



立得微电子（惠州）有限公司
Leader Micro Electronics (huizhou) Co., Ltd

产品规格书

PRODUCT SPECIFICATION

客户	客户名称/Customer		
	客户料号/Part No.		
	客户承认签章 Customer Approved Signatures		
敝 司	文件编号/Spec No.	LEADER-Z-061217950-L35	
	品名 Description	圆柱直流马达 Cylindrical DC Motor	
	型号/Model	LCM061217950-L35	
	送样日期/Date		
	作成/Designed	检讨/checked	承认/Approved
	张婷婷 2022.09.14	张冠军 2022.09.14	王运东 2022.09.14

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1. Operating scope/适用范围

1. OPERATING SCOPE/适用范围 THIS SPECIFICATION APPLIY TO LCM0612STANDARD VIBRATOR MOTOR.

本产品说明书适用于 LCM0612 标准振动马达。

2. Operating conditions/使用条件

No. 序号	Items 项目	Specification 规格
2-1	Rated voltage 额定电压	3.0V DC
2-2	Rated speed 额定转速	16500±3000rpm
2-3	Rated cureent 额定电流	170mA MAX
2-4	Rotating direction 回转方向	CW / CCW all directions 顺, 逆时针方向皆可
2-5	Motor posture 摆放位置	Any posture is available 任何位置都可以
2-6	Voltage range for use 使用电压范围	2.0V-3.0V DC
2-7	Allowable temperature range 可用温度范围	1) Working temperature : -10°C ~ 60°C 工作温度 2) Storage temperature : -20°C ~ 60°C 储藏温度
2-8	Appearance 外观	Should be free of crack, rust, stain and dents. 外观上没有刮伤, 生锈及凹痕等不良现象



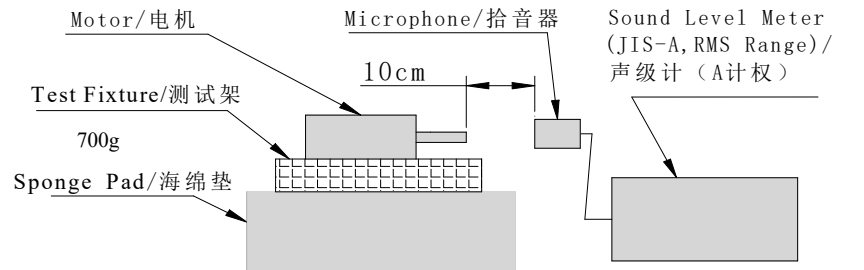
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3.Measurement conditions/测试条件

No. 序号	Items 项目	Measuring condition 测试条件	Specification 规格
3-1	Rated load 额定电流	Measure at rated voltage 在额定电压下测定	170mA max
3-2	Rated speed 额定转速	Measure at rated voltage 在额定电压下测	16500±3000rpm
3-3	Stall current 堵转电流	Measure current at locked weight in rated voltage 在额定电压及锁定电机转子条件下测试	310 mA Max
3-4	Starting voltage 起动电压	Minimum voltage for starting (On / Off Test) 起动的最小电压条件作通断测试	2.0V DC Max
3-5	Terminal resistance 电枢电阻	Measure between terminals 在端子间测试	10Ω±15%
3-6	轴向间隙 Shaft end play		0.05mm~0.2mm
3-7	额定负荷 Rated load	见外形图 As specified in outline drawing	R2.5*5.0 偏心轮(单重 0.75g)
3-8	Measuring condition 测试条件	常温常湿下测定，监测应当在20±3℃， 65±5 %RH.条件下进行	

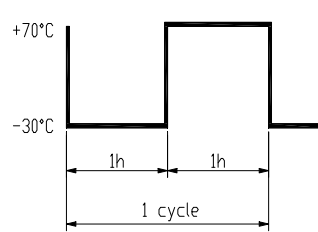
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4. Mechanical properties and properties/机械性能和特性

No. 序号	Items 项目	Measuring condition 测试条件	Specification 规格
4-1	振子轴向拔出力 Holding strength of Counterweight		≥ 7.0kg.f
4-2	Insulation resistance 绝缘电压	Supply with DC 100V between the lead wire(shrapnel or PIN) and the vibration weight在导线(弹片或者PIN)与振动子之间提供 DC 100V 电压	20MΩ MIN
4-3	Mechanical Noise 机械噪音	At rated voltage and rated load back ground noise: 35dB(A) max. 额定电压及负荷下测试 背景噪音不超过35分贝	65dB(A) MAX
			

5. Requirements/判定基准

NO. /序号	Item/项目	Requirements/判定基准
5-1	TABLE A	Rated speed/额定转速: Initial data/初始值±50%Max Rated current/额定电流: Initial data/初始值±50%Max Starting voltage/起动电压: 0.8V DC Max
5-2	TABLE B	1)Rated speed/额定转速: Initial data/初始值±30%Max 2)Rated current/额定电流: Initial data/初始值±30%Max

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6.Reliability test/信赖性测试			
NO. /序号	Item/项目	Test condition/试验件	Requirements/判定基准
6-1	Life寿命	Voltage/电压: 3.0V DC LOAD/负荷: COUNTERWEIGHT(摆轮重) TEMPERATURE/温度: 25°C±2°C HUMIDITY/湿度: 65±2%RH TEST MODEL/试验形式: 1S(C.W.)ON 1S OFF TEST TIME/试验时间: 100,000cycles	After the test ,motors shall be approved as specified in item 5-1试验后, 马达能满足5-1的规定
6-2	Low temp exposure低温放置	Temperature/温度: -20±2°C Time/时间: 48hours	After 2 hours exposure in ordinary temperature and humidity ,motors shall be approved as specified in item 5-2常温常湿条件下放置2小时后, 马达满足5-2的规定
6-3	High temp exposure高温放置	Temperature/温度: 60±2°C Time/时间: 48hours	
6-4	Humidity exposure湿度放置	Temperature/温度: 40±2°C Humidity/湿度: 90±5%Rh Time/时间: 48hours	
6-5	Thermal shock热冲击	 <p style="text-align: center;">Test cycle/试验循环周期数: 20cycles</p>	After 2 hours exposure in ordinary temperature and humidity ,motors shall be approved as specified in item 5-2常温常湿条件下放置2小时后, 马达满足5-2的规定
6-6	Free fall自然落下	Set the motor to the approximately 100g(include the motor)weight of blockDrop the motor on the concrete floor 将马达放在一个重100g的盒子里跌落至混凝土地面上 Height/高度: 1.0m Direction/方向: x,y,z Number of times /次数: Each 2times	After the test , motors shall be approved as specified in item 5-1试验终止后, 马达能满足5-1项的判定基准



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6-7	振动 Vibration	全振幅/Displacement :1.5mm (p-p) 频率 /Frequency :10~55Hz 周期 /Period :20min 范围内 (10~55~10Hz) /20 Minutes log sweep (10~55~10Hz) 方向 /Direction :x、y、z 时间 /Time :每 2h /Each 2 hours	After 2 hours exposure in ordinary temperature and humidity ,motors shall be approved as specified in item 5-2常温常湿条件下放置2小时后, 马达满足5-2的规定
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7. Cautions/注意事项

7-1 Tests related to rated rpm and to rated current are to be measured holding the motor in a horizontal posture./额定数据的测试应在马达水平放置且被固定的状态下进行。

7-2 Soldering/焊接

To avoid damaging terminals or lead wires, soldering time should be completed within 1-2 seconds./焊接应在1-2秒内完成,以免损坏端子或导线。

7-3 Storage/储存

Avoid storing in high temperature, high humidity and corrosive gas environment. Not to be stored without running./应避免存放在高温,高湿腐蚀性气体的环境中,连续存放不应超过6个月。

Remark/备注

7-1-1.Important when sample approved, Please sign and returned by Fax before place order in order to fulfill our ISO requirement.

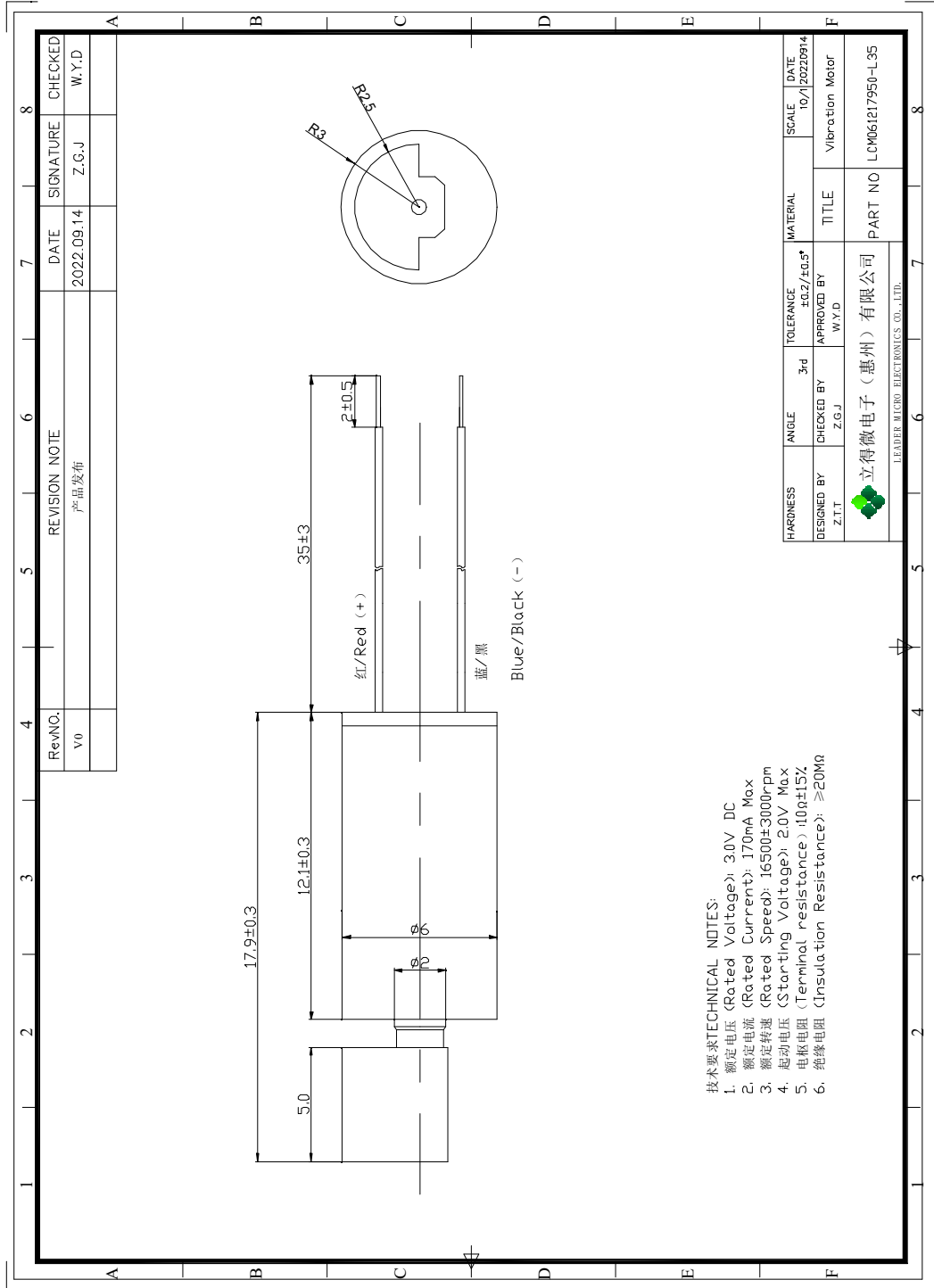
为本公司ISO程序的执行, 样品确认后, 请务必签章回传。

7-2-2. In event of no sign back, We will undertake P.O as acceptance to sample approval.

如样品确认后未签章回传, 则以用户下订单为样品通过确认。

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8. Mechanical drawing/机械图



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9. Packing Specification / 包装规范

9-1 每个塑料盒里放 200 个马达。

200 motors in each tray

9-2 每 25 个塑料盒上盖一个塑料盖板，用胶带捆成一捆。

Put a plastic cover on every 25 plastic boxes and tie them with tape to make a bundle.

9-3 捆好后装入塑料袋内用胶带绑好。

Tie it up and put it in a plastic bag and tie it up with tape

9-4 依出货批量选用适当的外包装箱大小：

纸箱：5000PCS/CTN 495mm*335mm*247mm；

Choose the appropriate outer packing box size according to the shipment batch

carton:5000PCS/CTN 495mm*335mm*247mm;

