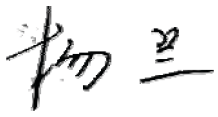
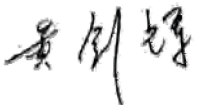
产品规格书

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
品名描述 Product Description	线性振动马达 LINEAR VIBRATION MOTOR		
型号Part No.	VLV101040J-TG3		
送样日期Date			
设计Designed by	审核Checked by	批准Approved by	
			
2025.05.23	2025.05.23	2025.05.23	

www.vybronics.com
sales@vybronics.com

1. REVISION HISTORY

Rev. No.	Rev. Date	Page No.	Revised Item	Reason
A/0	2025.05.23	/	preliminary spec	

Scope

This specification is applied to VLV101040J-TG3 vibrator for a pager and a mobile telephone.

Contents

1. Structure and material

1.1 structure

Items	Specification
1. Motor structure	Resonant type vibrator
2. Number of phases	1-phase
3. Number of magnet pole	1-poles (Axial type)

1.2 Material

Items	Specification
1. Case, Bracket	SPCC
2. Magnet	Nd-Fe-B Magnet
3. Coil	Self-Bonding Polyurethane copper Wire
4. F-pcb	CCL, CL
5. Damper	SSM
6. Weight	Tungsten
7. Spring	SUS301EH

2. Rated specifications

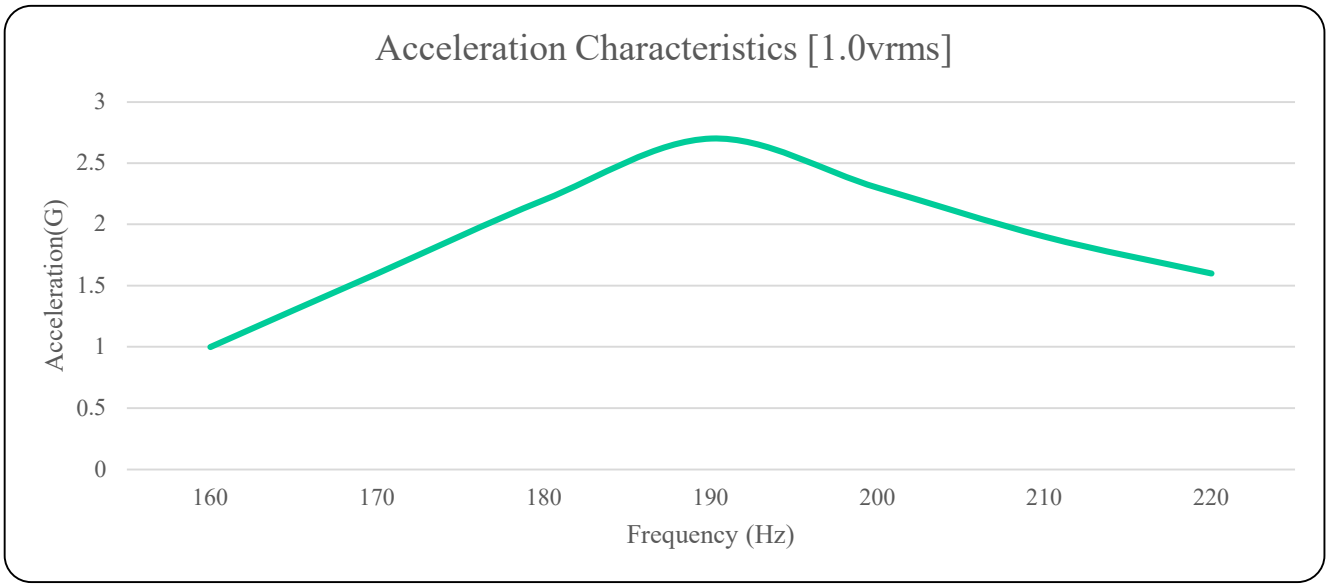
No	Items	Specification
2-1	Input voltage note.1)	1.0Vrms AC (Sine wave) (2.8Vpp)
2-2	Operational frequency	190±10%Hz
2-3	Acceleration (Section. 4-1)	2.5±20%Grms (Input Source :Resonance Frequency 1.0Vrms AC, Sinewave)
2-4	Rated current	150mArms max. (Input Source : Resonance Frequency 1.0Vrms AC, Sinewave)
2-5	Terminal resistance	6.0±10%Ω
2-6	Rising time (Section. 4-2)	15ms Max.(50% of the steady state)
2-7	Acoustic noise (Section. 4-3)	50dB(A) Max. (50cm distance from microphone, (Input Source :Resonance Frequency 1.0Vrms AC, Sinewave)
2-8	Noise by mechanical touch (Touch Noise)	50dB Max (The model of measuring Equipment : BAKO2120C (Input Source : Resonance Frequency 1.0Vrms AC, Sinewave)
2-9	Insulation Voltage	Min 10M ohm (Measured between terminal and case with DC100V)
2-10	Weight of the product	(2.92±0.1)gram
2-11	Allowable temperature range note.2)	1) Working temperature : -40℃ ~ +90℃ 2) Storage temperature : -40℃ ~ +100℃
2-11	Standard test condition	Section. 3

Note.1) Square wave Input voltage may cause a little difference on the performance.

Note.2) The allowable temperature range must satisfy the following conditions.

- Working Temperature : Initial Vibration Value(Vibration test data at 25℃)±50%
- Storage Temperature : Initial Vibration Value (Vibration test data at 25℃)±30%
- Measurement must be performed immediately after the start of vibration.
  1) Number of measurement : 5times.
  2) Measurement time : 0.5sec

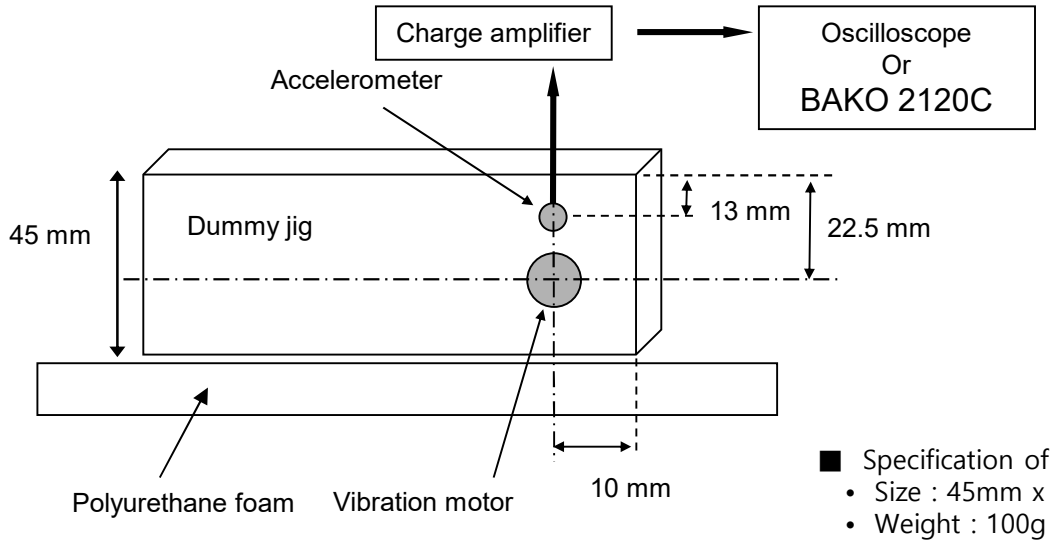
3. Frequency response characteristics (Sweep Test)



4. Standard Test Condition.

■ Measurement of performance
All the performances are measured at normal temperature (25±2℃) and humidity(60±20%RH).

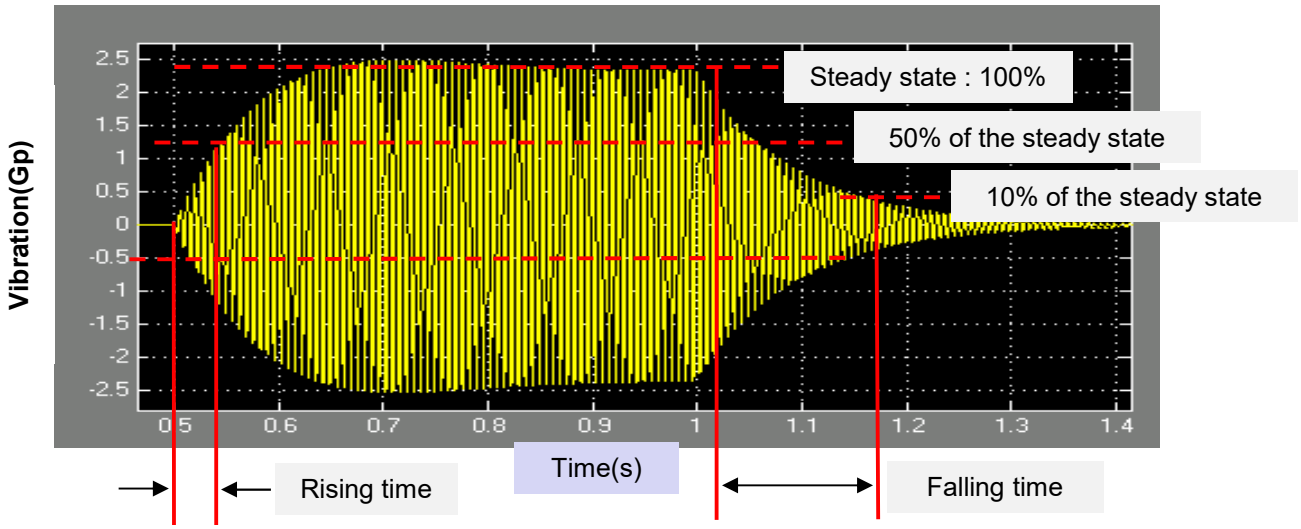
4.1 Acceleration



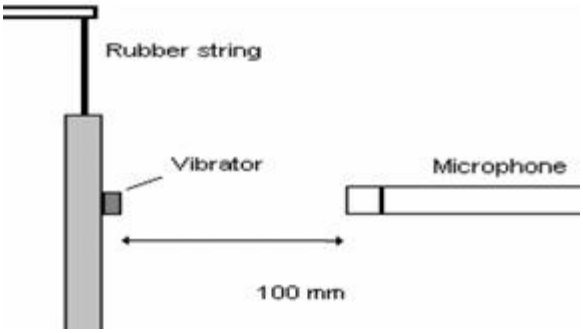
■ Specification of the dummy Jig
- Size : 45mm x 105mm x 15mm
- Weight : 100g
- Material : Bakelite
- Vibration motor should be attached by using a double-sided tape.

4.2 Rising/Falling time

■ Rising time : The time when the acceleration reaches 50% of the vibration force (or steady-state) after the power is applied.
■ Falling time : The time when the acceleration reaches 10% of the vibration force (or steady-state) after the power is disconnected.

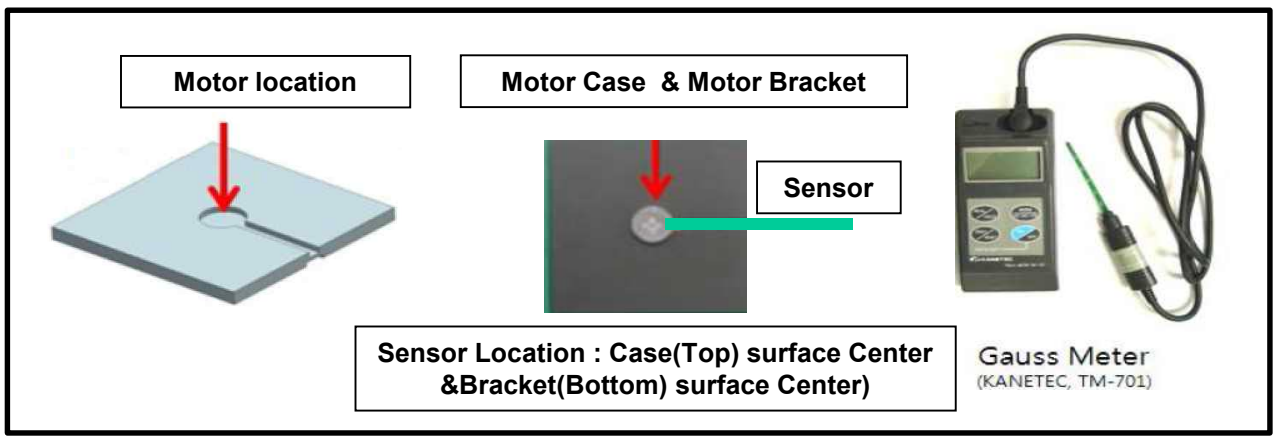


4.3 Acoustic noise



■ Ambient noise level : 23dB(A)
■ Dummy JIG must be suspended by a rubber string to avoid disturbance.

4.4 Gauss Meter & Jig set-up for Leakage Magnetic Flux.



5. Reliability

After test, the evaluation items of table1 should be satisfied.

No.	I t e m s	Test condition
5-1	High temperature storage test	Expose to 80℃ for 168hours and then return to normal temperature and humidity for 4hours before test.
5-2	Low temperature storage test	Expose to -40℃ for 168hours and then return to normal temperature and humidity for 4hours before test.
5-3	Humidity test	Expose to 60℃, 90%RH for 168hours and then return to normal temperature and humidity for 24hours before test.
5-4	Thermal shock test	Confirmed to operating of motor during 10 cycles as following test condition and then return to normal temperature and humidity for 4 hours before test. (Test condition : Refer to note.4)
5-5	Free-drop note.3)	Free-drop to a steel floor each side from 1.5m above standard test equipment (18times) after attachment of 150g JIG.
5-6	Life cycle test	Should be satisfied with the evaluation items of table 1. after 500,000 cycles with the rated operating condition in normal temperature and humidity.(cycle test condition : 1.0 sec. on, 1.0 sec. off)

Table1 : The reliability determination

No.	Items	Specification
1-1	Rated current	150mA max.
1-2	Vibration	Shall not exceed ±30% from the initial value
1-3	Rising time	
1-4	Mechanical touch noise	50dB(A) max.
1-5	Others	No deformation, crack, separation of parts.

Note.3) A dummy jig for free-drop

Mass : 150gram ± 10%

Size : 130 X 70 X 14.5mm

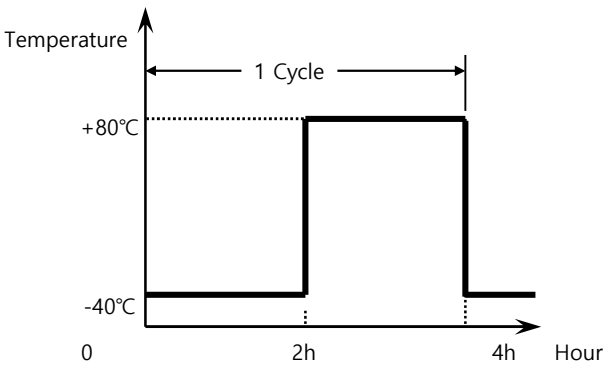
Material : POM + Steel

Thickness of the cushion tape : 1.0mm

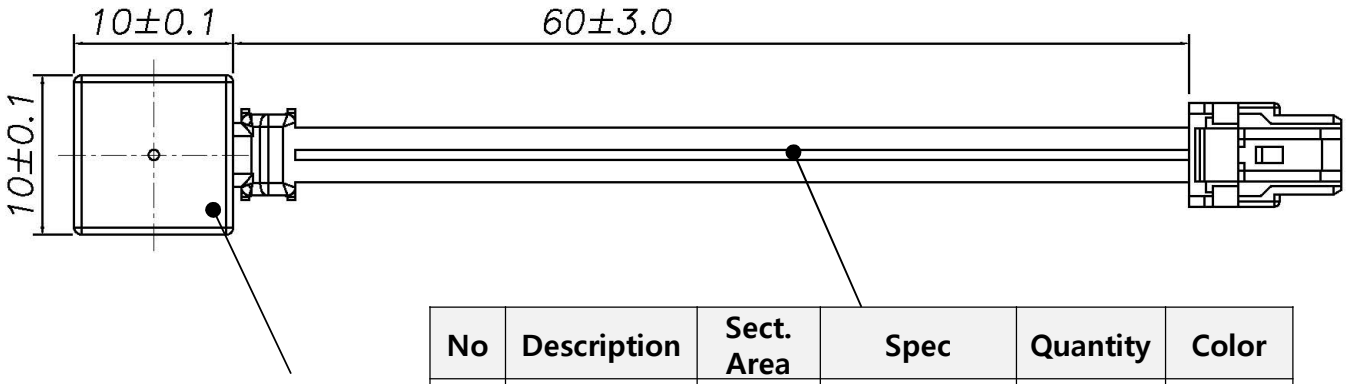
(Compressive ratio : 50%)

The upper case is faced to the cushion tape.

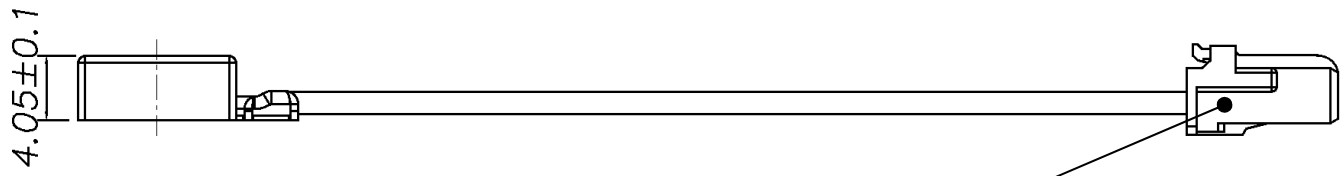
Note.4) Thermal shock test condition



6. Outline drawings



No	Description	Sect. Area	Spec	Quantity	Color
1	Wire	0.3 SQ	AVSS	1	RED
2	Wire	0.3 SQ	AVSS	1	BLACK



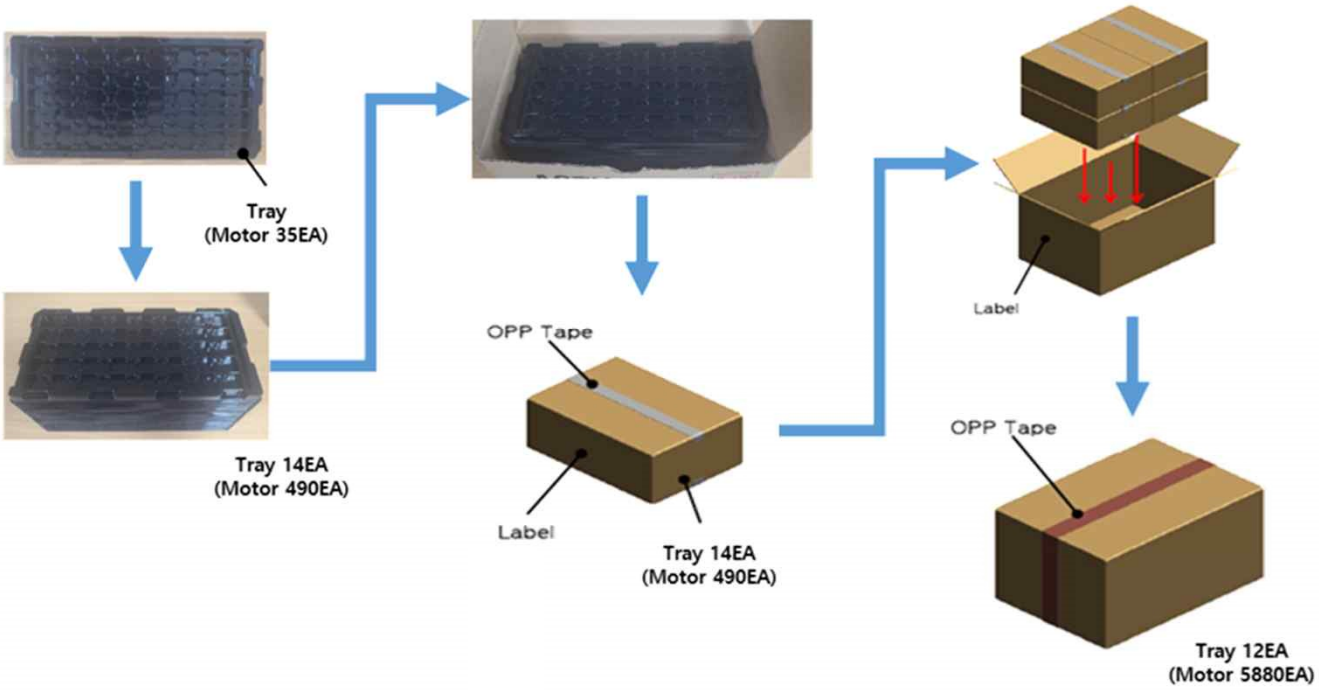
No	Description	Maker	Spec	Quantity	Color
1	Connector	KET	K100232	1	White

7. Packing Specification

7.1 Packing Specification

Item	Tray	Inner Box	Out Box
Material	(ABS) t=0.8T	DW-1(Carton box)	DW-1(Carton box)
Dimension	263(L) x 128(W) x 1.97(H)	270(L) x 138(W) x 120(H)	560(L) x 430(W) x 265(H)
Quantity	35ea	490ea	5,880ea
Weight	Approximately (g)	Approximately (g)	Approximately (g)

7.2 Parking Drawing



8. Cautions

8.1 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 the voltage and current ranges for use.

8.2 Storage

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

8.3 Handling of vibrator

- Do not bring a magnetized object near or into contact with the surface because there is a fear of performance deterioration.
- Attention must be paid to the handling and working environments because incoming of magnetic particle into the vibrator cause noise, characteristic deterioration, thus reducing the reliability.
- Do not press the product with more than 0.5Kg.f. Strong pressing may cause the decrease of the performance or the deformation of the product.