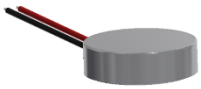
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PUIaudio



Data Sheet	HD-EM1003-LW15-R

PUI Audio's 8mm diameter by 3mm thick **HD-EM1003-LW15-R** is an eccentric rotating mass vibration haptic motor. Originally designed for use in pagers/beepers, this device is great for use in wearables for haptic feedback.

Features:

- Driven with positive or negative DC for clockwise or counterclockwise movement
- Convenient 15mm lead wires for simple electrical connection
- 12,000 RPMs with 3 VDC input

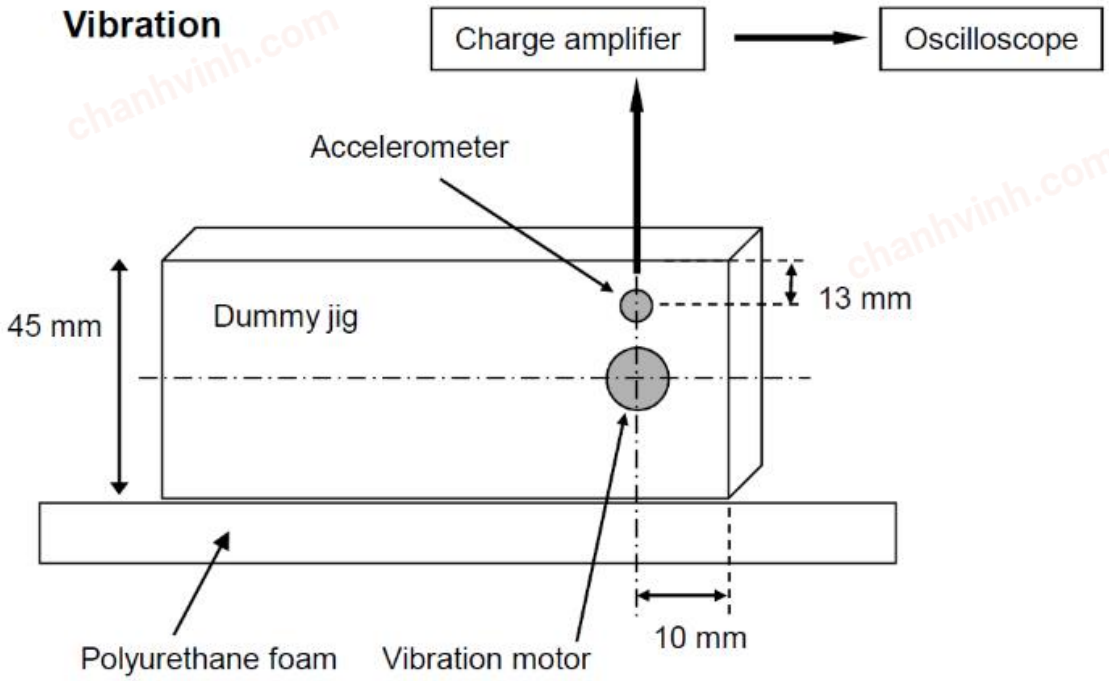
Specifications

Parameters	Values	Units
Rated Voltage	3	VDC
Operating Voltage Range	2.5 ~ 3.6	VDC
Terminal Resistance	46 ±50%	Ohms
Rated Speed (at 3 VDC)	12,000 ±3,000	RPMs
Current Draw (at 3 VDC)	85	mA
Stall Current Draw	140	mA
Insulation Resistance	1	MOhms
Acoustic Noise (Max)	50	dBA
Housing Material	SPC	-
Acceptable Soldering Methods	Hand Solder	-
Environmental Compliances	RoHS/REACH	-
Weight	1	Grams
Storage Temperature	-40 ~ +85	°C
Operating Temperature	-30 ~ +70	°C

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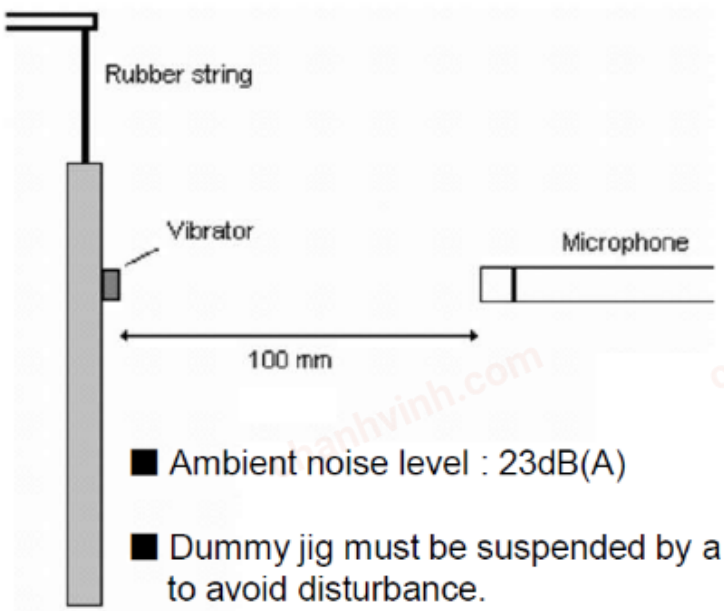
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Measurement Methods



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

Acoustic noise



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

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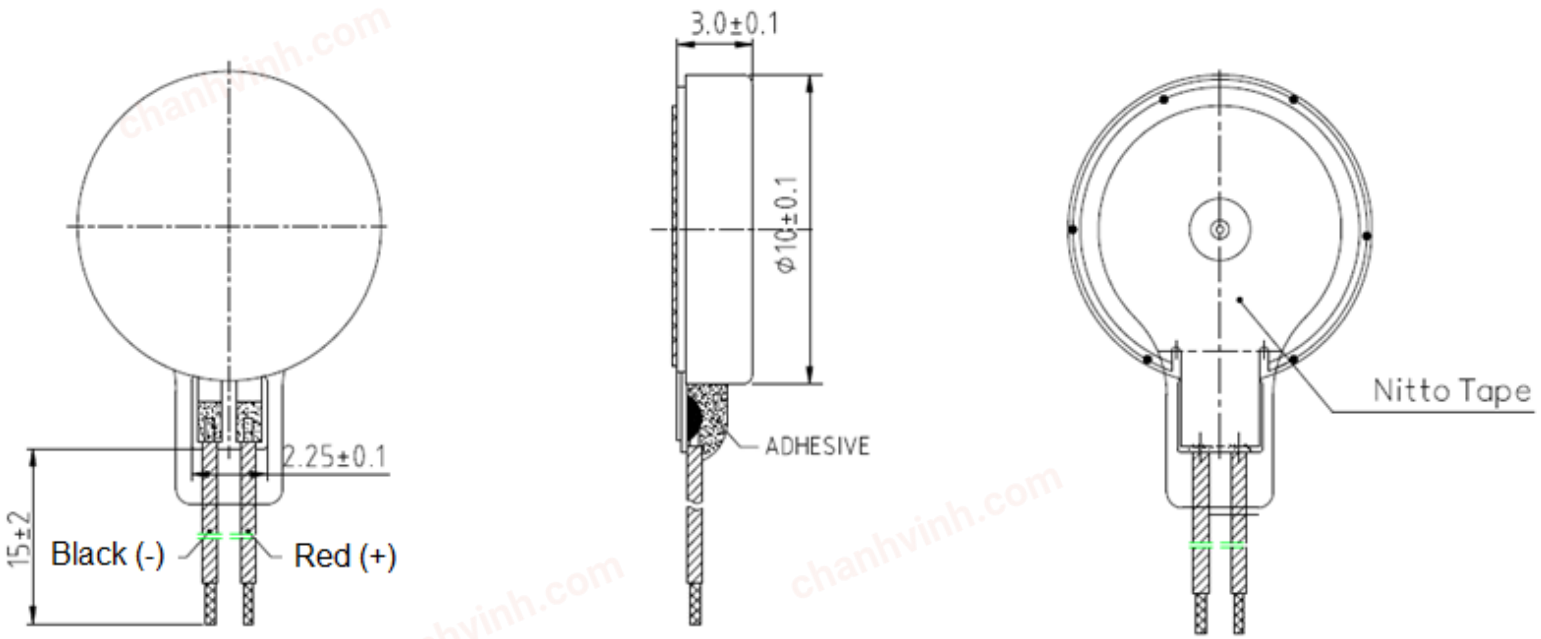
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Reliability Testing

Type of Test	Test Specifications
High Temperature Test	96 hours at 85°C
Low Temperature Test	96 hours at -40°C
H2S Corrosion Resistance Test	Concentration: 3 ±1 PPM Test Environment: 40°C, humidity 80% RH Test Duration Time: 240 hours
Temperature Cycle Testing	Temperature: -20°C to +60°C Test Duration: 30 minutes Test Cycles: 15 cycles
Vibration Test	3mm deflection at 1000 cycles per minute, for 10 minutes in each axis (X, Y, Z).
Drop Test	Weight: 150g (including motor) Drop Height: 150cm Floor Material: Steel Direction: ±X, ±Y, ±Z; total 6 faces Number of Times: Each face 3 Times
Load Test	60,000 operating cycles in room temperature Cycle test condition: 2 seconds on, 2 seconds off

Acceleration, resistance, rated current and noise must meet specifications after allowing the device to rest for 4 hours after test.

Dimensions



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Specifications Revisions

Revision	Description	Date
A	Released from Engineering	4/6/2021

Note:

1. Unless otherwise specified:
   A. All dimensions are in millimeters.
   B. Default tolerances are ±0.5mm and angles are ±3°.
2. Specifications subject to change or withdrawal without notice.