承認書

SPECIFICATION FOR APPROVAL

客戶(Customer)：	
客戶料號(Customer P/N)：	
興華鑫型號(Supplier P/N)：	XHXDZ-1020 马达
產品名稱(Description)：	震动马达(Vibration motor)
產品規格(Specification)：	10*2.0MM

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1. General/适用范围

This specification applies to 1020 DC coin type coreless vibration motors to be used for pagers or mobile phone.
本规格书适用于 1020 扁平直流无铁芯振动微电机。在手机及按摩器上使用。

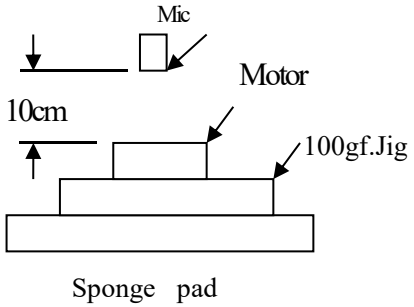
2．Operating condition / 使用条件

NO./ 序号	Items/项目	Specification/规格
2-1	Rated Voltage 额定电压	DC 3.0 V
2-2	Rated Speed 额定转速	12000±3000rpm
2-3	Rated current 额定电流	80mA Max
2-4	Operating voltage 使用电压范围	DC2.5-4.0V
2-5	Temperature Range 使用温度范围	1）Working temperature: -20℃~+70℃ 工作温度 2）Storage temperature: -30℃~+80℃ 贮存温度
2-6	Measuring condition 测定条件	Measure at normal temperature and humidity if there is any doubt about judgement , measurements shall be made within 25±3℃ 65±20%RH 在常温常湿下测试,若对结果有任何疑议,均以 25±3℃,相对湿度 65±20%RH 环境下的测试数据为准。
2-7	Appearance 外观	There shall be no evidence of mechanical damage 无机械损伤、无锈蚀。

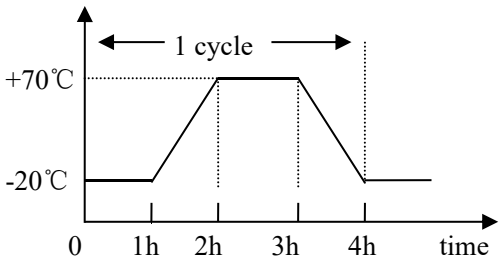
3. Electrical characteristics / 电特性

NO./ 序号	Items/项目	Specification / 规格	Condition-Remark /条件-备注
3-1	Rated speed 额定转速	12000±3000rpm	At rated voltage and rated load (vibration weight) 额定电压、额定负荷（分铜）
3-2	Rated current 额定电流	80mA Max	
3-3	Stall current 启动电流	100mA Max	
3-4	Starting voltage 起动电压	DC 2.3V Max	Minimum Voltage for starting (ON/OFF Test) 起停试验能起动的最低电压
3-5	Terminal resistance 端电阻	单相状态: 28Ω±10% 两相状态:56Ω±15%	Measure between terminals 端子间电阻
3-6	Insulation resistance 绝缘电阻	10MΩ Min	At DC 100V between motor case and a terminal 直流电压 100V，测电机一端子与机壳间绝缘电阻

4. Mechanical Characteristics / 机械特性

NO./ 序号	Items/项目	Specification / 规格	Measuring condition/条件
4-1	Configuration 外形尺寸	As specified in outline drawing 参照外形图	
4-2	Mass 重量	1.2±0.5gf	
4-3	Mechanical Noise 机械噪声	50dB(A) Max	Measure at 10cm between Mic and output shaft MIC 与电机出力轴间距 10cm 测试 Measure at rated voltage 额定电压下测试 

5. Reliability / 可靠性

NO./ 序号	Items/项目	Test condition / 试验条件	Requirements / 判定基准
5-1	Life 寿命	Voltage /电压：DC 3.0V 1cycle /一个周期：2sec ON 2 sec OFF Number of cycles/ 循环次数：50000cycles	After the test ,motors shall be approved as specified in item 6-1 试验后，电机能满足 6-1 的规定
5-2	Low temp exposure 低温贮存	Temperature /温度：-30±2℃ Time /时间：96 hours	After 2 hours exposure in ordinary temperature and humidity, motors shall be approved as specified in item 6-2 实验后在常温常湿条件下放置 2 小时后，电机满足 6-2 的规定
5-3	High temp exposure 高温贮存	Temperature /温度：80±2℃ Time /时间：96 hours	
5-4	Humidity exposure 恒定湿热	Temperature /温度：40±2℃ Humidity /湿度：90±5%RH Time /时间：96 hours	
5-5	Heat cycle test 温度冲击	Temperature  Test cycle/试验循环周期数：10cycles	After 2hours exposure in ordinary temperature and humidity ,motors shall be approved as specified in item 6-3 实验后在常温常湿条件下放置 2 小时后，电机满足 6-3 的规定
5-6	Vibration 定幅振动	Displacement /全振幅：1.5mm(p-p) Frequency /周波数：10-55Hz Period / 周期：1minute,log sweep(10-55-10Hz) Attachment /附加配重：100gf Direction /方向：X-Y-Z Time /时间：each 2 hours	After the test , motors shall be approved as specified in item 6-2 试验后电机能满足 6-2 项的规定
5-7	Free fall 跌落	Set the motor to the approximately 100g(include the motor)weight of block Drop the motor on the concrete floor 将电机放在一个重 100g 的盒子里跌落至混凝土地面上 Height /高度：1.5m Direction /方向：±x、±y、±z Number of times /次数：Each 3times	

6. Requirements/判定基准

NO./ 序号	Items/项目	Requirements/判定基准
6-1	TABLE A	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 3)Starting voltage/起动电压：DC 2.3V Max
6-2	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
6-3	TABLE C	1)Rated speed/额定转速：Initial data/初始值±35%Max 2)Rated current/额定电流：Initial data/初始值±35%Max

7. Cautions/ 注意

7-1 Due attention should be paid to the voltage and current ranges for use
注意使用电压、电流范围

7-2 Avoid storing in high temperature, high humidity or corrosive gas environment
避免存放在高温、高湿、腐蚀性气体的环境中

7-3 Do not bring a magnetized object near or into contact with the surface because the performance of motor may be deteriorated
避免磁性物体靠近或接触电机表面

7-4 Due attention must be paid to the handling and working environments because such objects as iron powder if attracted by the motor magnet will cause noise、Characteristic deterioration, thus reducing the reliability.
注意使用环境因为诸如铁粉类物质吸附于电机磁石会导致噪音、性能变坏、降低可靠性

7-5 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.

7-6 To handle the motor, hold the motor case softly.Don't make over 0.5 Kgf force while attaching to the set.
搬运及手持电机时务必柔性夹持电机机壳. 安装及使用时机壳表面受到的压力不得大于 0.5 Kgf.

7-7 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。

7-8 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。

8．Outline Drawing / 外形

