

Tsinglin Micro Motors Limited

产 品 规 格 书
PRODUCT SPECIFICATION

产品名称: 线性振动马达

产品型号: TSL-ELV0809X03A-L30

客户名称				
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1、适用范围/APPLICABLE SCOPE

本规格书适用于 ELV0809X 系列线性振动马达

THIS SPECIFICATION APPLIES TO LINEAR VIBRATOR MOTOR ELV0809X SERIES

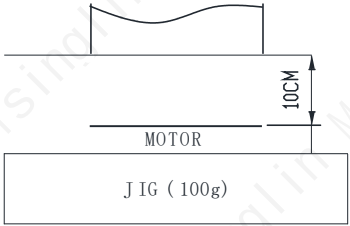
2、环境要求 / ENVIRONMENTAL REQUIREMENTS

序号/NO.	项目/ITEM	条件/CONDITION
2-1	测试环境/ MEASURING ENVIRONMENT	温度/TEMPERATURE: $25 \pm 2^{\circ}\text{C}$ 湿度/HUMIDITY: $65 \pm 2\% \text{RH}$
2-2	使用环境/ OPERATING ENVIRONMENT	温度/TEMPERATURE : $-10^{\circ}\text{C} - 60^{\circ}\text{C}$ 湿度/HUMIDITY: 10-85 %RH 无水气凝结 CONDENSATION WITHOUT WATER VAPOR
2-3	存储环境/ STORAGE ENVIRONMENT	温度/TEMPERATURE : $-30^{\circ}\text{C} - 70^{\circ}\text{C}$ 湿度/HUMIDITY: 10-85% RH 无水气凝结 CONDENSATION WITHOUT WATER VAPOR
标准测试条件为: 温度 25°C , 湿度 65%。如无疑义, 也可在温度 $5-35^{\circ}\text{C}$, 湿度 45-85%RH 条件下测试。 THE STANDARD TEST CONDITIONS ARE: TEMPERATURE 25°C , HUMIDITY 65%. IF THERE IS NO DOUBT, IT CAN ALSO BE TESTED UNDER THE CONDITION OF TEMPERATURE $5-35^{\circ}\text{C}$, HUMIDITY 45-85% RH		

3、性能和特性 / PERFORMANCE AND CHARACTERISTICS

序号/NO.	项目/ITEM	标准/SPECIFICATIONS
3-1	外观/ APPEARANCE	方形
3-2	外形尺寸/ OVERALL DIMENSION	$8 \times 9 \times 3.5 \text{ mm}$ (长 $\times$ 宽 $\times$ 高)
3-3	额定电压/ RATED VOLTAGE	0.9 V AC Sine wave
3-4	使用电压范围/ OPERATING VOLTAGE	0.1-0.9 V AC
3-5	启动电压/ STARTING VOLTAGE	0.1 V max
3-6	输入频率/ INPUT FREQUENCY	$175 \pm 10 \text{ Hz}$
3-7	振动方向/ DIRECTION OF VIBRATION	水平方向 X axis
3-8	额定电流/ RATED CURRENT	100mA max

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序号/NO.	项目/ITEM	标准/SPECIFICATIONS
3-9	电阻/ COIL RESISTANCE	$9 \pm 10\% \Omega$
3-10	振动量/ ACCELERATION	2.0 G MIN
3-11	上升时间/ RISING TIME	50ms max (从 0 上升到正常振感的 50% /Form 0 to 50% normal acceleration)
3-12	下降时间/ FALLING TIME	80ms 最大 (从正常振感 100%下降到 50% /Form 100% to 50% normal acceleration)
3-13	机械噪音/ MECHANICAL NOISE	最大为 50dB (A) /额定电压及负荷下测试, 背景噪音不超过 30 dB (A) 50dB (A) (MAX) /AT RATED VOLTAGE AND RATED LOAD BACK GROUND NOISE: 30dB (A) (MAX) 

4、可靠性试验/ RELIABILITY TEST

序号 NO.	试验项目 TEST ITEM	测试条件 TEST CONDITION
4-1	寿命试验 LIFE TEST	试验电压/TEST VOLTAGE: 0.9V AC 试验条件/TEST CONDITIONS: ON 2S OFF 1S 试验循环/TEST Cycle: 1000000 cycle
4-2	低温存储试验 LOW TEMPERATURE STORAGE TEST	温度/TEMPERATURE: $-40 \pm 2^{\circ}\text{C}$ 时间/TIME: 96H
4-3	高温存储试验 HIGH TEMPERATURE STORAGE TEST	温度/TEMPERATURE: $80 \pm 2^{\circ}\text{C}$ 时间/TIME: 96H

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序号 NO.	试验项目 TEST ITEM	测试条件 TEST CONDITION
4-4	湿度存储试验 HUMIDITY STORAGE TEST	温度/TEMPERATURE: $65 \pm 2^{\circ}\text{C}$ 湿度/HUMIDITY: 90-95% RH 时间/TIME: 96H
4-5	温度冲击试验 TEMPERATURE SHOCK TEST	测试模式/TEST MODE: 高温 85°C , 保持 1 小时, 低温 -40°C , 保持 1 小时, 高、低温转换时间不超过 5 分钟, 此为一个周期 1 HOUR AT 85°C , 1 HOUR AT -40°C , AS ONE CYCLE, TEMPERATURE CONVERSION TIME: < 5MIN 循环次数/NUMBER OF CYCLES: 15 CYCLES
4-6	跌落测试 DROP TEST	马达放置在约 100G 的夹具中, 然后将夹具自由跌落到大理石上。THE MOTOR IS PLACED IN A CLAMP OF ABOUT 100 G, AND THEN THE CLAMP FALLS FREELY ONTO THE MARBLE. 高度/HEIGHT: 1.5 M 方向/DIRECTION: $\pm X$ 、 $\pm Y$ 、 $\pm Z$ 测试次数/NUMBER OF THE TEST: EACH 2 TIME

5、可靠性试验判定标准 / STANDARD AFTER RELIABLE TEST

序号/NO.	标准/STANDARD
5-1	加速度/ACCELERATION: 不超出初始值的 $\pm 30\%$ / INITIAL VALUE $\pm 30\%$ 额定电流/RATED CURRENT: 100MA MAX. 噪音/NOISE: 无杂音 NO NOISE.
5-2	外观、结构无异常 THERE SHOULD BE NO ABNORMALITIES TO APPEARANCE AND STRUCTURE
说明/EXPLAIN:: 试验完成后, 需在常温条件中放置 2 小时后, 再测试性能是否满足要求 AFTER THE TESTS, IT IS NECESSARY TO PLACE THEM AT ROOM TEMPERATURE FOR 2 HOURS BEFORE TESTING WHETHER THE PERFORMANCE MEETS THE REQUIREMENTS	

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6、包装要求 / PACKAGE REQUIREMENTS

6.1 产品采用吸塑盒方式包装，每个吸塑盒装 100 个马达；

THE PRODUCTS ARE PACKED IN BLISTER BOXES, AND EACH BLISTER BOX CONTAINS 100PCS MOTORS.

6.2 每 1000 个马达（10 盒）为一包，用胶带捆好，并贴上对应的标签；

EVERY 1000 MOTORS (10 BOXES) IS A PACKAGE, WHICH IS BOUND WITH ADHESIVE TAPE AND PASTED WITH CORRESPONDING LABELS.

6.3 每 6 包产品（6K 个马达）装一箱，并按要求贴上对应的标签；

PACK EVERY 6 PACKAGES OF PRODUCTS (6K MOTORS) INTO A BOX AND AFFIX CORRESPONDING LABELS AS REQUIRED.

7、使用注意事项 / CAUTION FOR USE

7.1 电机在运输过程中应小心轻放，避免严重碰撞敲击引起的电机机身和性能受损。

PLEASE LAY THE NOTORS CAREFULLY IN TRANSPORTATION TO AVOID ANY SERIOUS DANAGE TO THE MOTOR BODY OR ITS ELECTRIC FUNCTION BECAUSE OF COLLISION.

7.2 必须按照规格书的标准使用，否则会影响电机寿命。

PLEASE USE THE MOTOR ACCORDING TO THE INSTRUCTION OF THIS PRODUCT SPECIFICATION, OR ELSE, IT WILL BE BAD FOR MOTOR' S LIFE.

7.3 请在 6 个月内使用，请不要在高温、低温、高湿环境下存储。在使用和打开马达外包装时请避免水气凝结。

MAKE ARRANGEMENT TO LIMIT THE STORAGE PERIOD TO 6 MONTHS OR LESS. PLEASE FO NOT STORE MOTOR IN HIGH TEMPERATURE, LOW TEMPERATUEE. HIGH HUMIDITY ENVIRONMENT. CONDENSATION OF ATMOSPHERE MUST BE AVOIDED IN MOTER USAGE OR OPENING THE PACKAGING OF THE MOTOR.

7.4 马达应适当的操作、储存和运转环境中均不可存在腐蚀性气体。例如：H2S、SO2、NO2、CL2 等。另外存储环境中不可有诸如硅、氰、甲醛水和苯酚等能放射出腐蚀性气体的物质，在电机的机械构造或装置中，如果存在腐蚀性气体，那么这会引起马达不运转。

FOR PROPER OPERATION, STORAGE AND OPERATING ENVIRONMENT MUST NOT CONTAIN CORROSIVE GASES. FOR EXAMPLE H2S. SO2. NO2. CL2. ETC. IN ADDITION STORAGE ENVIRONMENT MUST NOT HAVE MATERIALS THAT EMIT CORROSIVE GASES ESPECIALLY FROM SILICON, CYANIC. FORMALIN AND PHENOL GROUP. IN THE MECHANISM OR THE SET. EXISTENCE OF CORROSIVE GASES MAY CAUSE NO ROTATION IN MOTOR.

7.5 注意马达的工作环境，避免含铁质等物体被马达吸住，否则马达将会产生噪声，性能会降低，从而减少产品可靠性。

DUE ATTENTION MUST BE PAID TO THE HANDLING AND WORKING ENVIRONMENTS BECAUSE SUCH OBJECTS AS IRON POWDER IF ATTRACTED BY THE MOTOR MAGNENT, WILL CAUSE NOISE, CHARACTERISTIC DETERIORATION THUS REDUCING THE TELIABILITY.

7.6 请不要在接近强磁场或有强磁场的仪器设备处保存或工作

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PLEASE DO NOT KEEP OR WORK AT THE INSTRUMENTS AND EQUIPMENT CLOSE TO OR WITH STRONG MAGNETIC FIELD.

8、产品外形图 / PRODUCE OUTLINE DRAWING

