



Data Sheet	HD-PAC1204
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Features:

- Fast response time
- High-resolution haptic feedback

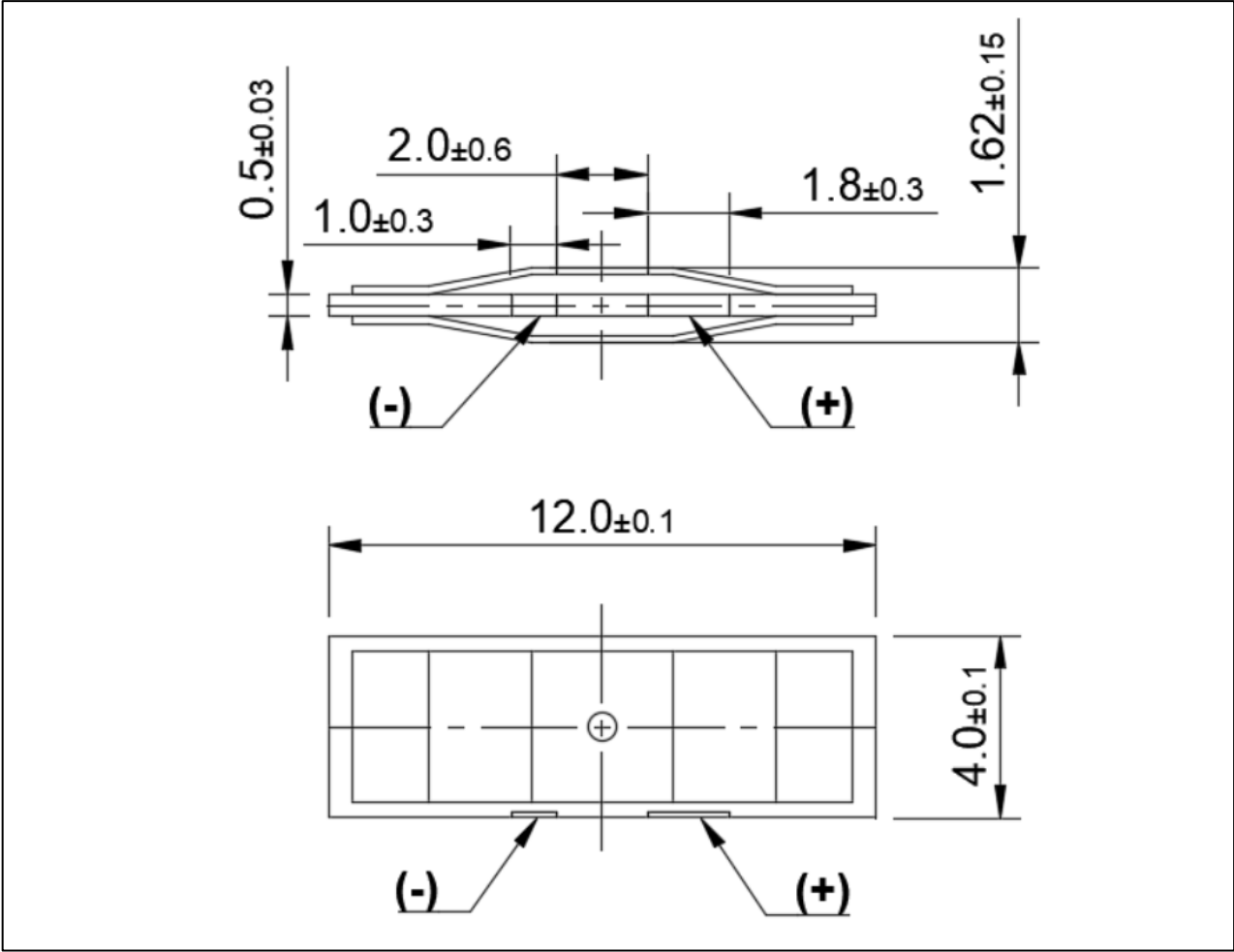
Design:

- Emphasized displacement using metal cymbals
- RoHS/REACH exempt PZT ceramics

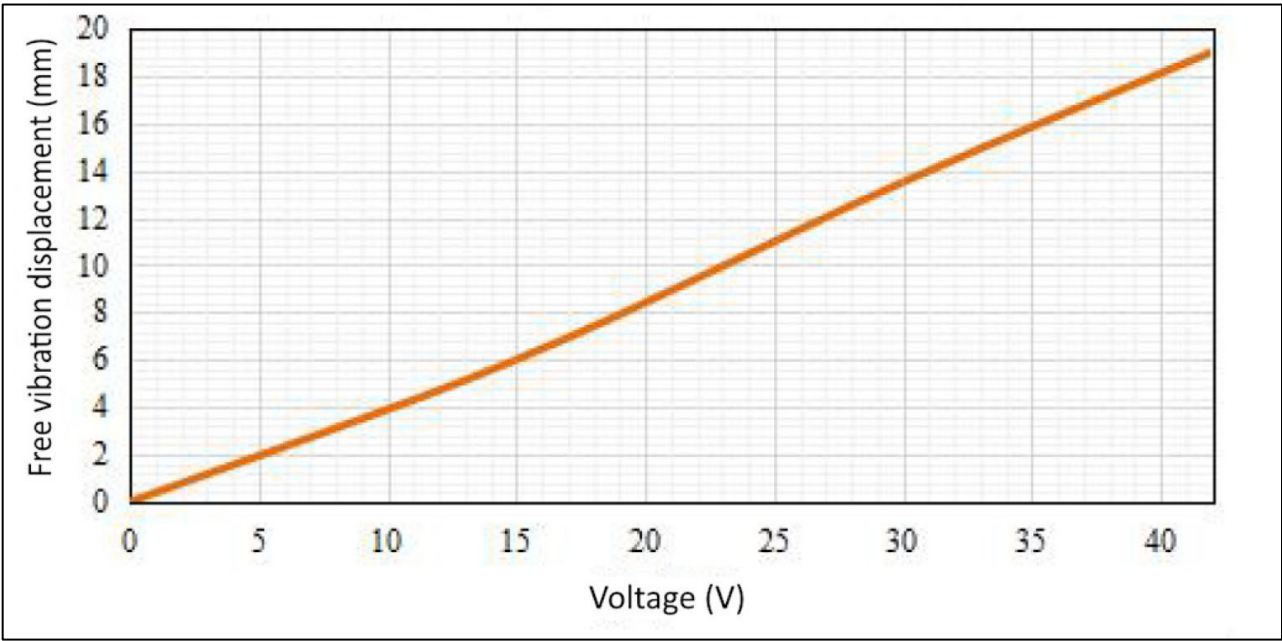
Specifications

Parameters	Values		Units
Maximum Input Voltage	42		V
Working Voltage Range	0 ~ 42		V
Free Vibration Displacement Fixed on Bottom Measured at top of metal casing	0 ~ 30V	12 ± 3	µm (peak-to-peak)
	0 ~ 42V	19 ± 3	
Acceleration Half Pulse Sine Wave / 200 Hz 100g load	1		g (peak)
Capacitance	1.8		g (peak-to-peak)
Static Capacitance Test: 1kHz / 1V / 25°C / 50%RH	280 ± 15%		nF
Weight	0.239		Grams
Operating Temperature	-25 to +60		°C
Operating Humidity	< 75%		-
Storage Temperature	-40 to +70		°C
Environmental Compliances	RoHS/REACH		Exempt 7c-1

Dimensions (Units: mm; Polarity: As Marked)



Voltage vs. Displacement Trend Chart (Reference only)

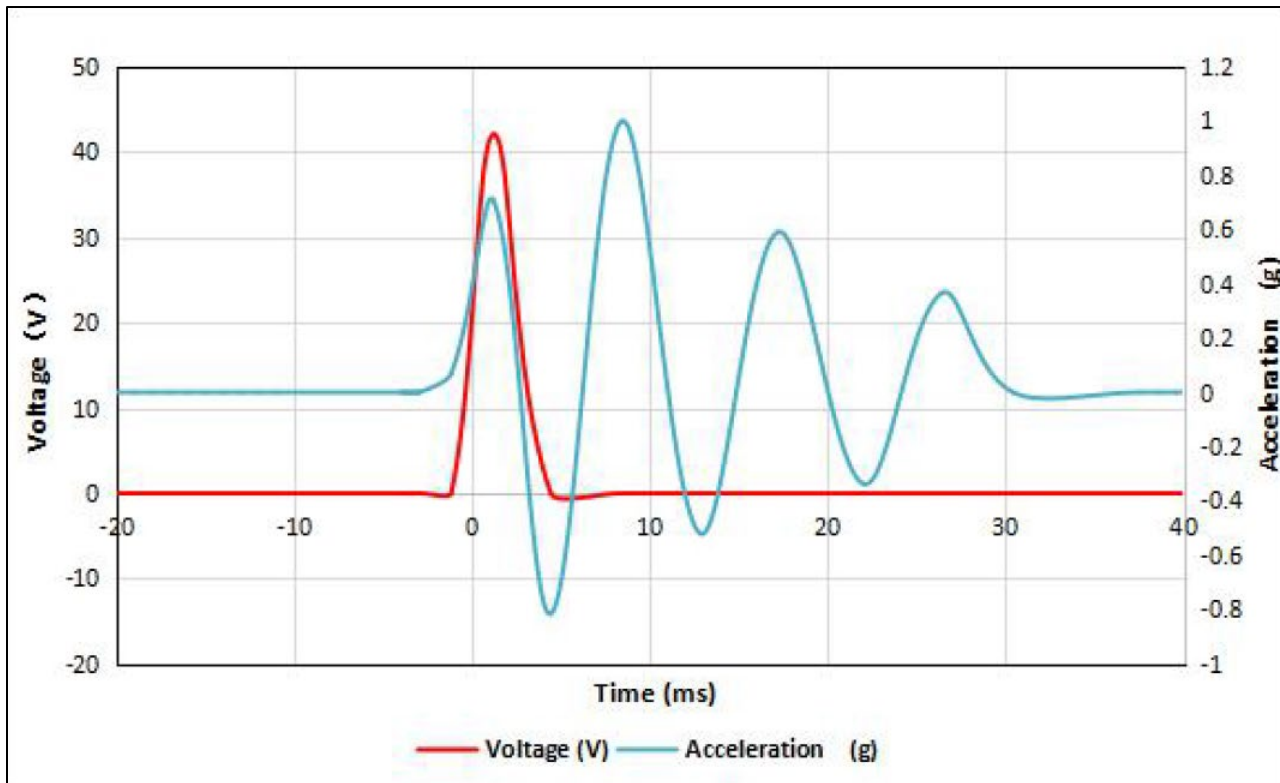


Acceleration

Acceleration curve under 0~42V voltage with 100g load input.

A pulse length of 5ms is equivalent to 200Hz.

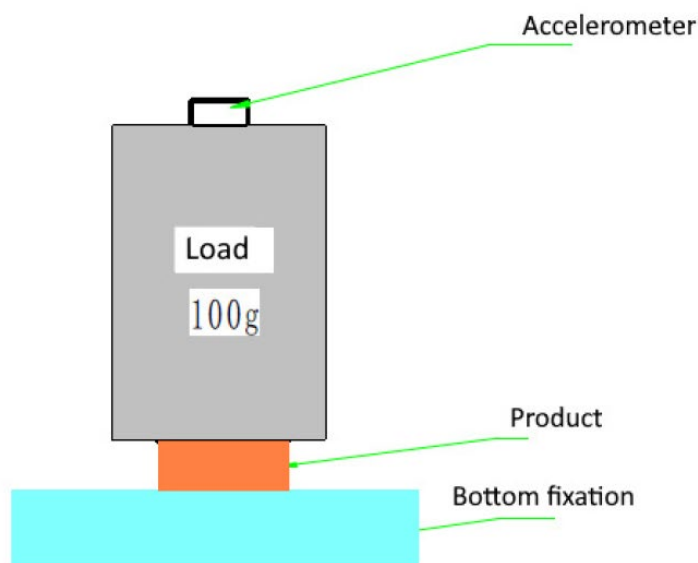
The peak acceleration is about 1g, and the peak-to-peak acceleration is 1.8g.



Acceleration Test Setup

Test Apparatus:

Accelerometer Type : DRV-ACC16-EVM (57mVp=1G)



Precautions

Operation:

- 1) Piezoelectric components may generate an impulse voltage when subjected to mechanical or thermal shock.
- 2) During the installation of piezoelectric components, the use of sulfur or sulfide should be avoided as much as possible, which may cause product failure due to corrosion of the surface of the ceramic.
- 3) During the use of piezoelectric components, it is necessary to avoid loading a DC bias voltage exceeding 0.3v (the loading direction should be consistent with the polarization direction, and the time should not exceed 168h) to avoid failure.
- 4) It is recommended to close the piezoelectric components through CRC to protect the sensor during use.
- 5) Piezoelectric components are not moisture absorbing components, and the humidity sensitivity level is Level 1.
- 6) Pb in piezoelectric ceramics is exempt from RoHS within clause 7 (c) - 1.
- 7) Piezoelectric components cannot be repaired during post processing.

Storage:

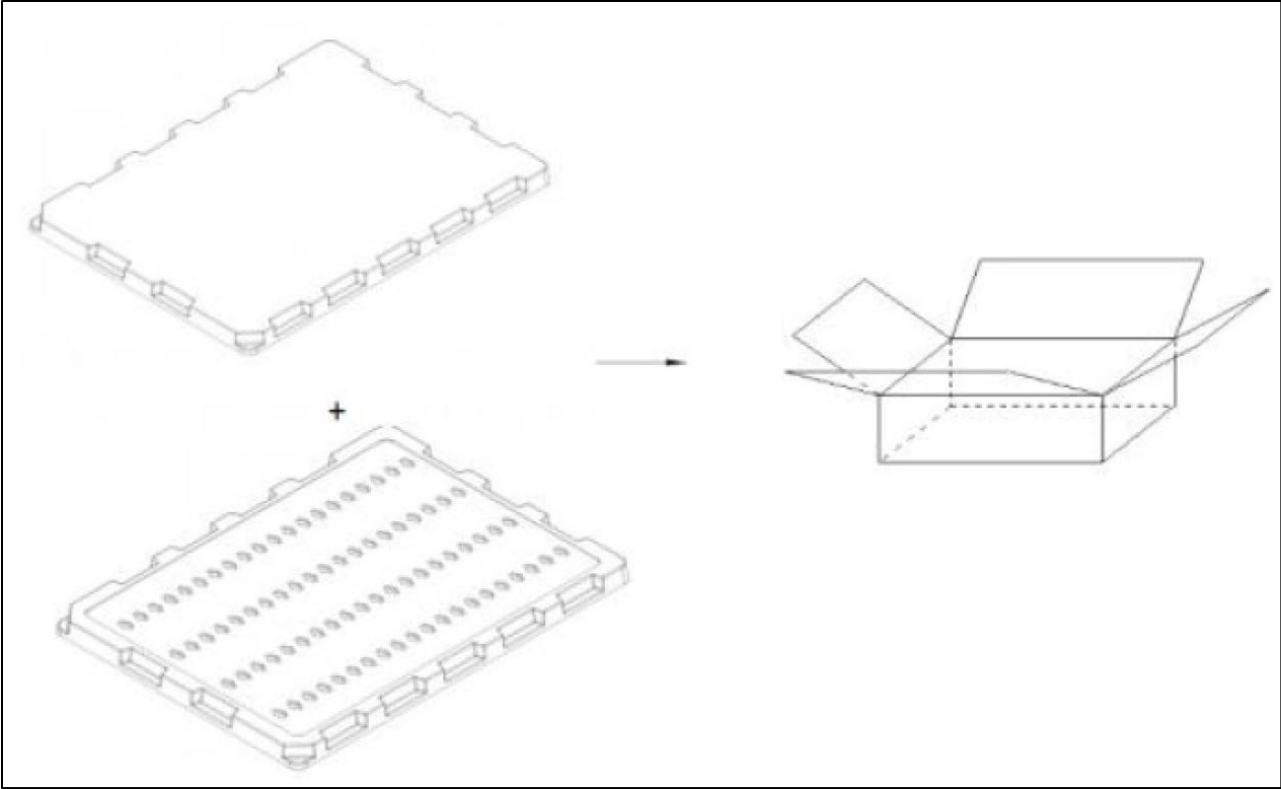
- 1) Piezoelectric components should be avoided from being used or stored in corrosive gases such as chlorine, sulfur, acid, and alkaline gases. When storing at room temperature and normal humidity, try to avoid direct sunlight and sudden changes in temperature and humidity, which may cause sensor failure.
- 2) The storage of piezoelectric components should be avoided as much as possible under conditions of severe dust and high humidity.
- 3) The recommended storage temperature for the piezoelectric components is $25\pm5^{\circ}\text{C}$, humidity is 25-65%RH.
- 4) It is recommended to use the piezoelectric components within 7 days after opening the package. If they are not used up, it is necessary to replace the desiccant in the packaging tray and vacuumize the packaging.

Transportation:

- 1) During transportation, piezoelectric components should be protected from sunlight and damp environments.
- 2) Avoid strong impact and vibration on the product during transportation.

Packaging

Tray	80 pieces	340 x 250 x 16 mm
	10 trays per Carton	
Carton	800 pieces	350 x 260 x 210 mm



Specifications Revisions			
Revision	Description	Date	Approved
A	RELEASED FROM ENGINEERING	04/07/2022	
B	REVISED MAXIMUM VOLTAGE, WORKING VOLTAGE RANGE, RESONANT FREQUENCY, RESONANT IMPEDANCE, DISPLACEMENT, STATIC CAPACITANCE, WEIGHT, DIMENSIONS, PACKAGING	10/07/2024	KM

- 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.