does not have the machinery the harm trace, and has not corroded the trace and so on	目視檢查 Visual check

6. 壽命實驗 Life test

1). 壽命實驗條件:

Life test condition

- 引加電壓: DC3.0V Test voltage: DC3.0V

- 1 週期實驗條件: 2Sec 回轉, 2Sec 停止 1 cycle test condition: 2Sec.on, 2Sec.off

2). 測定條件根據 50,000 週期實施後, 滿足表 1 的評價專案.

Should be satisfied with evaluation items of table 1. after 50,000 cycles as following operating condition.

表 1. 評價專案 Table 1. Evaluation items

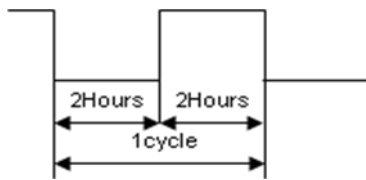
No.	項目 Items	規格 Specification
6-1	額定電流 Rated current	與初期值對比(±35%)以內 Not exceed (±35%) from the initial value
6-2	額定回轉速 Rated speed	回轉速的變化在初期值的(-30%, +60%)以內 Exceed (-30%, +60%) from the initial value
6-3	啟動電壓 Starting voltage	啟動電壓最大值為 2.0V (開, 關測試) DC 2.6V max (On/Off test)

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7. 可靠性實驗 Reliability test

No.	項目 Items	試驗條件 Test condition
7-1	高溫存放試驗 High temperature storage test	溫度:80°C±2°C ,時間:96 小時放置後在常溫下放置 24 小時以上測定. Expose to 80°C±2°C for 96hours and then return to normal temperature and humidity for 24hours before test.
7-2	低溫存放試驗 Low temperature Storage test	溫度:-40°C±2°C,時間 96 小時放置後在常溫下放置 24 小時以上測定 Expose to -40°C±2°C for 96hours and then return to normal temperature and humidity for 24hours before test.
7-3	濕度存放實驗 Humidity test	溫度: 40°C,濕度 90%RH,時間 96 小時放置後在常溫下放置 24 小時後測試 Expose to 40°C 90%RH for 96hours and then return to normal temperature and humidity for 24hours before test.
7-4	溫度衝擊實驗 Temperature shock	實驗週期時間:32cycles,Test duration 
7-5	振動實驗 Vibration test	全振幅:1.5mm(p-p) / total peak amplitude 頻率:10-55Hz / frequency 週期:10Min(10-55-10Hz) / period 方向: X , Y , Z / direction 實驗時間: 30 分鐘每階段 /test time
7-6	跌落實驗 Drop test	100gf 的 set 安裝後標準實驗裝備以 1.5m 高度 X-Y-Z 各方向各 6 面 3 次自由下落(總 18 次)後測定 Free-drop each side from 1.5m above standard test equipment (18 times) after attachment of 100gf set.

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8.注意事項 Cautions

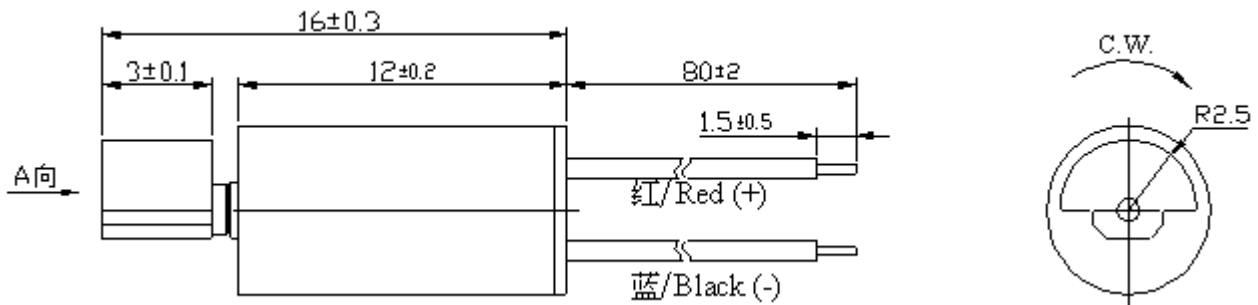
工作範圍 Workingrange	<p>使用時應與規格書一致,否則馬達壽命和性能會受到一定的影響(注意在工作電壓和工作電流範圍內)</p> <p>Unless it is used accordance with specifications, the performance and life may be considerably affected adversely. (Due attention should be to the working voltage and current range)</p>
存貯 Storage	<p>-馬達避免高溫,高濕,腐蝕性氣體及有機氣體環境下放置.室溫條件下存貯時間不超過 6 個月,</p> <p>-Please don't store motor under environmental conditions of high temperature, extreme humidity, corrosive gas, Organic gas. please don't store the motors for over 6motors even room conditions.</p> <p>-電路上的凝露會損壞馬達或控制電路.監視環境和採取措施防止凝露,如安裝感測器,必要時斷開電源.</p> <p>-Condensation on the electrical circuits can destroy the motor or control circuits. Monitor the environment and undertake measures to prevent condensation, such as installing condensation sensors to cut power when necessary.</p>
操作 Handing	<p>-輕拿輕放馬達,引加電壓後不要經常性堵住回轉軸,馬達在回轉時不要觸碰振子(防止馬達燒毀現象發生)</p> <p>-Hold the housing softly. Please don't lock the motor shaft when power is supplied and don't touch the counterweight when motor is rotating (may cause the burning problem)</p> <p>- 防止磁性物體吸引馬達磁鋼,如果磁性物體吸引馬達磁鋼,可能導致馬達停轉和機械噪音發生.</p> <p>- Don't bring a magnetized object or attracted object by the motor magnet, if such object attracted by the motor magnet, motor will cause no-rotation, mechanical noise</p>

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9.馬達外型圖 Outline drawings



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1. 額定電壓：3.0V
2. 額定電流：75mA Max
3. 額定轉速：1100±150rpm
4. 堵轉電流：130mA Max
5. 端子阻抗：23Ω(±20%)
6. 啟動電壓：2.0V Max
7. 軸向間隙：0.1~0.3mm
8. 導線規格：AWG30 UL1571
9. 所有尺寸為 A 向壓緊後的尺寸(不包括軸向間隙)
10. 未註尺寸公差為±0.1mm