


# 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.	S-159981	版本	A/0
品名描述 Product Description	LRA Coin Type Vibration Motor		
型号Part No.	G1036001D		
送样日期Date			
设计Designed by	审核Checked by	批准Approved by	
陳满	陈北叶		
2017.04.20	2017.04.20	2017.04.20	

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			2017. 04. 20.
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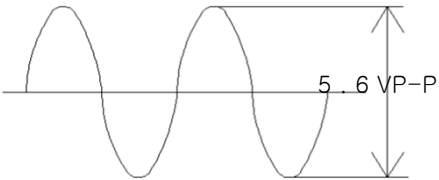
### 1. Scope

These specification are applied to G1036001D Linear vibrator to be used for cellular and PDA phone, manufactured by JINLONG MACHINERY & ELECTRONICS.

### 2. Standard Operating Condition

NO	ITEM	SPECIFICATION
2-1	Working temperature range	-25℃ ~ +70℃
2-2	Storage temperature range	-40℃ ~ +85℃

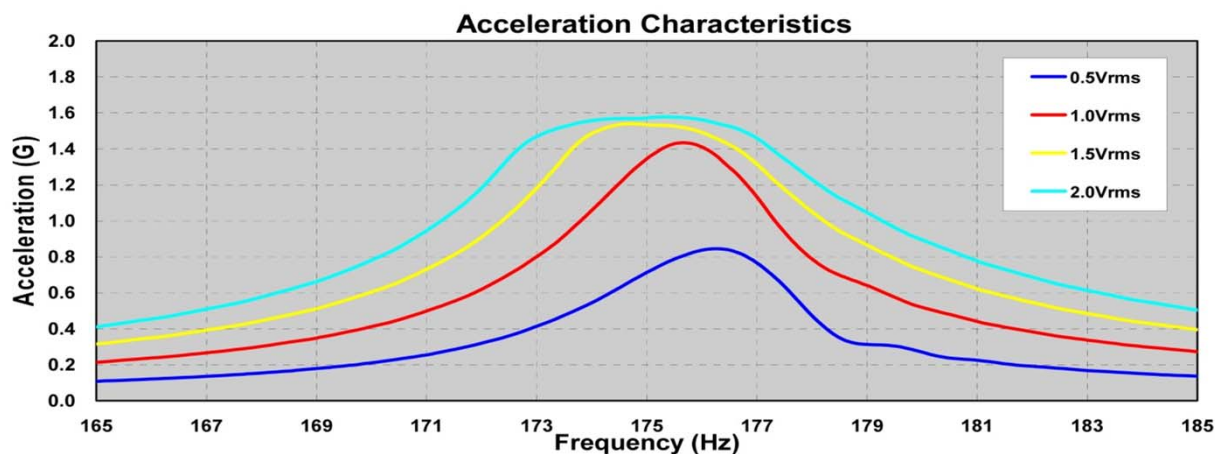
### 3. Measurement Environment Conditions

NO	ITEM	SPECIFICATION
3-1	Temperature	20℃ ± 3℃
3-2	Humidity	65%RH ± 20%RH
3-3	Rated voltage	2.0 Vrms AC(Sine wave) 
3-4	Operating Voltage Range	0 ~ 2.05 Vrms
3-5	Rated Frequency	175 Hz

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#### 4. Product Characteristics

No.	ITEM	Specification	Measuring condition
4-1	Resistance	27 Ohm +/- 5	Standard Test Condition
4-2	Rated current	90 mArms Max	Input source : 2.0Vrms AC, Sinewave, 175HZ
4-3	Acceleration	1.5 +/- 0.3 Grms	Input source : 2.0Vrms AC, Sinewave, 175Hz
4-4	Frequency Characteristics	Refer to the frequency spectrum	Standard Test Condition
4-5	Dimension	Refer to outline drawing	Standard Test Condition
4-6	Weight	2.0 +/- 0.1 gram	Standard Test Condition
4-7	Noise	Max 50dBA	10cm distance from microphone, Input Voltage : 2.0Vrms AC, Sinewave
4-7-1	Noise by mechanical touch	Max 35dBA	Test : LVIT-201H (2.0Vrms AC, Sinewave)
4-8	Ringling	Max 0.4 Grms	0.2Vrms AC, Sinewave (Frequency sweep)
4-9	Insulation resistance	Min 10M Ohm	100V DC input, between Case ~ Terminal
4-10	Rising Time	Max 55mS	Input source : 2.0Vrms AC, Sinewave, 175HZ
4-11	Falling Time	Max 200mS	Input source : 2.0Vrms AC, Sinewave, 175HZ



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## 5. Acceleration Testing Methods

**Figure 2.0**  
Linear Vibrator Method of Measurement

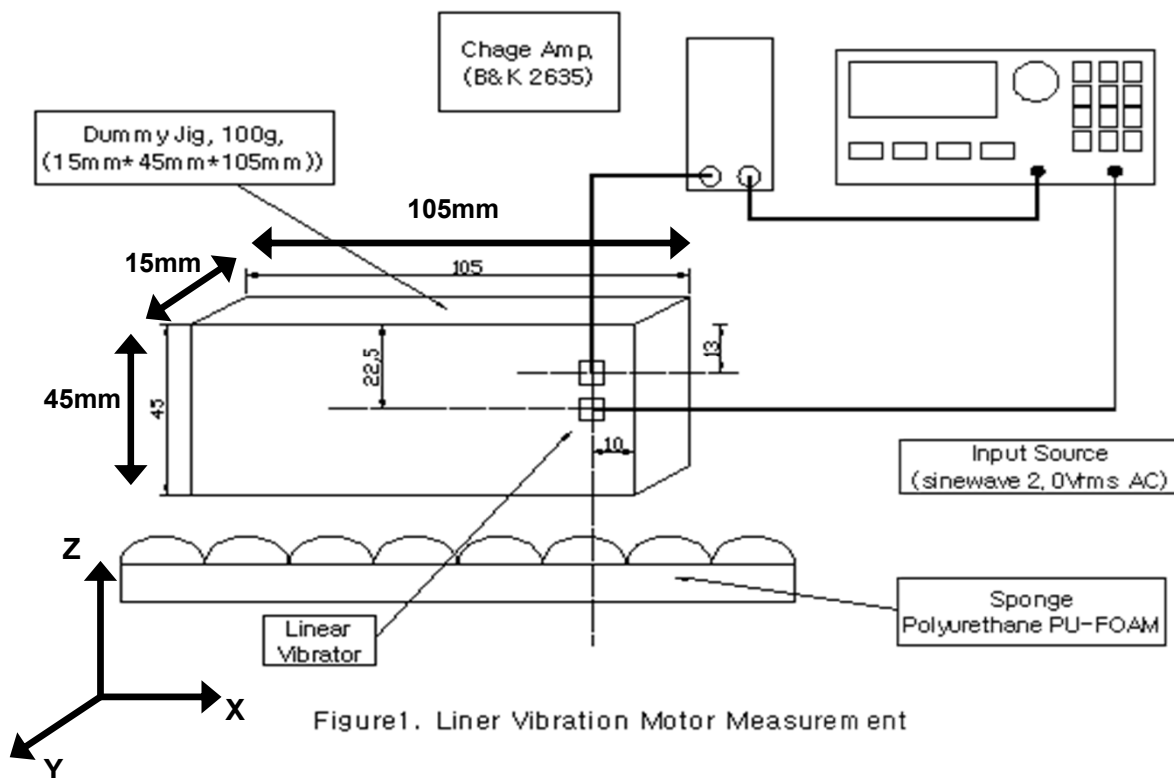


Figure1. Liner Vibration Motor Measurement

### 5.1) Linear Vibrator / Accelerometer mounting position (Refer the Figure 1.0)

- Linear Vibrator should be mounted to position of 15mm direction (Y-direction) on Dummy Fixture
- Also, Accelerometer should be mounted to measure Y-direction vibration on Dummy Fixture

### 5.2) Dummy fixture position

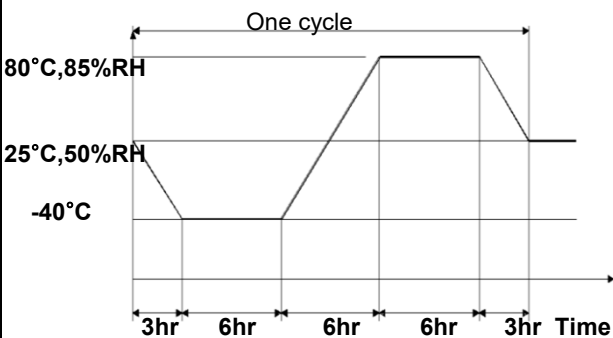
- 15mm\*105mm plane of Dummy fixture should be located on sponge
- At measurement of acceleration, Dummy fixture should be stabilized

### 5.3) Measurement of Acceleration

- Acceleration of Linear Vibrator should be measured 2~3 second later when source inputted (2.0Vrms AC, sinewave)
- For the precise measurement, Acceleration of Linear vibrator should take average data from 3 times repeating.

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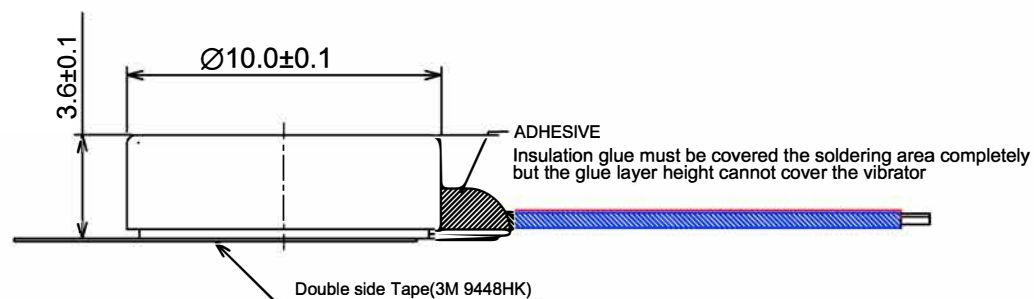
## 6. Reliability test conditions

No	Items	Specification	Judgement
6-1	High temperature Storage test	+70°C, 168, After test, the Vibrator should be measured after room-temperature storage for 4Hrs. Sample quantity : 4 pcs	Acceleration variation : ±30%  Rated current : 90mA Max
6-2	Low temperature Storage test	-30°C, 168, After test, the vibrator should be measured after room-temperature storage for 4hrs. Sample quantity : 4 pcs	Acceleration variation : ±30%  Rated current : 90mA Max
6-3	High/Low Temperature Humidity cycle storage test	-40°C ~ 80°C / 85% humidity, Total 6cycles Sample quantity : 4 pcs  	Acceleration variation : ±30%  Rated current : 90mA Max
6-4	Thermal shock Resistance test	-40°C ~ 80°C in each of 30Min(1cycle), Total 50cycles. Transition is 5minutes max. After the test, the vibrator should be measured after room-temperature storage for 4Hrs. Sample quantity : 4pcs	Acceleration variation : ±30%  Rated current : 90mA Max

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6. Reliability test conditions																		
No	Items	Specification		Judgement														
6-5	Room Temperature life test	Operation at rated Input voltage(2.0Vrms AC,Sinewave), Input Frequency(175Hz) for 1,000,000cycle,On(2sec)/Off(1sec)		Acceleration variation : ±30%  Rated current : 90mA Max														
6-6	Low Temperature Life test	-20℃, Operation at rated Input voltage(2.0Vrms AC,Sinewave), Input Frequency(175Hz) for 53,000cycles, 2.5sec On/Off. Check cycle : 20,000cycles, Continue test to 300,000 cycles, Sample Quantity : 10pcs		Acceleration variation : ±30%  Rated current : 90mA Max														
6-7	High Temperature Humidity life test	+60℃, 95% humidity, Operation at rated Input voltage (2.0Vrms AC, Sinewave), Input Frequency(175Hz) for 53,000cycles, 2.5sec on/off. Check cycle : 20,000cycles, Continue test to 300,000 cycles, Sample Quantity : 4pcs		Acceleration variation : ±30%  Rated current : 90mA Max														
6-8	H2S Corrosion Resistance	+40±2℃, 80% humidity, Concentration : 3 ± 1ppm Test Duration time : 24hours Sample Quantity : 4pcs		Acceleration variation : ±30%  Rated current : 90mA Max														
6-9	Non operating Random Vibration test	<table><tr><th colspan="2">Non-operating Random Vibration</th></tr><tr><td colspan="2">3 axes, 10 minutes per axis, 6.06Grms</td></tr><tr><th>Frequency(Hz)</th><th>A.S.D.(G2/Hz)</th></tr><tr><td>20</td><td>0.0098</td></tr><tr><td>80</td><td>0.04</td></tr><tr><td>350</td><td>0.04</td></tr><tr><td>2000</td><td>0.0069</td></tr></table> Sample Quantity : 4pcs		Non-operating Random Vibration		3 axes, 10 minutes per axis, 6.06Grms		Frequency(Hz)	A.S.D.(G2/Hz)	20	0.0098	80	0.04	350	0.04	2000	0.0069	Acceleration variation : ±30%  Rated current : 90mA Max
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20	0.0098																	
80	0.04																	
350	0.04																	
2000	0.0069																	
6-10	Free fall drop test	The Vibration that is attached to a 100gram dummy fixture is dropped to a steel floor from 150cm in height, Direction ±X, ±Y, ±Z(Total 6 faces) Each face 3 times, Sample Quantity : 4pcs		Acceleration variation : ±30%  Rated current : 90mA Max														
6-11	Vibration Grms Force test	Fixture Material : ABS(D=1.17~1.23 g/cm3), Fixture Weight : 100±5% g Fixture Dimension : 44mm length Cubic Sample Quantity : 4pcs																



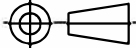
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<p><b>7. Cautions</b></p> <p>(1) Allowable range for use Unless it is used in accordance with the specifications, the performance and life may be considerably reduced. Due attention should be paid to voltage and current ranges for use.</p> <p>(2) Storage Avoid storing in high temperature, high humidity or corrosive gas environment.</p> <p>(3) Handling of motor To handle the motor, hold the motor case softly. Do not bring a magnetized object near or into contact with the surface because there is a fear of performance being deteriorated. Due attention must be paid to the handling and working environments because such objects.</p>			





1. RATED VOLTAGE : 2.0Vrms AC(Sinewave)
2. RATED CURRENT : 90mA<sub>rms</sub> Max
3. RATED FREQUENCY : 175Hz
4. RESISTANCE : 27 ohm  $\pm$  5

REV	NO.	CONTENTS	ENGINEER	APPROVER	DATE(yy/mm/dd)
Jinlong Machinery & Electronics www.jinlong-machinery.com					

3		LEAD WIRE		1		
2		RUBBER		1		
1		Vibrator		1		
NO.	PART NO.	PART NAME	MATERIAL	QTY	FINISH	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS,			UNIT	SIZE	SCALE	SHEET
GENERAL TOLERANCE (±)					5/1	1/1
m/m			0.2		AND TOLERANCE ARE AS FOLLOWS :	
			ANGULAR TOLERANCE : ±1.0°		G1036001D	
DESIGNED				DATE (YY/MM/DD)		PART NAME
				2017. 04. 10		VIBRATOR
CHECKED				DATE (YY/MM/DD)		
APPROVED				DATE (YY/MM/DD)		DRAWING NO.
						S-159881