



# PUIaudio



Data Sheet

HD-EM0802-LW30-R

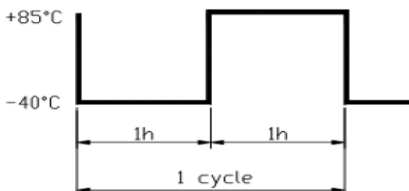
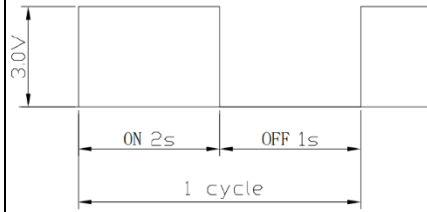
## Features:

- Designed to be driven with 3 VDC
- Brushless motor with a built-in IC driver
- High Reliability
- Lead wires attached for easy assembly
- Generates 13,000 RPMs with no more than 50 dBA acoustic noise

## Specifications

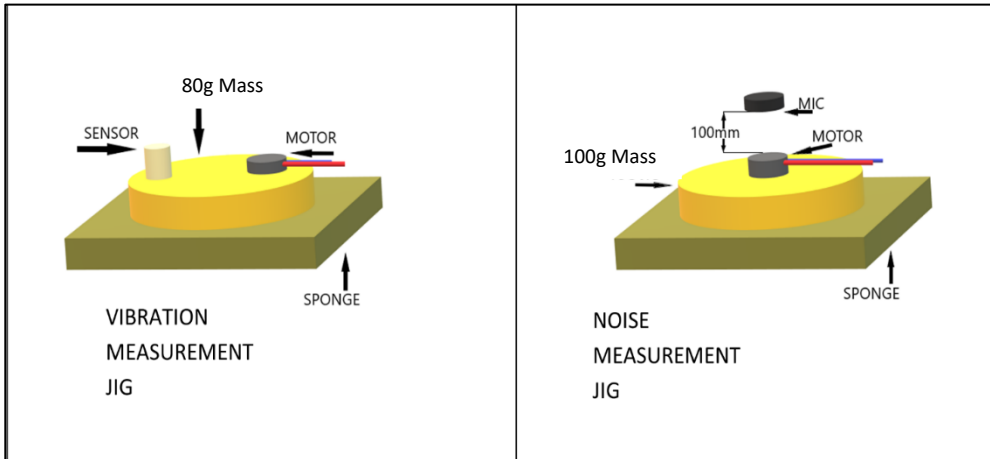
Parameters	Values	Units
Rated Voltage	3.0	V <sub>DC</sub>
Starting Voltage	≤ 2.5	V <sub>DC</sub>
Operating Voltage Range	2.7 ~ 3.3	V <sub>DC</sub>
Direction of Rotation	CW	-
Vibration Strength	0.4	G
Insulation Resistance	> 1M	Ohms
Rated Speed	13,000 ± 3,000	RPM (@ 3 V <sub>DC</sub> )
Rated Current (Max)	80	mA (@ 3 V <sub>DC</sub> )
Starting Current (Max)	175	mA (@ 3 V <sub>DC</sub> )
Mechanical Noise (Max)	50	dBA
Environmental Compliances	RoHS/REACH	-
Actuator Mass	0.33	Grams
Storage Temperature	-30 ~ +70	°C
Operating Temperature	-20 ~ +60	°C

## Reliability Testing

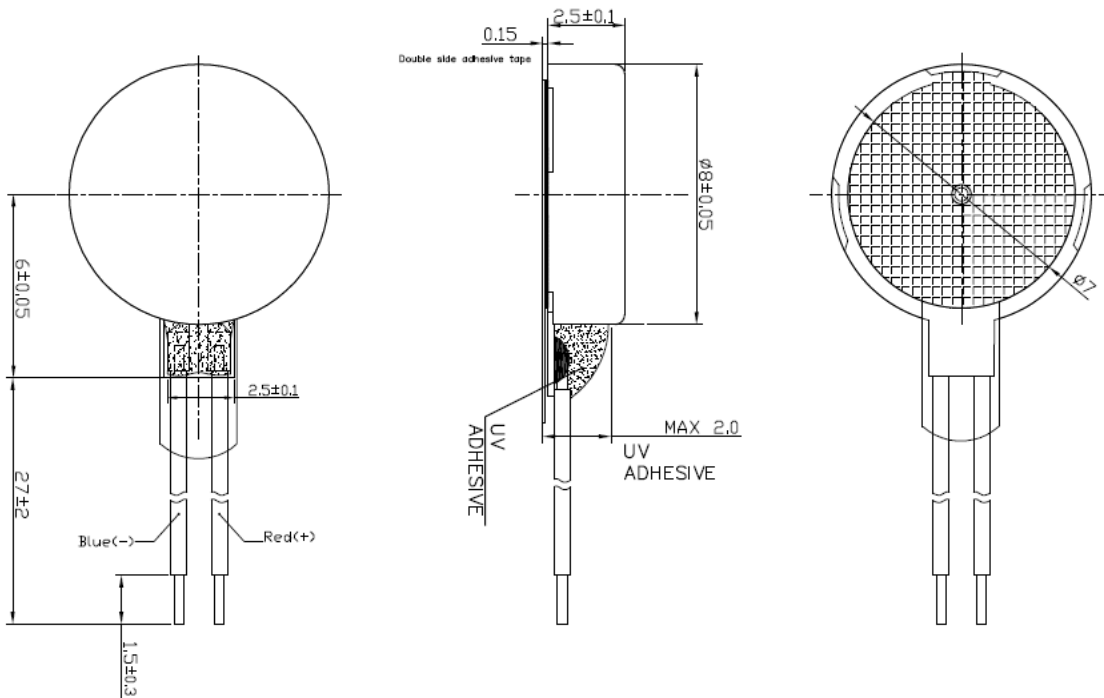
Type of Test	Test Specifications	Pass/Fail Criteria
High Temperature	Temperature: $+70\pm 2^{\circ}\text{C}$ Test Duration: 96 hours	After each test, motors rest for 4 hours at room temperature. After rest, the motor shall meet the following initial values: <ol style="list-style-type: none"> <li>1) Rated Speed: <math>\pm 30\%</math> initial</li> <li>2) Rated Current: <math>\pm 30\%</math> initial</li> <li>3) Starting Voltage: <math>2.5\text{ V}_{\text{DC}}</math></li> </ol>
Low Temperature	Temperature: $-20\pm 2^{\circ}\text{C}$ Test Duration: 96 hours	
High Humidity	Temperature: $+40\pm 2^{\circ}\text{C}$ Humidity: 90 ~ 95 RH Test Duration: 96 hours	
Thermal Shock	 Test Cycles: 32	
Free Drop	Drop from listed drop height three times in $\pm X$ , $\pm Y$ , $\pm Z$ directions Jig Mass: 100 grams (including motor) Drop Height: 1.5 meters Test Cycles: 3 per drop axis	
Vibration	Acceleration: $22\text{m/s}^2$ Frequency: 10 ~ 55 Hz Cycle Time: 10 min log sweep (1 G) Cycle: 10 Hz ~ 55 Hz ~ 10 Hz Test Orientation: X, Y, Z Test Duration: 10 minutes	
Lifetime	 Test Cycles: 500,000 (@ $3\text{V}_{\text{DC}}$ )	After test, motors rest for 4 hours at room temperature. After rest, the motor shall meet the following initial values: <ol style="list-style-type: none"> <li>1) Rated Speed: <math>-20\%/+40\%</math> initial</li> <li>2) Rated Current: <math>\pm 30\%</math> initial</li> <li>3) Starting Voltage: <math>2.5\text{ V}_{\text{DC}}</math></li> </ol>

**After testing, each motor must achieve the listed Pass/Fail Criteria for the appropriate test.**

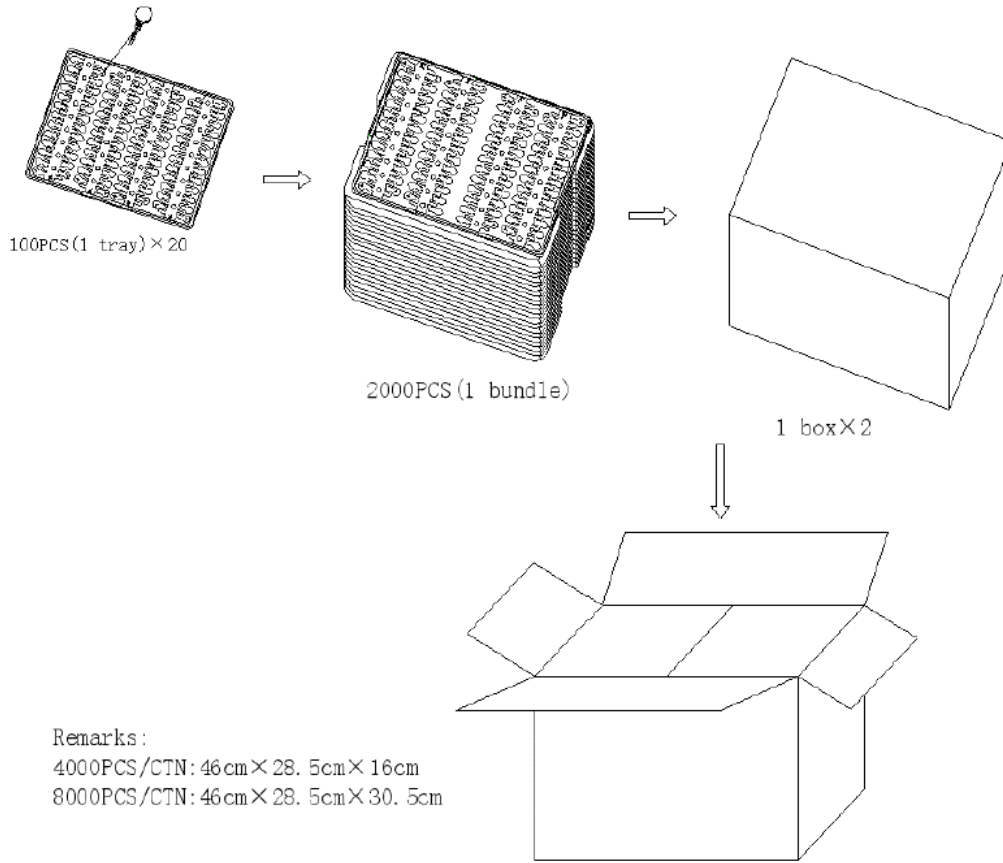
## Measurement Methods



## Dimensions



## Packaging



### Specifications Revisions

Revision	Description	Date
A	RELEASED FROM ENGINEERING	2/24/2023

Note:

1. Unless otherwise specified:
  - A. All dimensions are in millimeters.
  - B. Default tolerances are  $\pm 0.5\text{mm}$  and angles are  $\pm 3^\circ$ .
2. Specifications subject to change or withdrawal without notice.