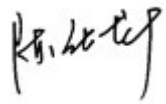
产品规格书

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/3
品名描述 Product Description	LRA 扁平振动马达 LRA Coin vibration motor		
型号Part No.	VG0640001D		
送样日期Date			
设计Designed by	审核Checked by	批准Approved by	
陈满			
2023.07.28	2023.07.28	2023.07.28	

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Contents of Specification

1. Revision History

修改号 Rev. No.	日期 Rev. Date	页码 Page No.	修改项目 Revised Item	更改原因 Reason
A/0	2021.05.27	/	产品颁布/ Release for Production	
A/1	2021.07.01	/	changed company name from JINLONG MACHINERY to VYBRONICS, changed part # from G0640001D to VG0640001D	Rebranding
A/2	2022.03.28	/	Removed foam from the top	
A/3	2023.07.28	/	Update "Acceleration" to 0.55~0.90 G, and update "Linear Vibrator Frequency Characteristics" graph	

2. Application

This specification provided structure, function and usage condition of Linear Vibrator used in mobile communication devices for silence call. Linear Vibrator is designed and manufactured by Vybronics.

3. Operating , Storage Temperature /Humidity Conditions

No	Item	Condition
3-1	Operating Temperature Range	-20℃ ~ +70℃
3-2	Storage Temperature Range	-40℃ ~ +80℃

4. Measurement Conditions

NO	Item	Condition
4-1	Temperature	20 ± 5℃
4-2	Humidity	65 ± 20%RH
4-3	Rated Input Voltage	1.8Vrms AC, Sinewave
4-4	Input Voltage Range	0.5 ~ 1.8 Vrms AC
4-5	Input Frequency	210±0.1Hz
4-6	Operating Attitude	Refer to Figure 1

※ Measurement Method

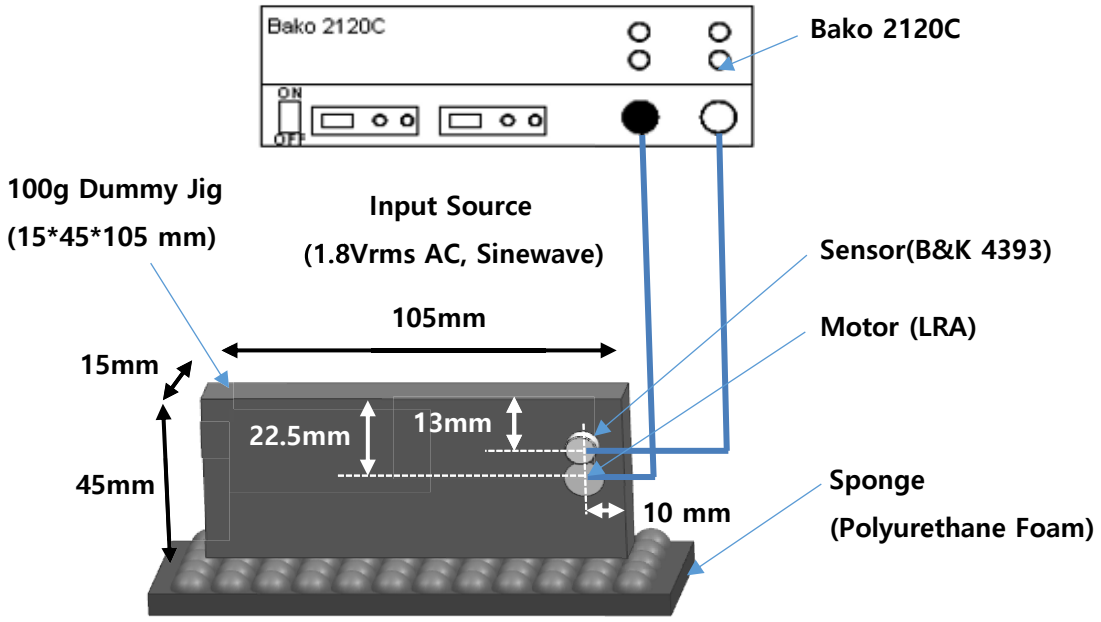


Figure 1. An Example of Measurement Method of Linear Vibrator

☐ **Position of Linear Vibrator and Accelerometer (Refer to Figure 1)**

- Linear Vibrator should be mounted to vibrate 15mm direction (y-direction) of Jig.
- Accelerometer also should be installed to measure y-direction vibration of Jig

☐ **Position of Dummy Jig**

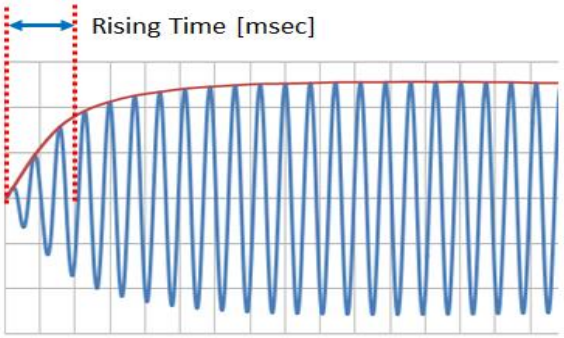
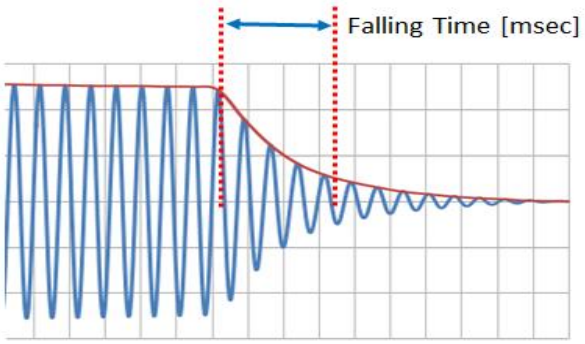
- 15mm*105mm plane of Dummy Jig should be located on Sponge
- At measurement of acceleration, Dummy Jig should be stabilized

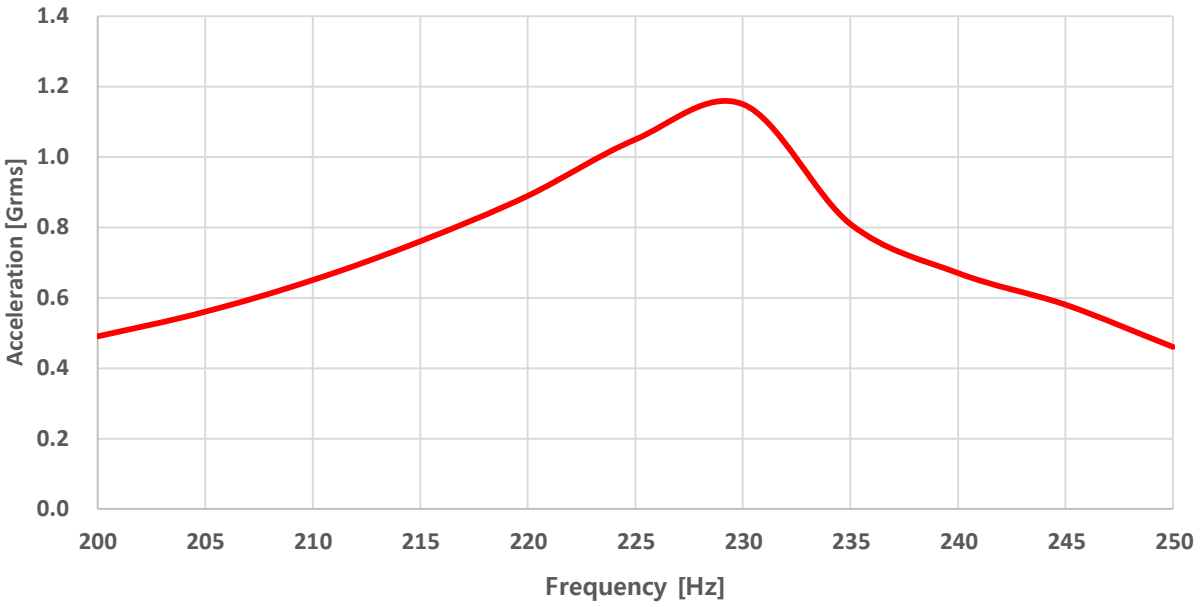
☐ **Measurement of Acceleration**

- Acceleration should be measured 2~3 second later when source inputed.
- For the precise measurement, Acceleration should be measured 3 times and adopted average value on each Linear Vibrator

5. Specifications

NO	Item	Specification
5-1	Resistance	25.0Ω ± 15%
5-2	Rated Current	**Max 75 mArms** (Input Source : 210Hz, 1.8Vrms AC, sinewave)
5-3	Acceleration	**Min 0.55~0.90 Grms** (Input Source : 210Hz, 1.8Vrms AC, sinewave)
5-4	Frequency Characteristics	**Refer to Graph 1**
5-5	Motor Height	**4.05 ± 0.05mm** - Put the Case of the motor on JIG, after Zero setting, and measure center point of Bracket by Height Gauge.
5-6	Mass	**Mass of Motor : 0.67 gr**
5-7	Noise by mechanical touch (Noise_T)	■ **SPEC : Max 35dB** (Input Source : 210Hz, 1.8Vrms AC, sinewave)
5-8	Insulation Resistance	**Min 10 Mega Ohm** (100V DC input, between Case and terminal)

NO	Item	Specification
5-9	**Rising Time**	**Max 15msec (50% of Acceleration)** 
5-10	**Falling Time**	**Max 70msec (10% of Acceleration)** 



Graph 1. Linear Vibrator Frequency Characteristics

6. Reliability Test Condition

NO	Item	Conditions
6-1	Life test	Operating at rated input voltage (1.8Vrms AC, Sinewave), input frequency (210Hz) for 500,000cycle, on(2sec)/off(1sec).
6-2	Thermal shock test	-40℃ ~ 85℃ in each of 2Hrs(1cycle), Total 15cycles. Transition time is 5 minutes max. After the test, the Vibrator should be measured after room-temperature storage for 4Hrs.
6-3	High temperature storage test	+70℃, 168Hrs, After the test, the Vibrator should be measured after room-temperature storage for 4Hrs.
6-4	Low temperature storage test	-30℃, 168Hrs, After the test, the Vibrator should be measured after room-temperature storage for 4Hrs.
6-5	Static humidity test	+50℃, 95%RH, 120Hrs, After the test, the Vibrator should be measured after room-temperature storage for 4Hrs.
6-6	Vibration test	Vibrator that is attached to a 120 gram dummy jig is vibrated with 2.2G, 10~55Hz/min for 10minutes in each of X,Y,Z axis.
6-7	Mechanical shock test	The Vibrator that is attached to a 120 gram dummy jig is dropped to a steel floor 12 times(6face, 2times in each of X,Y,Z axis) from 1.5 meters in height.

☐ Judgement

① After test, The following specifications must be satisfied .
-Acceleration : Within initial Value ± 30%
-Rated Current : Max 80 mA rms

② There sho uld be no abnormalities in appearance and structure.

7. Cautions for Use

(1) Do not press the product with more than 0.5Kgf or drop it.
It can cause the transformation of performance or external appearance.

(2) Do not use under the following conditions. It may cause a decline in performance.
- Do not drop into fluid (such as water, alcohol etc.).
- Do not keep at high temperature or high humidity for extended periods of times.
- Do not use near gases which cause erosion
- Please refrain from operating the vibrator near magnetic devices.

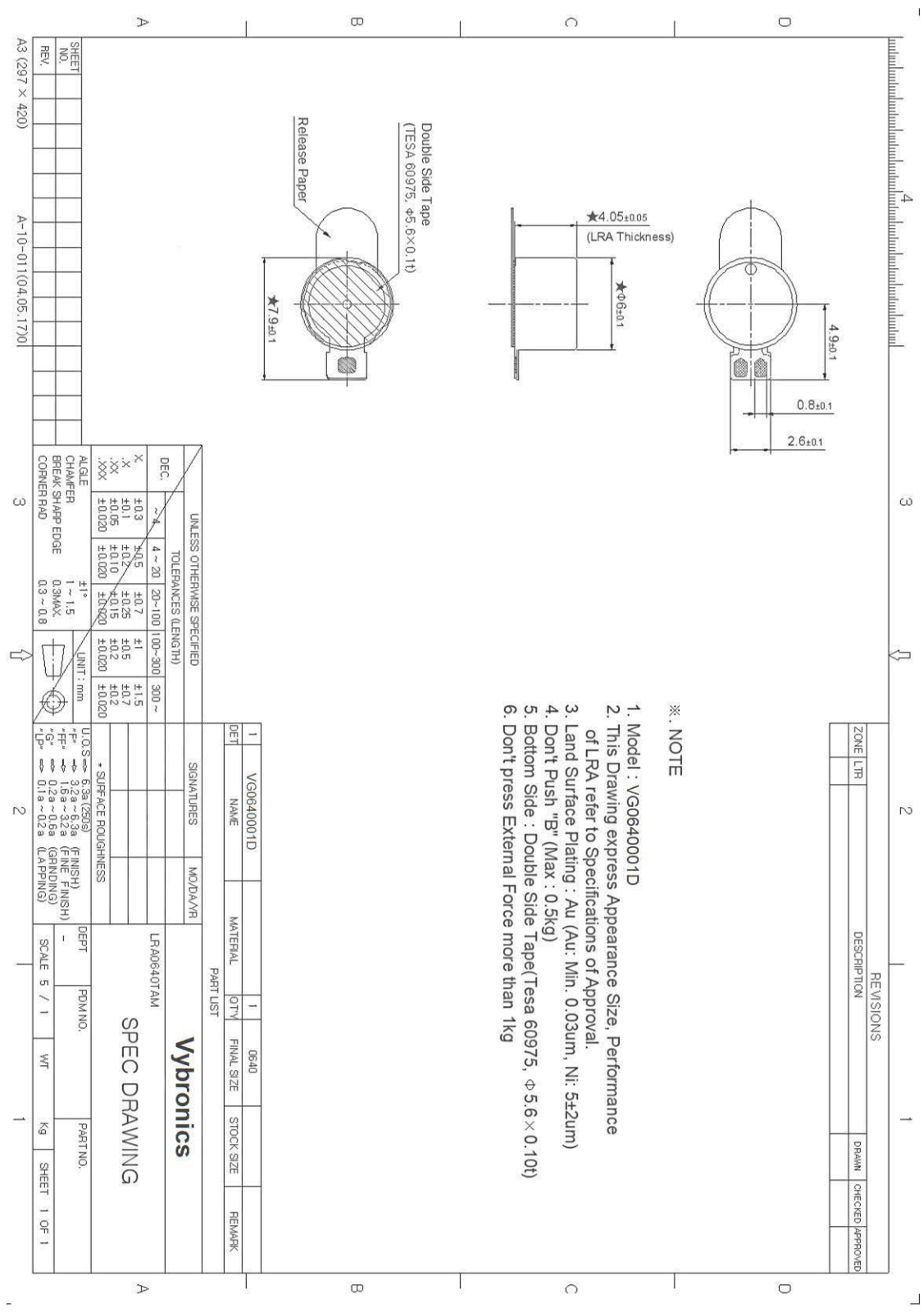
(3) The vibrator has a strong magnet. So please be aware that it has a magnetic force on the surface of the bracket.

(4) To optimize the vibration force, Rated frequency and voltage could be changed as to assemble condition.

(5) Please refer to the packaging drawing. It can be modified by the request of the user.

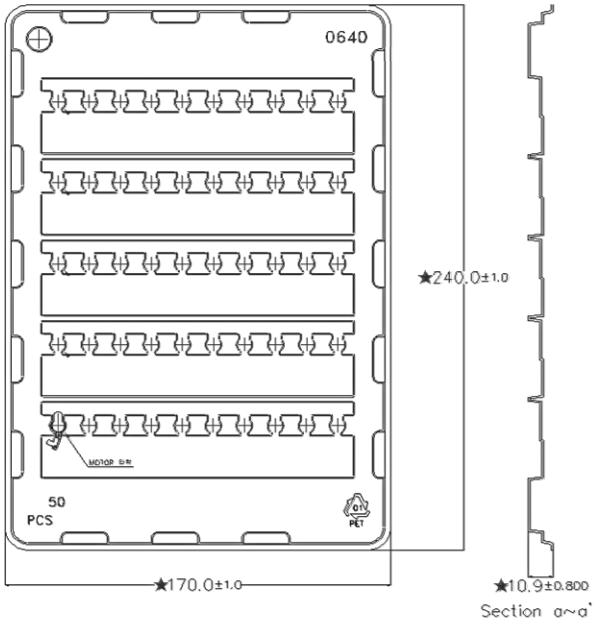
(6) The storage condition is 5℃~35℃, 15%~65% RH, 1year about packing.

8. SPEC Drawing

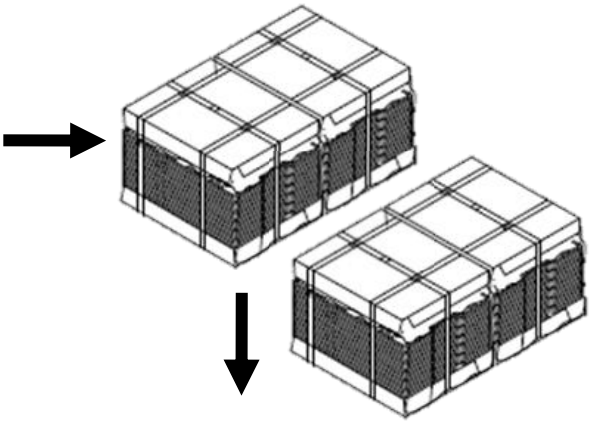


9. Packing

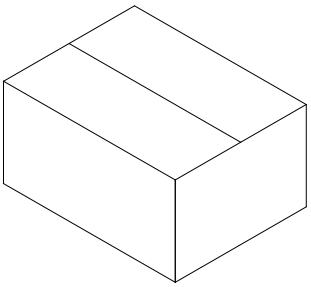
[Pet Tray]



20(21) Trays
+2 Pads



[Carton Box]



[Packing quantity]

- 50ea/ Tray
- 1 Carton box
  - 80(84) trays with a dummy tray on the top
  - 4000ea/ carton box

No	Material	Size	Q'ty/Lot	How to Pack
1	PET Tray	240x170x10.9	80(84)	●80(84) trays are packed with packing vinyl. ● The trays are bound with pad and pp band ●One bound trays are put to a carton. ● Lot Numbering ●Delivery ●Loading Capacity : 12
2	Carton Box	510x350x175	1	
3	Pad		8	
4	Packing vinyl		4	
5	PP-band		-	