



維盟科技有限公司  
Evowave Technology Co., Ltd.

規格書 / Specification

Description:	Linear Vibration Motor
Part No.:	LD1040PXX
Date:	2017/11/11

地址:新北市汐止區康寧街 169 巷 27 號 10 樓之 1

Address: 10F-1, No.27, Lane 169, Kang-ning St., Hsi Chih  
221, Taipei, Taiwan.

Tel: 886-2-2692-6058

Fax: 886-2-2692-6659

**重要提示 Important Notes:**

1. 如对电机的性能和（或）寿命有任何争议，仅基于此规格书作出判断。

If there is any argument on motor performance and/or life, judgment is to be made base on this specification only.

2. 客户方有责任确认该电机能满足您的使用要求。

Customer has the responsibility to ensure that motor can satisfy the requirement of your application.

3. 如果公司未提供技术规格，该文件将详细叙述与贵公司商定的技术规格。

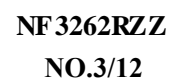
In the event that an official specification is not present by customer, this document will specify the agreed technical specification.

4. 在满足规格的条件下，我司可以改变零件材料、尺寸及形状来改善品质（或）性能（或）生产效率。

Within the limitation to satisfy this specification, DMEGC has the convenience to change the materials, size and shapes of components of the motor for the purpose of improving quality, and/or performance, and/or production efficiency.

5. 收到此规格书后，贵司应于下订单之前将规格书副本签回以示贵司已确认。如贵司未能在规定时间内签回副本，我司将认为贵司已收到并承认该规格书。

After the receipt of this specification, customer should send a signed copy to DMEGC, before you issued purchase order for the confirmation on acknowledgement. DMEGC, regard it as the receipt of this specification acknowledged if customer fails to return the confirmation to us within the described period.



## Revised History

[illegible]

内 容  
Table of contents

01、应用范围	Application
02、储存和使用环境	Storage, Operating Temperature/Humidity Circumstance
03、标准测试条件	Standard Test Conditions
04、测试方法	Test Method
05、规格	Specifications
06、可靠性试验	Reliability Test
07、可靠性试验判定	Requirement Reliability Test Judgment
08、注意事项	Caution for Use
09、产品外形图	Product Outline Drawing
10、包装规范	Packing Specification

### 1、应用范围 Application

— 本说明书适用于LD1040PXX 电机。

This specification applies to linear vibration'NF 3262RZZ model manufactured.

— 此规格书提供了直线振动马达的结构、功能和使用条件。

These specifications provide structure, function and usage condition for linear vibration motor.

### 2、储存和使用环境 Storage, Operating Temperature/Humidity Circumstance

序号 NO.	项目 Items	条件 Condition
2-1	储存环境 Storage temperature range	-40℃ ~ 85℃ , ordinary humidity (No condensation of moisture)
2-2	使用环境 Operating temperature range	-20℃ ~ 70℃, ordinary humidity (No condensation of moisture)

### 3、标准测试条件 Standard Test Conditions

序号 NO.	项目 Items	条件 Condition
3-1	温度 Standard test temperature	20±5℃
3-2	湿度 Standard test humidity	65%±20%RH
3-3	额定输入电压 Rated Input Voltage	2.5 V rms 交流正弦 2.5 V rms AC, Sinewave
3-4	输入频率 Input Frequency	170 Hz
3-5	测试条件 Test Condition	见图 1 Refer to Figure 1

#### 4、测试方法 Test Method

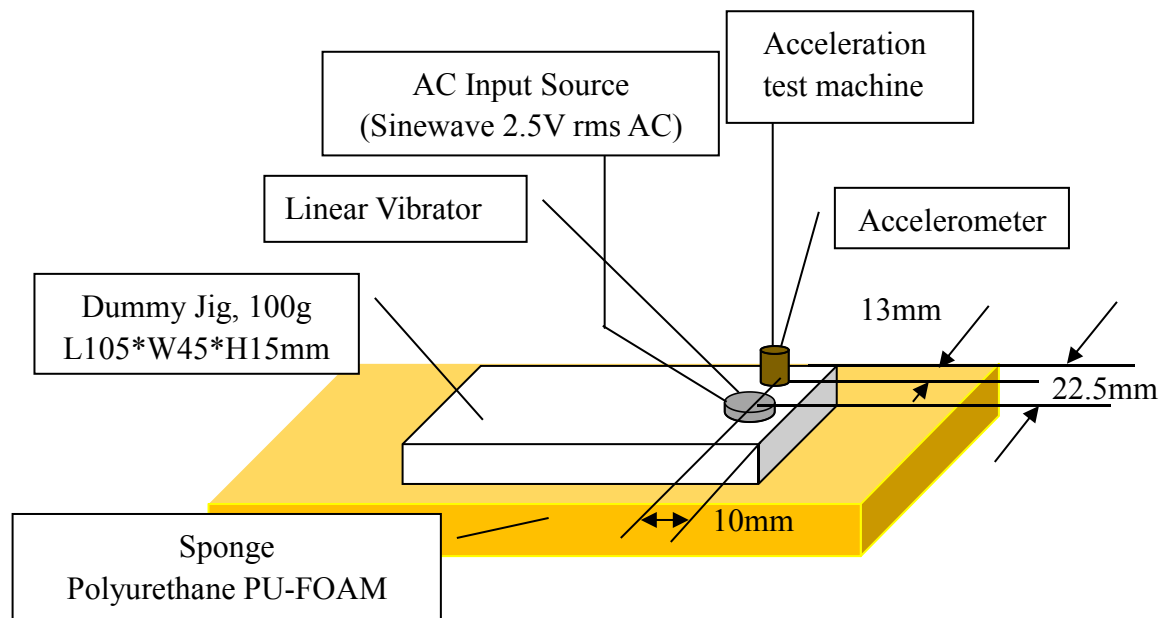


Figure 1. Test method

- Attach accelerometer and vibrator on the position on dummy jig according to the figure 1.  
将测试马达和加速度传感器按照上图指定尺寸位置固定好
- Acceleration of linear vibrator should be measured 2~3 second later when source inputed  
接通后 2-3 秒后读数.
- At measurement of acceleration, test jig and accelerometer should be stabilized.  
测试过程中，传感器与测试治具要固定牢固.
- For the precise measurement, acceleration of linear vibrator is average data.  
为了测量数据准确，振动量数据取平均值.
- If the judgment is not questionable, recognize measurement at 5°C to 35°C & relative humidity 45%RH to 85%RH.  
在不影响判定结果的情况下，测试环境温度和湿度可以放宽至 5-35°C，45%-85%RH.

## 5、规格 Specifications

序号 NO.	项目 Items	规格 Specification
5-1	额定电压/ Rated Voltage	2.5 Vrms
5-2	工作电压/ Operating Voltage Range	0.1~2.55 Vrms
5-3	电阻/ Resistance	$11 \pm 3$ Ohm
5-4	额定电流/ Rated Current	Max.280 mArms
5-5	额定频率/ Rated Frequency	170Hz
5-6	F0 点振动量/ Acceleration@F0	$1.8 \pm 0.3$ Grms
5-7	频率特性/ Frequency Characteristics	$170 \pm 10$ Hz     Refer to Figure 2
5-8	上升时间/ Rising time	20ms Max    from 0 to 50% normal acceleration
5-9	下降时间/ Falling time	30ms Max    from 100% to 50% normal acceleration
5-10	噪音/ Noise	Max. 50 dB(A) (10cm distance from decibel meter Input Source : 170Hz, 2.5Vrms AC, Sinewave)
5-11	绝缘电阻/Insulation Resistance	Min. 10M ohm (100V DC input, between Case and Lead wire)

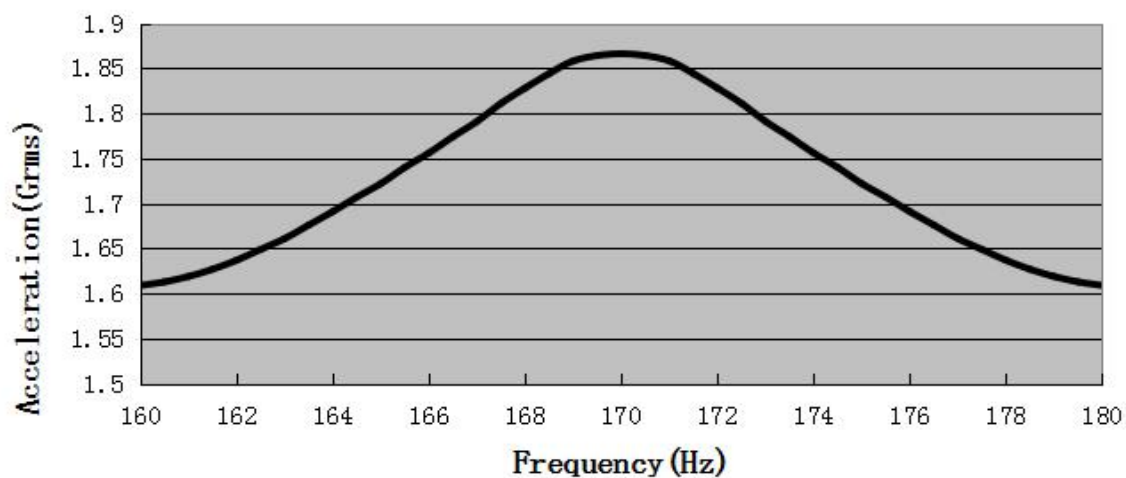


Figure 2. Frequency Response

### 6、可靠性试验 Reliability Test

NO. 序号	Item 项目	Test condition 试验条件
6-1	高温储存试验 High temperature storage test	温度/Temperature: $(80\pm 2)^{\circ}\text{C}$ 时间/Time: 96H 湿度/Humidity: 常湿/Ordinary Humidity
6-2	低温储存试验 High temperature storage test	温度/Temperature: $(-40\pm 2)^{\circ}\text{C}$ 时间/Time: 96H 湿度/Humidity: 常湿/Ordinary Humidity
6-3	恒温恒湿 Humidity test	温度/ Temperature: $(55\pm 2)^{\circ}\text{C}$ 时间/Time: 96H 湿度/Humidity: 95%RH
6-4	温度冲击试验 Thermal shock test	温度/Temperature: $-40^{\circ}\text{C}\sim 70^{\circ}\text{C}$ 1 个周期/1 cycle: $-40^{\circ}\text{C}$ 30min, $70^{\circ}\text{C}$ 30min 循环周期数/Circle cycle: 24cycles
6-5	寿命试验 Life test	测试电压/Voltage: 额定电压 频率/Frequency: 额定频率 1 个周期/1 cycle: 2sec ON/1sec OFF 寿命周期/life cycle: 500,000 cycles
6-6	振动测试 Vibration test	固定马达治具重/Weight of dummy jig fixed vibrator: 150g 振动峰峰值/Vib P-P Value: 1.5mm 频率/ Frequency: 10~55-10Hz/min 方向/ Direction: x-y-z 每个方向振动时间/Time: 1h/Each of axis
6-7	跌落试验 Drop test	工装重量/JIG Weight: 150g 高度/ High: 1.5m 跌落次数/Time: 6 个面各 3 次/ 6 surfaces, 3 times in each surface 试验状态/Test state: 将电机放在重约 150 克的工装里, 自由地跌落至混凝土地面上 The motor is set into the box approximately weight 150g and fall free on the concrete floor



## 7、可靠性试验判定 Requirement Reliability Test Judgment

7-1 以下条件必须在测试结束后满足/After test, following specifications must be satisfied.

F0 点振动量/Acceleration: 初始值/Initial Value  $\pm 30\%$

F0: 初始值/Initial Value  $\pm 10\text{Hz}$

额定电流/Rated current: Initial Value  $\pm 30\%$

噪音/Noise: 50dB(A) Max

7-2 试验完毕后需在标准测试条件下放置 2 小时后再测试。

The measurement is conducted after 2hours of recovery under standard test condition after reliability test.

7-3 外表和结构无异常。

There should be no abnormalities in appearance and structure.

## 8、注意事项 Caution for Use

8-1 不要在如下条件下使用马达，它将降低产品的性能甚至马达损坏。

Don't use under the following conditions. It may cause decline of performance or damage.

8-1.1 不要将产品放入例如水，酒精等液体中。

Do not drop into fluid ( such as water, alcohol, etc )

8-1.2 不要将产品长期置于高温高湿条件下。

Do not keep at high temperature or high humidity for extended periods of times.

8-1.3 不要将产品靠近腐蚀性气体。

Do not use near gasses which cause erosion.

8-2 马达的额定电压为 2.5V，工作电压为 0.1~2.55V，实际使用中马达最大驱动电压不能超过 2.55V。

Motor rated voltage is 2.5V, working voltage is 0.1~2.55V, so motor drive voltage can not exceed 2.55V.

8-3 马达的额定驱动信号为交流正弦波，推荐使用标准信号进行马达驱动。

Motor driving signal should be AC sine wave.

8-4 在存储、运输和使用的过程中不要将产品靠近磁性设备。

Don't make the product near magnetic devices in the process of storage, transportation and use.

8-5 这款马达有强磁性，使用的时候需要注意。

The vibrator has a strong magnet, please pay attention to it.

8-6 马达固定时，振动方向上必需固定好(安装力推荐 5~8N)，否则将容易引起噪音。

Vibrator should be fixed to house firmly in vibrate direction (setting force 5~8N), or

it will be easy to cause noise.

8-7 马达安装时，推荐使用双面胶固定，同时用软态材料(泡棉)提供压力。

Use double side adhesive to fix the motor, Soft material (such as poron, poam etc.) can be used to provide setting pressure.

8-8 包装：请参考包装图纸(也可以依据客户需求作调整)。

Packing: Please refer to the packaging drawing. (It can be modified by the request of the users.)

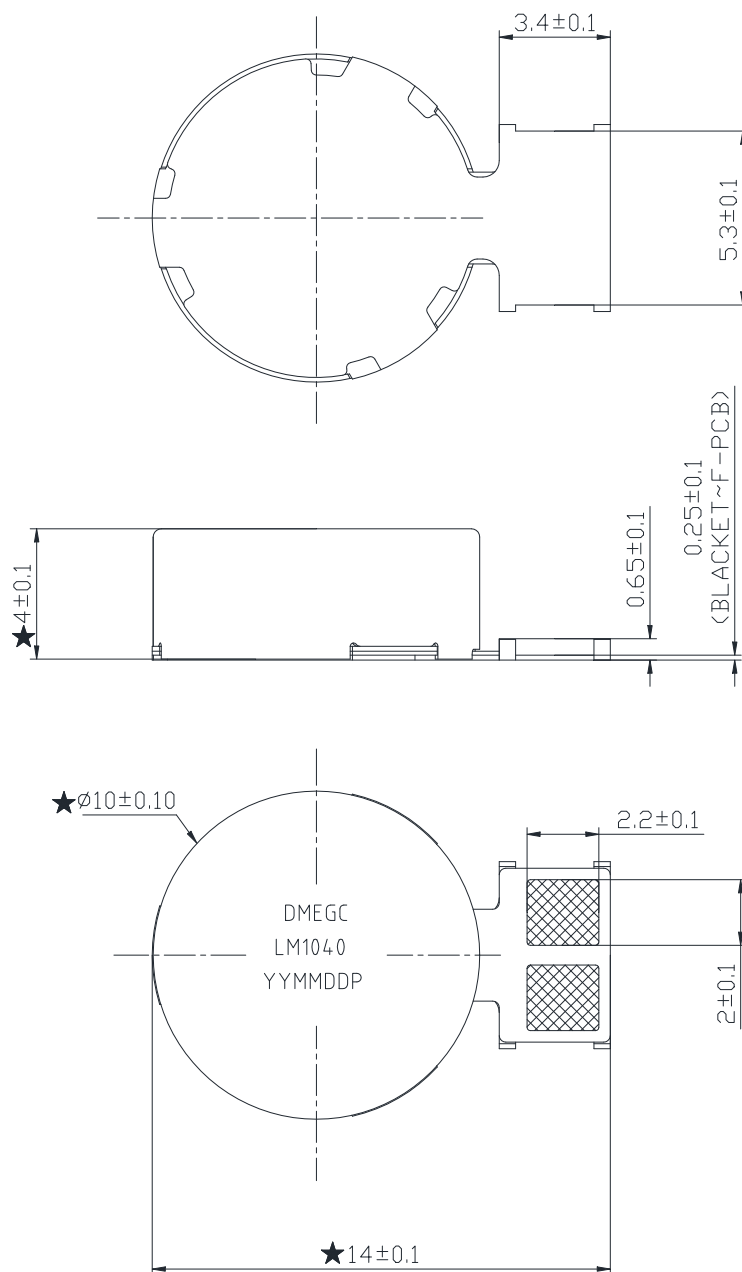
8-9 发生任何问题，客户与东磁之间可通过协商解决问题，并通过书面的形式来反映问题

If any problems occur, both the user and DMEGC shall try to solve the problem by mutual agreement and on reflection of the specification sheet.

8-10 禁用物质允许含量 Prohibited substances allowed in

禁用物质名称 Substance name	镉及镉化物 (Cd) ppm	铅及铅化物 (Pb) ppm	汞及汞化物 (Hg) ppm	六价铬化合物 (Cr) ppm
标 准 Threshold Level	≤100	≤1000	≤1000	≤1000
禁用物质名称 Substance name	包装材料合计 (In packing material) (Cd+Pb+Hg+Cr) ppm	多溴联苯 ( PBB) ppm	多溴二苯醚 ( PBDE) ppm	溴 Br 氯 Cl
标 准 Threshold Level	≤1000	≤1000	≤1000	Br≤700ppm Cl≤900ppm 合计含量≤1500ppm

## 9、产品外形图 Product Outline Drawing



打码规则:

DMEGC: 生产商代号 LM1040: 马达型号

YYMMDD: 年月日 P: 生产线代号

**TBD**