



产品规格书

PRODUCT SPECIFICATION

客户名称Buyer Name	
客户料号Buyer Part No.	
客户承认签章 Buyers Approval & Signatures	

文件编号Spec No.		版本	A/0
产品描述描述 Product Description	LRA扁平振动马达 LRA Coin vibration motor		
型号Part No.	VG0832019D		
送让日期Date			
设计Designed by	审核Checked by	批准Approved by	
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2022.12.13	2022.12.13	2022.12.13	

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2. 产品说明/ Product explanation

2-1. 适用范围 / Application range

本规格书适用于线性马达 VG0832019D 系列.

This specification applies to Linear type motors model VG0832019D.

2-2. 测试环境条件 /Measurement environment condition

No.	项目/ Item	规格/ Standard
2-2-1	温度/ Temperature	25°C± 3°C
2-2-2	湿度/ Humidity	65% ± 20%RH
2-2-3	气压 / Atmospheric pressure	1,011 hpa ± 40 hpa

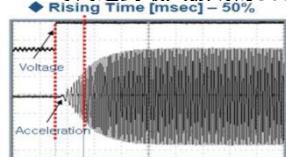
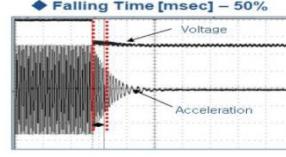
2-3. 使用环境 / Environment of use

No.	项目/ Item	规格/ Standard
2-3-1	使用电压范围 The range of working voltage	AC0.1~1.85Vrms
2-3-2	保存条件/Storage Conditions	-30°C~+70°C , Ordinary Humidity:65±20%RH
2-3-3	使用环境/ Operating Environment	-20°C~+60°C , Ordinary Humidity:65±20%RH

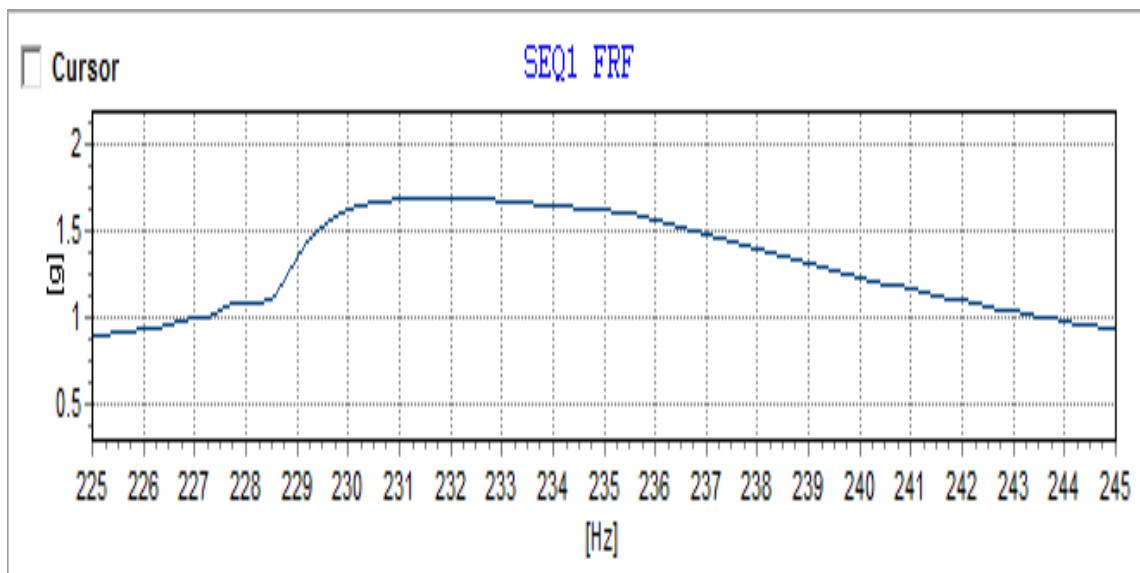
2-4. 实验误差范围 / The range of errors in test

No.	项目/ Item	规格/ Standard
2-4-1	常温/常湿 / Room temperature / humidity	20±15%°C / 65±20%RH
2-4-2	恒温组温度/ Temperature in the thermostat	规定值 ±3°C / Designated level ±3°C
2-4-3	电压/ Voltage	规定值 ±0.15V / Designated level ±0.15V

3. 性能标准/ characteristics Standard

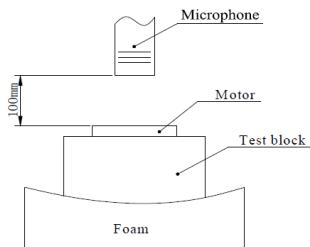
No.	项目/ Item	条件/Condition	规格/Standard
3-1	额定电压 Operation voltage	AC	1.8VrmsAC, sine wave
3-2	振动方向 Direction of vibration	Lead Wire Red (+) ,Blue (-) 连接基准 Based on connecting lead wire Red(+), Blue(-)	Z axis
3-3	输入频率 Input Frequency	遵从 4 项标准测定条件 Based on No, 4 standard measurement condition	235±0.05Hz
3-4	额定损耗电流 Operating consumption current	遵从 4 项标准测定条件 Based on No, 4 standard measurement condition	Max80mA rms
3-5	Acceleration F0 点振动量	235Hz, 1.8VrmsAC, sine wave	1.2~1.8 Grms
3-6	Acceleration Low temperature operating F0 低温振动量	使马达能够启动的最小电压 (ON,OFF 试验) The minimum current that can start the motor (ON, OFF test)	1.0Grms Min
3-7	Frequency Characteristics 频率特性	235±5Hz Refer to Figure 1 参照图形 1	
3-8	Rise Time 上升时间	235Hz, 1.8VrmsAC, sine wave	Max 35msec  <p>时间达到最大振动的50% ◆ Rising Time [msec] - 50%</p>
3-9	Falling Time 下降时间	235Hz, 1.8VrmsAC, sine wave	Max 65msec  <p>断电后时间达到最大振动的 50% ◆ Falling Time [msec] - 50%</p>
3-10	绝缘电阻 Insulation Resistance	在 100V 直流电压下机壳与导线/At DC 100V Between wire and case	10MΩ Min (100V)
3-11	阻抗 Resistance	25°C±3°C	23Ohm±10%

Acceleration Characteristics



Graph 1. Linear vibrator frequency characteristics

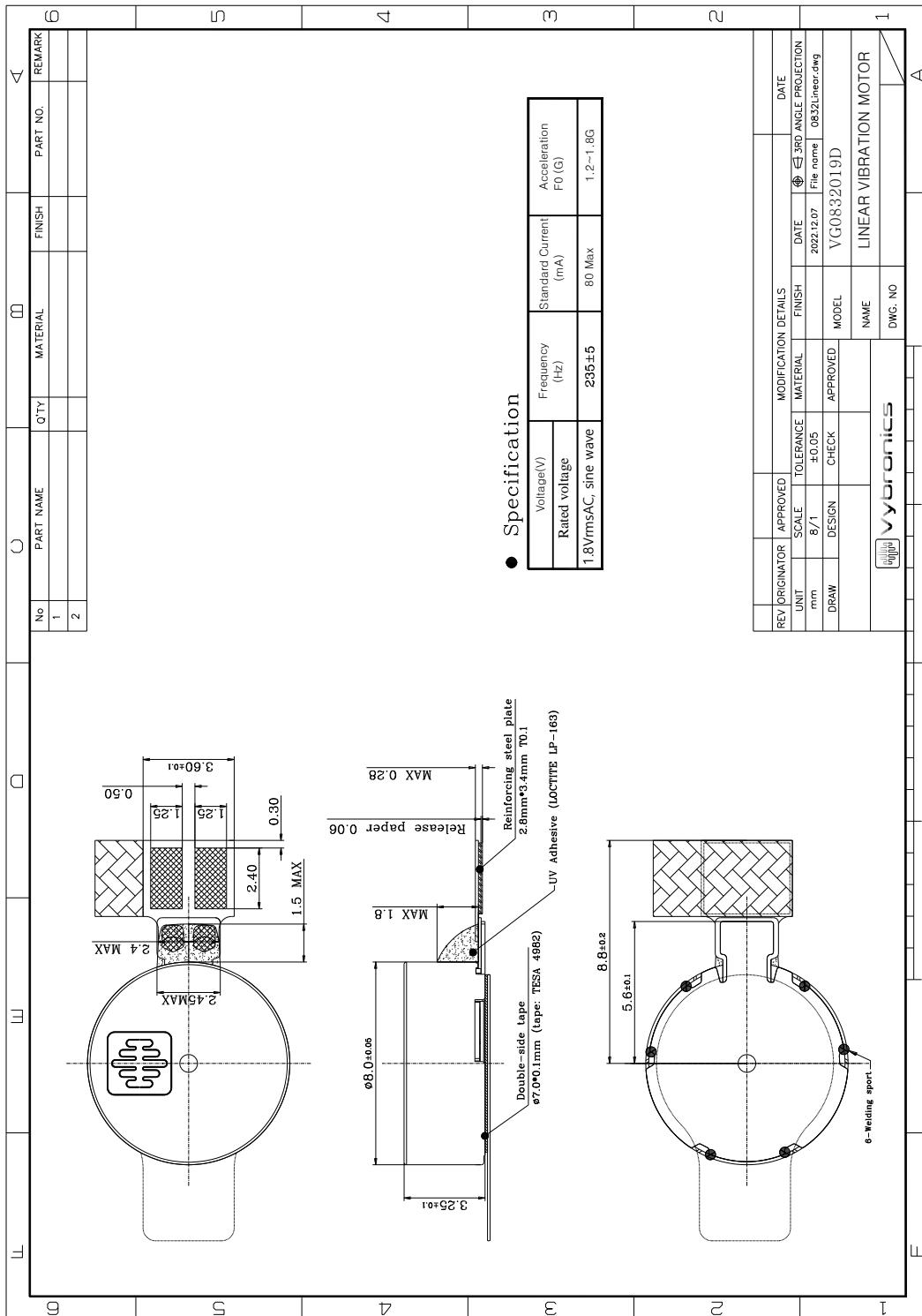
4. 机械性能/ Mechanical characteristics

No.	项目/ Item	条件/Condition	规格/Standard
4-1	噪音/Noise	 100mm	45分贝最大/45 dB Max. (10cm distance from microphone/ 距离麦克风 10 cm 的位置)
4-2	振动方向 Direction of vibration	Lead Wire Red (+), Blue (-) 连接基准 Based on connecting lead wire Red(+), Blue(-)	Z axis
4-3	原子线抗拉强度 Anti-pulling strength of atomic line	破坏性测试, 对原子线沿着轴向施加推力 Destructive test, give pulling force to the atomic line along to the axial direction.	最小 5N/5N(0.5kgf) Min

5. 机械性能/ Mechanical characteristics

No.	项目/ Item	Spec
5-1	温度/Temperature	25±3°C
5-2	湿度/Humidity	65±20% RH
5-3	额定电压 Operation voltage	AC 1.8Vrms,sine wave
	测定方法/Measurement ※ Test Method	
	<p>* 线性马达加速度测试安装位置(参考图2) Linear Vibrator/ Accelerometer mounting position (refer to Figure1)</p> <p>* 线性马达/加速度测试sensor Linear Vibrator/Accelerometer</p> <p>* 线性马达测试虚拟Jig 厚度15mm Linear Vibrator DummyJig15mm</p> <p>* 虚拟JIG 位置尺寸 Dummy Jig position</p> <p>* 虚拟Jig 15mm*105mm Dummy Jig 15mm*105mm</p> <p>* 虚拟Jig 应放置在泡棉上 Dummy Jig should be located on Sponge</p> <p>* 加速度测试条件 Measurement of Acceleration/</p> <p>* 输入电压: 1.8VrmsAC, sine wave Input Source (1.8VrmsAC, sine wave)</p> <p>* 输入电压2~3后, 测定线性马达的加速度 Acceleration of LinearVibratorshouldbemeasured2~3secondlaterwhensourceinputed (1.8VrmsAC,sinewave)</p> <p>* 为了保证测定的精确性, 测定三次取三次平均值 For the precise measurement, Acceleration of Linear Vibrator is average data (repeat3time)</p>	

6. 图面/ Drawing



7. 包装式样/ Packing specification

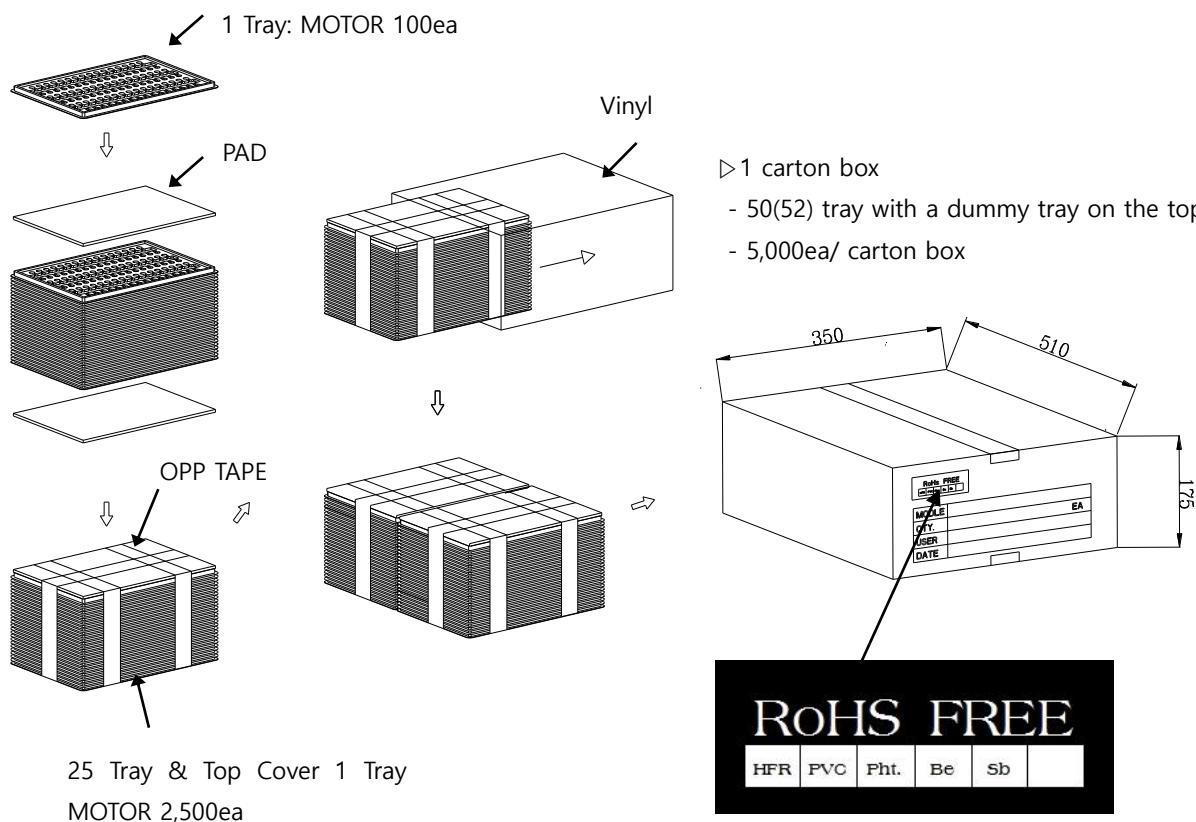
7-1. 适用范围 / Application range

本包装式样书适用于Linear型震动马达Ø8*3.2mm

This packing specification is applied to Ø8*3.2mm Linear Vibration motor.

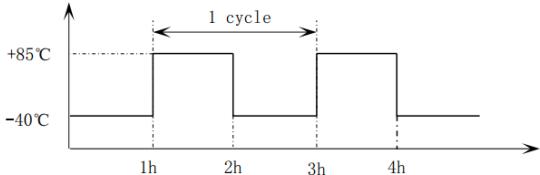
7-2. 内, 外径包装规格 / The packing standard

项目/ Item	Spec			
	Material	Size (mm)	包装数量 Packing Qty	包装后重量 Weight after packing
Tray 包装	PET	328(L)×240(W)×9.5(H)	100ea Max	About 110g
Out box 包装	DW-1	510(L)×350(W)×175(H)	5,000ea Max	About 7.3Kg



[Halogen Free Marking]

8. 可靠性试验/Reliability Test

No.	项目	测定条件	评价基准
8-1	寿命 Lifetime test	试验循环/Test cycle:500,000 cycle (cycle:2sec on/1sec off) 输入电压 (1.8VrmsAC,Sine wave) 输入频率 : 235Hz	
8-2	高温放置实验 High Temperature Exposure	温度/ Temperature: +70±2°C 放置时间/Exposure time : 168hrs	
8-3	低温放置实验 Low Temperature Exposure	温度/ Temperature: -40±2°C 放置时间/Exposure time : 168hrs	试验完成后常温放置4小时测试 The test was completed, placed for 4 hours at the room temperature before the test.
8-4	高湿放置试验 High humidity Storage test	在+55°C,95%RH的环境下放置120小时 , 然后在常温常湿下恢复4h后测试。 Exposed at +55°C 95%RH for 120hours, then return to normal temperature and humidity for 4hours before test.	符合3-1特性/ Consistent with the 3-1 feature 1) Hz:Within± 30% of initial value. 2) Rated current: Within± 30% of initial value.
8-5	热冲击实验 Thermal shock test	马达按照以下试验条件放置 15 个周期 , 然后在常温常湿下放置 4 小时后测试。 Confirmed to operating of motor during 15 cycles as following test condition, then return to normal temperature and humidity for 4 hours before test. 试验条件/Test condition: 	
8-6	高湿放置试验 High humidity Storage test	在+55°C,95%RH的环境下放置120小时 , 然后在常温常湿下恢复4h后测试。 Exposed at +55°C 95%RH for 120hours, then return to normal temperature and humidity for 4 hours before test.	

No.	项目	测定条件	评价基准
8-7	自然落下 Free fall	<p>Set the motor to the approximately 100g(Include the motor)weight of block Drop 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: 1.5m Direction /方向: x,y,z Number of times /次数: 每面3次, 共36次。</p>	<p>试验完成后测试 Test after completion of test. 符合3-1特性 Consistent with the 3-1 feature</p> <p>1) Hz: Within$\pm 30\%$ of initial value. 2) Rated current: Within$\pm 30\%$ of initial value.</p>

9. 产品安装建议事项及注意事项

9-1. 与规格不符的条件下使用时性能及寿命上会出现问题.

请在规定的电压范围内使用.

You might encounter functional and life problems if you use it different from the standard.

Please be careful of the range of use, like voltage etc.

9-2. 马达在使用时正确按照Lead wire的红色(+)端,蓝色/黑色为电源的(-)端连接使用.

No matter what please connect red lead wire to (+) socket, and blue and black lead wire to (-) socket when you use the motor.

9-3. 在有害GAS及高温高湿的场所保管对马达造成不良因素所以请注意保管.

Please be careful of that the storage in high temperature and humidity and noxious gas might cause hindrances to motors.

9-4. 马达在运转时会发出机电噪音为了消减噪音推荐在电源端并联电容器等原件从而消减噪音.

We recommend using the reducing noise device like a parallel capacitor connected to socket in order to reduce electronic noise that can be made when the motor rotates.

9-5. 取出马达时尽可能轻拿Case部分.

Please hold the case part lightly as much as you can when you use motors.

9-6. 马达接近磁性物质或接触时会降低马达性能，因此避免接近强磁场.

Please avoid being near and contacting magnetic materials like magnet which might encounter functional problems

9-7. 能够自我吸附的物质(铁，粉末)及灰尘等与马达混放时会出现转动不良，异常音等，会使马达的性能下降及信赖性受影响，因此取用及作业时 应注意 环境清洁.

If some materials(metal, powder) and dust become mixing condition in the motor it might cause feature declines by occurring rotation faulty and abnormal sound so please be clean the working environment and careful when you deal with the motor.

9-8. 注意请不要浸泡在液态物质如：水或酒精中.

Please be careful of not soaking in liquid like water or alcohol.

9-9. 包装方法: (包装图参照)

只有在客户的要求下进行变更.

Packing method : (Refer to packing drawing) But, it could be changed on user's demand.

9-10. 马达的保质日期：1年 (请按照生产LOT NO ,一年内使用).

The quality guarantee period of the motor is 1 year .

Please reference the LOT NO of product and use it in the quality guarantee period

9-11. 本式样书变更或追加内容时经双方协商后实施.

It cannot guarantee if the motors are used out of the range of fulfilling this specification.