



# PUIaudio



Data Sheet

HD-EMB1305-SC

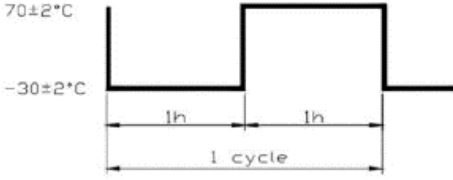
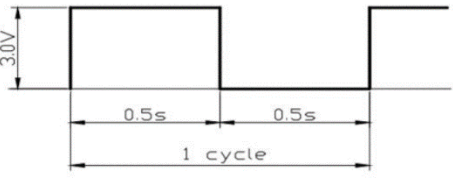
## Features:

- Designed to be driven with 3 VDC
- Low current consumption
- Spring Contact motor surrounded by a rubber boot for easy assembly
- Generates 13,000 RPMs with no more than 50 dBA acoustic noise

## Specifications

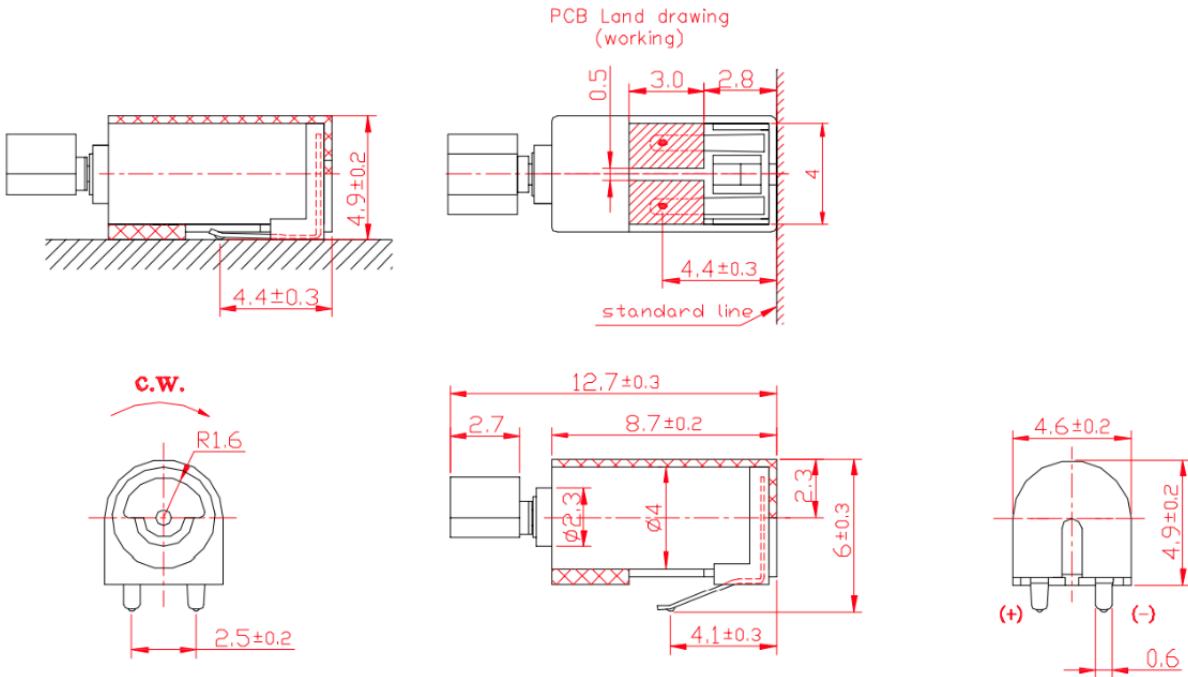
Parameters	Values	Units
Rated Voltage	3.0	V <sub>DC</sub>
Starting Voltage (Max)	2.4	V <sub>DC</sub>
Operating Voltage Range	2.2-3.6	V <sub>DC</sub>
Direction of Rotation	CW/CCW	-
Terminal Resistance	93 ± 20%	Ohms
Insulation Resistance (Min)	1 M	Ohms
Rated Speed	13,000 ± 2,500	RPM (@ 3 V <sub>DC</sub> )
Rated Current (Max)	30	mA (@ 3 V <sub>DC</sub> )
Stall Current (Max)	40	mA (@ 3 V <sub>DC</sub> )
Shaft End Play	0.2 ± 0.1	mm
Mechanical Noise (Max)	50	dBA (@ 3 V <sub>DC</sub> )
Environmental Compliances	RoHS/REACH	-
Weight	0.8	Grams
Storage Temperature	-40 ~ +80	°C
Operating Temperature	-30 ~ +70	°C

## Reliability Testing

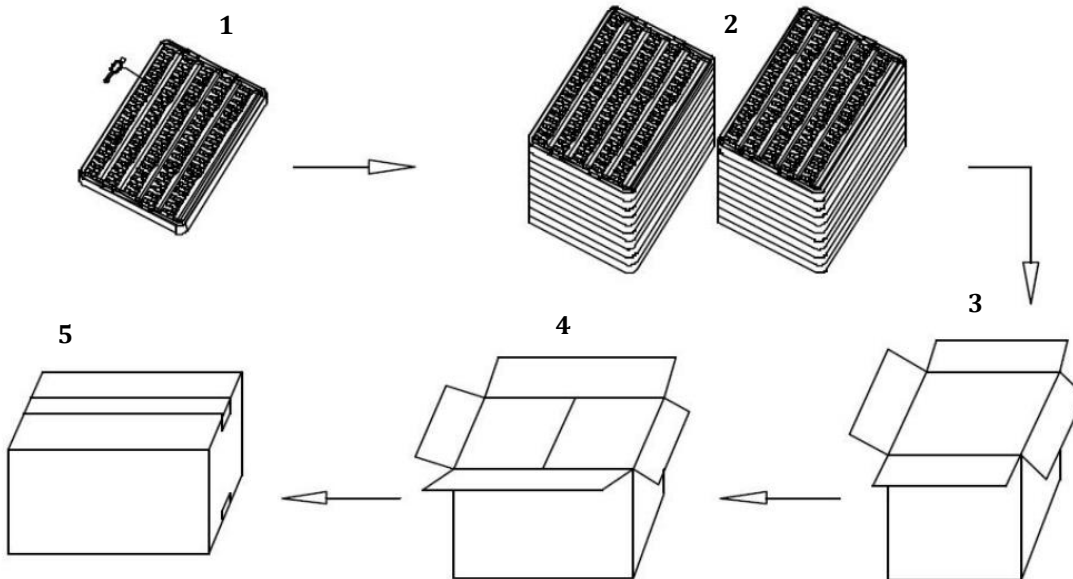
Type of Test	Test Specifications	Pass/Fail Criteria
High Temperature	Temperature: $+60\pm 2^{\circ}\text{C}$ Test Duration: 96 hours	After each test, motors rest for 2 hours at room temperature. After rest, the motor shall meet the following initial values: <ol style="list-style-type: none"> <li>1) Rated Speed: <math>\pm 30\%</math> initial</li> <li>2) Rated Current: <math>\pm 30\%</math> initial</li> <li>3) Starting Voltage: <math>\leq 2.8 V_{\text{DC}}</math></li> </ol>
Low Temperature	Temperature: $-40\pm 2^{\circ}\text{C}$ Test Duration: 96 hours	
High Humidity	Temperature: $+40\pm 2^{\circ}\text{C}$ Humidity: 90 ~ 95 RH Test Duration: 96 hours	
Heat Shock	 <p>Test Cycles: 20</p>	After each test, the motors 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>\leq 2.8 V_{\text{DC}}</math></li> </ol>
Free Drop	Drop from listed drop height twice in $\pm X$ , $\pm Y$ , $\pm Z$ directions (12 total): Jig Mass: 100 grams (including motor) Drop Height: 1.5 meters Test Cycles: 2 per drop axis	
Lifetime	 <p>Test Cycles: 200,000 (@ <math>3V_{\text{DC}}</math>)</p>	

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

## Dimensions



## Packaging



- |                           |                                   |
|---------------------------|-----------------------------------|
| 1. 100 pieces / tray      | Tray Size (mm): 230 x 158 x 15    |
| 2. 20 trays / stack       | Quantity / Stack: 2000 pieces     |
| 3. 2 stacks / inner box   | Quantity / Inner Box: 4000 pieces |
| 4. 2 inner boxes / carton | Carton Size (mm): 360 x 260 x 170 |

**Specifications Revisions**

<b>Revision</b>	<b>Description</b>	<b>Date</b>
A	RELEASED FROM ENGINEERING	07/05/2022

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.