

Need For Power Motor Specification

Specifications for Approval

(WI-007-A/1.0)

客 户	客户名称/Customer	
	客户料号/Part No.	
	客户承认签章 Customer Approved Signature	

敝 司	管理番号/Spec NO.	NFP-WI-002	
	产品名称 Description	扁平型永磁交流线行振动马达 Linear Resonant Actuator	
	产品型号/Model	ELV-1030A-50mm lead wire	
	制作日期/Date	2017-2-28	
	设计/Designed	审核/Checked	批准/Approved
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1、适用范围/Application:

本规格书适用于 NFP 电机有限公司设计和生产的 NFP-ELV1030AS 马达

These specifications are provided by SHENZHENG Need-For-Power Motor CO.,LTD which designs and produces NFP-ELV1030A motor(LRA).

2、使用条件/Standard operating conditions:

序号/NO.	项目/Item	条件/Condition	备注/Remark
2-1	额定电压/Rated voltage	AC 3.0V	
2-2	使用电压/Operating voltage range	AC 2.0~3.0V	
2-3	额定负载/Rated load	振子 With counterweight	见外形图 Refer to Drawing
2-4	旋转方向/Direction of rotation	上下移动	
2-5	马达位置/Motor position	全方位 All position	
2-6	工作环境/Operating temperature range	- 10 °C ~ +50 °C	
2-7	存储环境/Storage temperature range	- 40 °C ~ +60 °C	

3、测试条件/Test conditions:

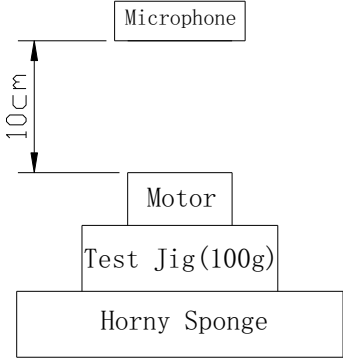
序号/NO.	项目/Item	条件/Condition	备注/Remark
3-1	温度 Temperature	25±3 °C	
3-2	湿度 Humidity	65%RH ± 20%RH	
3-3	位置 Position	轴向/ Motor shaft horizontal	将马达固定在实验台上/Lock the motor in the test fixture

4、电气性能/Electrical characteristics:

序号/NO.	项目/Item	单位/Unit	规格/SPEC	备注/Remark
4-1	额定工作频率/Load speed	HZ	200±20	在额定电压和额定负载下 At rated voltage and rated load
4-2	额定电流/Load Current	mA	70 Max	

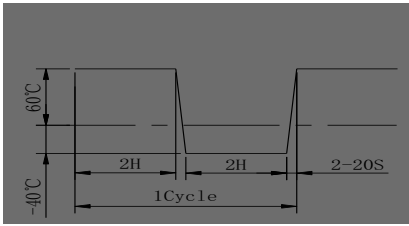
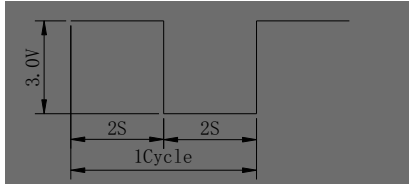
4-3	启动电压/Starting voltage	V	1.6 Max	在额定负载下的任意位置 At rated load any position of load
4-4	堵转电流/Starting current	mA	100 Max	在额定电压下 At rated voltage
4-5	端阻/Coil resistance	Ω	$26 \pm 15\%$	在 25°C 下/At 25 °C
4-6	绝缘电阻/Insulation resistance	M Ω	10M Ω	在直流 100V 下的导线和机壳之间/ Between lead wire and motor case, DC 100V

5、机械性能/Mechanical characteristics:

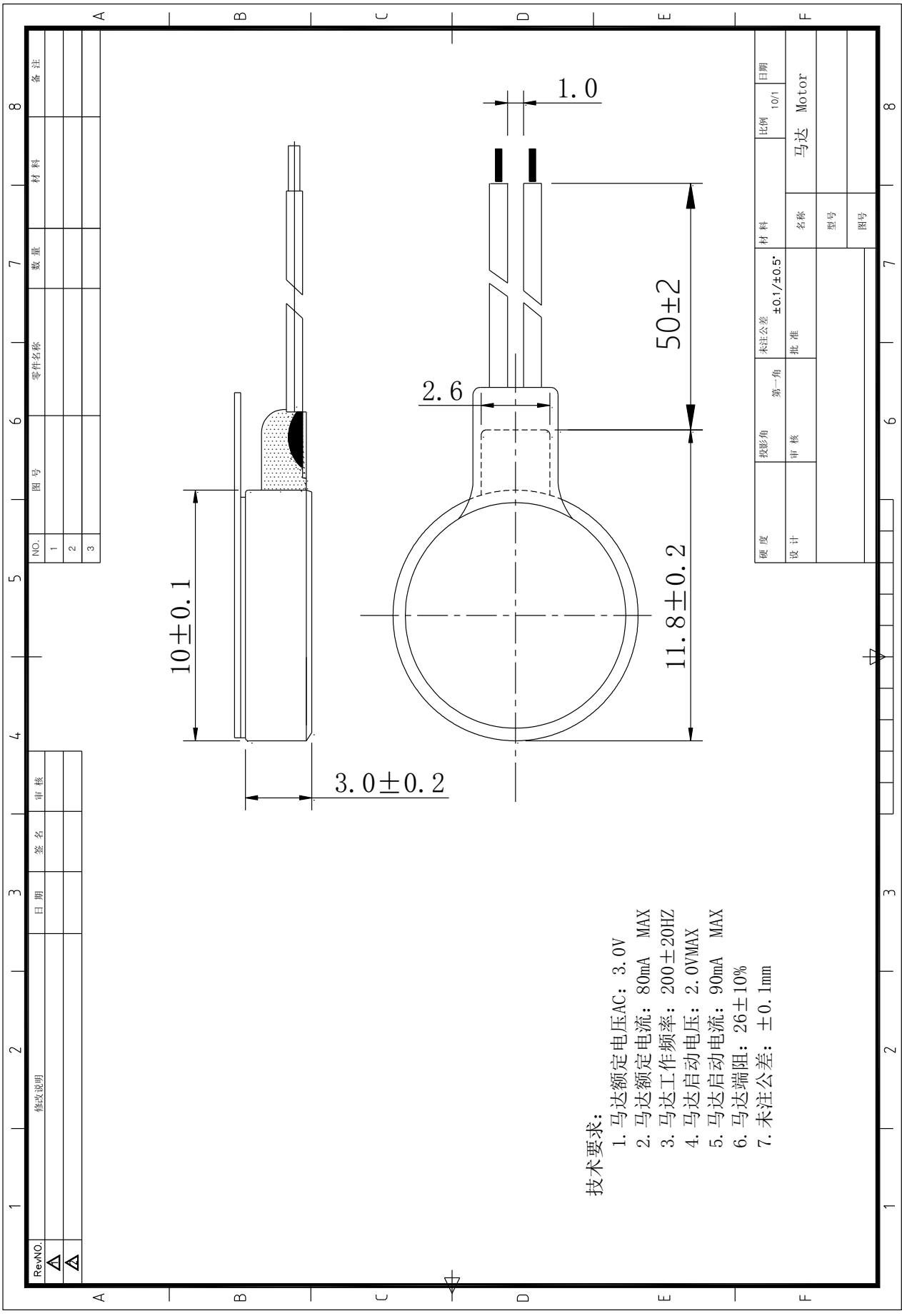
序号/NO.	项目/Item	单位/Unit	规格/SPEC	备注/Remark
5-1	结构/Configuration	/	见外形图/Refer to Drawing	
5-2	外观/ Appearance	/	不含有机机械损坏及浸蚀等不良现象	
5-3	底盖偏转强度 Bracket deflection strength	N	9.8 Min	
5-4	马达质量/Motor weight	g	About 0.9	
5-5	机械噪音 Mechanical noise	dB(A)	55 Max	环境噪音最大 28dB(A) Back ground noise 28dBA(max)
				

6、可靠性/Reliability tests:

序号/NO.	项目/Item	条件/Condition	判定标准/Judgment
6-1	低温放置 Low temperature storage	温度/Temperature: $-40 \pm 2^{\circ}\text{C}$ 时间/Time: 72 Hours	常温常湿下放置 2 小时后检测, 马达符合 6-8 要求/Measure after exposing at normal temperature and humidity for 2 hours, Motor shall be approved as 6-8.
6-2	高温放置	温度/Temperature: $60 \pm 2^{\circ}\text{C}$	常温常湿下放置 2 小时后检测, 马达符合 6-8

	High temperature storage	时间/Time: 72 Hours	要求/Measure after exposing at normal temperature and humidity for 2 hours, Motor shall be approved as 6-8.
6-3	湿热放置 High temperature humidity storage	温度/Temperature: $40 \pm 2^{\circ}\text{C}$ 湿度/humidity: 90%~95%RH 时间/Time: 72 Hours	常温常湿放置 12 小时后检测, 马达符合 6-8 要求/Measure after exposing at normal temperature and humidity for 12 hours, Motor shall be approved as 6-8.
6-4	自由跌落 Free fall	高度/Height: 1.5M 方向/Direction: $\pm X, \pm Y, \pm Z$ 次数/Time: 每方向 2 次/Each 2 times 夹具重量/Jig weight: 70g	常温常湿下放置 2 小时后检测, 马达符合 6-8 要求/Measure after exposing at normal temperature and humidity for 2 hours, Motor shall be approved as 6-8.
6-5	热冲击 Thermal shock	 周期/Cycle: 20	常温常湿下放置 2 小时后检测, 马达符合 6-8 要求/Measure after exposing at normal temperature and humidity for 2 hours, Motor shall be approved as 6-8.
6-6	振 动 Vibration	全振幅/Amplitude: 1.5mm (P-P) 频率/Frequency: 10 to 55 Hz 周期/cycle: In 20 Minutes 10~55~10Hz 方向/Direction: X、Y、Z 时间/Time: Each 2 hours	常温常湿下放置 2 小时后检测, 马达符合 6-8 要求/Measure after exposing at normal temperature and humidity for 2 hours, Motor shall be approved as 6-8.
6-7	寿 命 Life test	 实验进行 500,000 次 Test 500,000 Cycle	常温常湿下放置 2 小时后检测, 马达符合 6-8 要求/Measure after exposing at normal temperature and humidity for 2 hours, Motor shall be approved as 6-8.
6-8	实验后要求 Requirement after the test	额定电流/Load Current : 不高于初始值的 +30% Max +30% of original readings 额定转速/Load Speed : 不低于初始值的 -30% Min -30% of original readings 起动电压/Starting voltage : 2.5V Max	

7、外形图/Drawing:



技术要求:

1. 马达额定电压AC: 3.0V
2. 马达额定电流: 80mA MAX
3. 马达工作频率: 200±20HZ
4. 马达启动电压: 2.0VMAX
5. 马达启动电流: 90mA MAX
6. 马达端阻: 26±10%
7. 未注公差: ±0.1mm

RevNO.	修改说明	日期	签名	审核
△				
△				

NO.	零件名称	数量	材料	备注
1				
2				
3				

硬度	投影角	第一角	未注公差	材料	比例	日期
设计	审核	批准	±0.1/±0.5		10/1	
			名称		马达 Motor	
			型号			
			图号			

8、注意事项/Caution for use:

8-1 在马达周转和使用过程中, 请避免严重碰撞和敲击马达, 以防止马达性能受损.

During the process of operate motor, please avoid serious collision and knock to protect motor from property damage.

8-2 在马达周转和使用过程中, 请避免大力拉扯导线或弹簧片, 以防止马达输入电路系统受损.

During the process of operate motor, avoid using great strength to pull lead or spring leaf to protect motor from electrical system damage.

8-3 马达工作和存储的环境中均不可有腐蚀性气体存在, 如 H₂S, SO₂, NO₂, CL₂ 等.

Corrosive gas is not allowed to exist in the environment when motor is working and storing, such as H₂S, SO₂, NO₂, CL₂.

8-4 请在 6 个月内使用马达.

Please use motor within 6 months.

8-5 马达的存储和使用, 请严格按规格书标准设计和执行.

Storing and using motor, please strictly design and implement according to Standards.

9、变更记录/Revision Record:

序号 NO.	版本号 REV. NO.	变更原因 REVISION DESCRIPTION	作成 Written	承认 Approved	日期 DATE
1	A/0	初样作成			
2					
3					
4					
5					
6					
7					
8					