



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/1
品名描述 Product Description	LRA 扁平振动马达 LRA Coin vibration motor		
型号Part No.	VG1036002D		
送样日期Date			
设计Designed by	审核Checked by	批准Approved by	
陳满	陈满	陈满	
2020.07.01	2020.07.01	2020.07.01	

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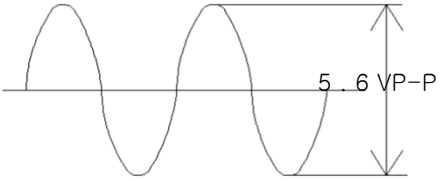
1. Scope

These specification are applied to VG1036002D Linear vibrator to be used for cellular and PDA phone, manufactured by Vybronic.

2. Standard Operating Condition

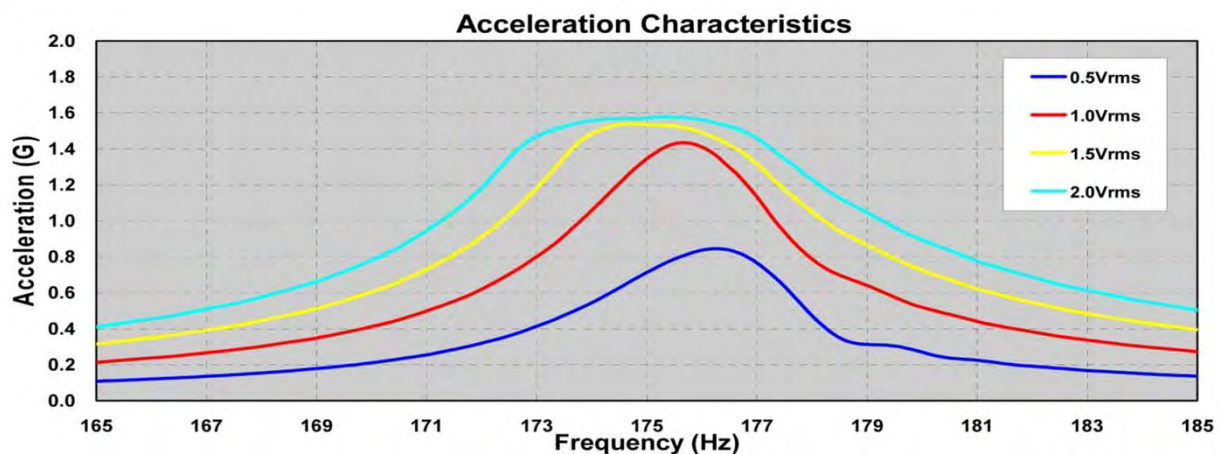
NO	ITEM	SPECIFICATION
2-1	Working temperature range	-25℃ ~ +70℃
2-2	Storage temperature range	-40℃ ~ +85℃

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

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	Ringing	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



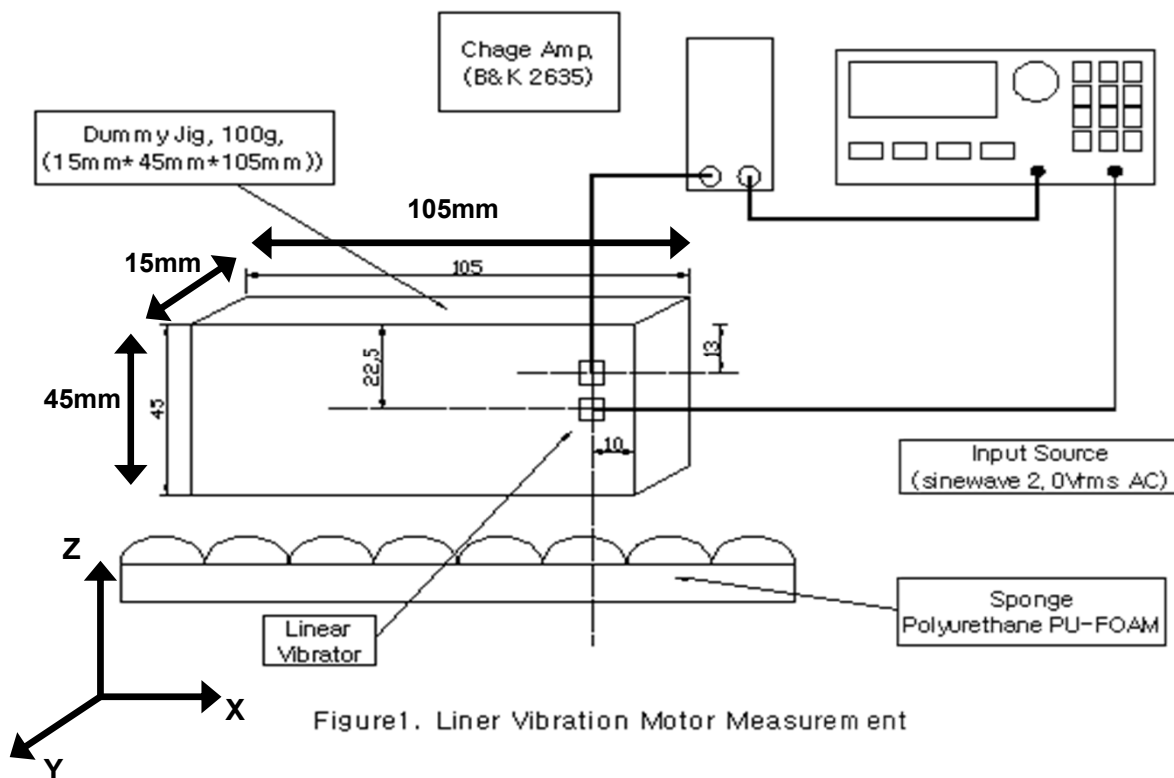
5. Acceleration Testing Methods
Figure 2.0
Linear Vibrator Method of Measurement


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

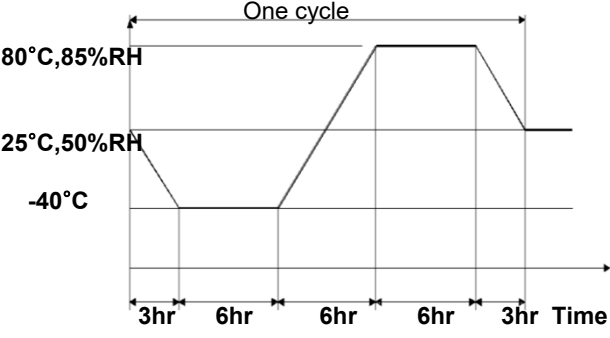
5.2) Dummy fixture position

- 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.

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

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°C, 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°C, 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°C, 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 border="1" style="width: 100%; border-collapse: collapse;"> <thead> <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> </thead> <tbody> <tr> <td style="text-align: center;">20</td> <td style="text-align: center;">0.0098</td> </tr> <tr> <td style="text-align: center;">80</td> <td style="text-align: center;">0.04</td> </tr> <tr> <td style="text-align: center;">350</td> <td style="text-align: center;">0.04</td> </tr> <tr> <td style="text-align: center;">2000</td> <td style="text-align: center;">0.0069</td> </tr> </tbody> </table> <p>Sample Quantity : 4pcs</p>	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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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															

7. Cautions

(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.

(2) Storage

Avoid storing in high temperature, high humidity or corrosive gas environment.

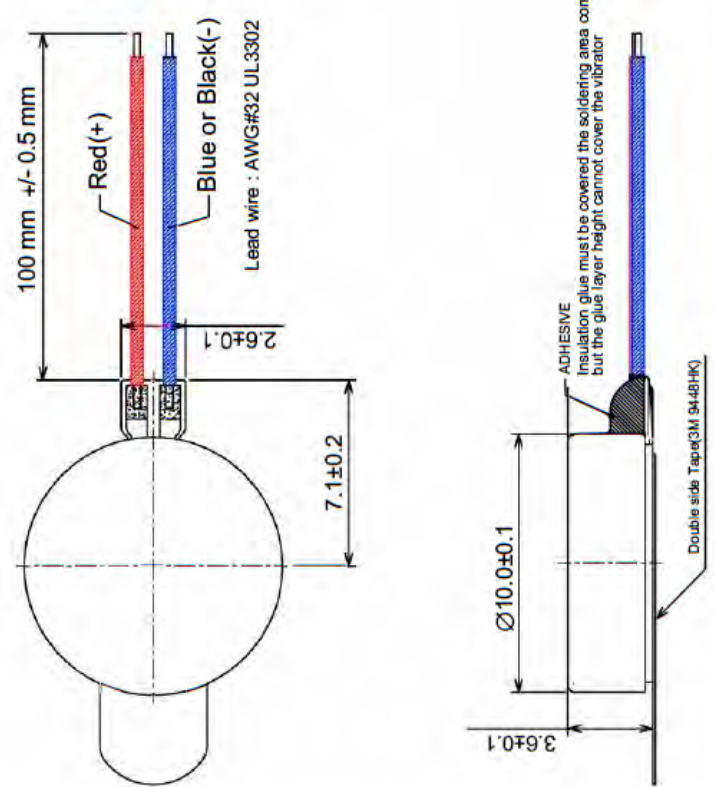
(3) Handling of motor

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.


8. Outline drawing



SPECIFICATION

1. RATED VOLTAGE : 2.0Vrms AC(Sinewave)
2. RATED CURRENT : 90mA Arms Max
3. RATED FREQUENCY : 175Hz
4. RESISTANCE : 27 ohm ± 5

3	LEAD WIRE	1	1	1	1	1	1	1	1
2	RUBBER	1	1	1	1	1	1	1	1
1	Vibrator	1	1	1	1	1	1	1	1
NO. PART NO. PART NAME		MATERIAL	QTY	FINISH	REMARK				
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS		UNIT	SCALE	SHEET	MODEL				
GENERAL TOLERANCES ARE AS FOLLOWS:		DESIGNED	5/1	V/1	VG1036002D				
mm 0.2		CHECKED	2017.04.10	DATE (Y/M/M)	PART NAME				
		APPROVED	2017.04.10	DATE (Y/M/M)	VIBRATOR				
				DATE (Y/M/M)	DRAWING NO.				



ANGULAR TOLERANCE: ± 0.2

