Dragonfly™ Haptic

(Patent pending)

Dragonfly™ Haptic Curve
(HAP-CUR-2610-5H200)

Dragonfly™ Haptic
(HAP-6020-5H200
HAP-6014-5H200
HAP-6008-5H200)

Product data sheet

Dragonfly™ Haptic is a highly durable and thin piezo haptic engine / actuator that has been carefully engineered with protective layers to ensure exceptional reliability. Its purpose is to deliver powerful and customizable haptic feedback across a wide range of applications.

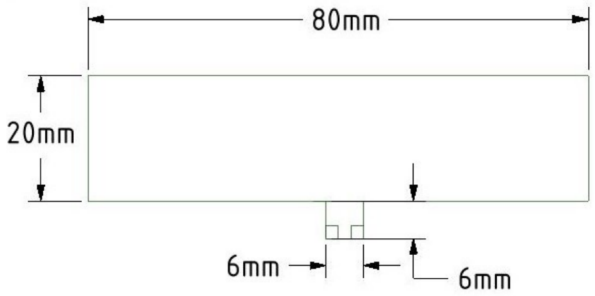
Key advantages

- Powerful and reliable. Designed to provide strong vibrations without reliability issues.
- Easy integration. Can come with pre-applied 3M VHB double-sided tape.
- High bandwidth. As wide as 100-300 Hz.
- Low power consumption. High efficiency especially at resonance.
- Fast start-up time, as low as 15 ms.

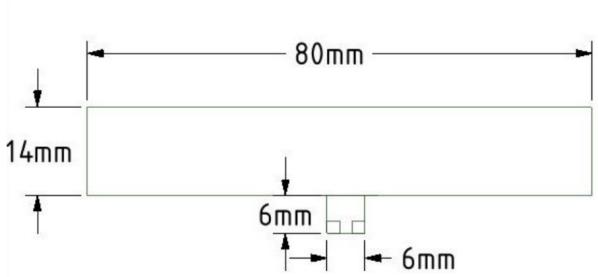
Applications

- Automotive (touchscreens, steering wheels…)
- Consumer (trackpads, virtual buttons, touch sensitive devices…)
- Others (gaming, wearable, robotics…)

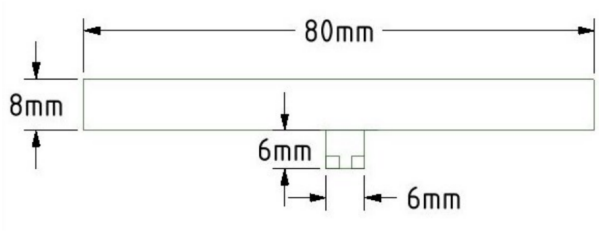
Mechanical dimensions



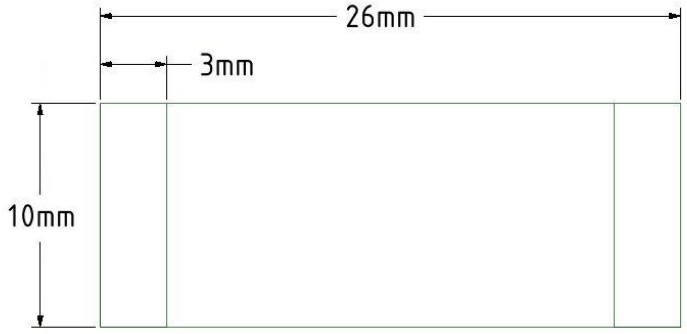
HAP6020-5H200



HAP6014-5H200



HAP6008-5H200



HAP-CUR-2610-5H200

Specifications

	Unit	Tolerance	HAP6008-5H200	HAP6014-5H200	HAP6020-5H200	HAP-CUR-2610-5H200
Total length	mm	±0.5	80	80	80	26
PCB size	mm^2	±0.2	6x6	6x6	6x6	-
Width	mm	±0.5	8	14	20	10
Thickness	mm	±0.1	0.75	0.75	0.75	0.6
Mass	g	±0.2	1.9	3.5	5.1	0.4
Max ACC*	G	±15%	3.8	6.7	11	0.5
Resonance	Hz	±15%	180	190	190	890
Response time	ms	±15%	<5	<5	<5	<5
Capacitance	nF	±15%	130	235	335	34
Operating volt	V	-	-90 to +90	-90 to +90	-90 to +90	-90 to +90
Operating T	C	-	-20 to 65	-20 to 65	-20 to 65	-20 to 65

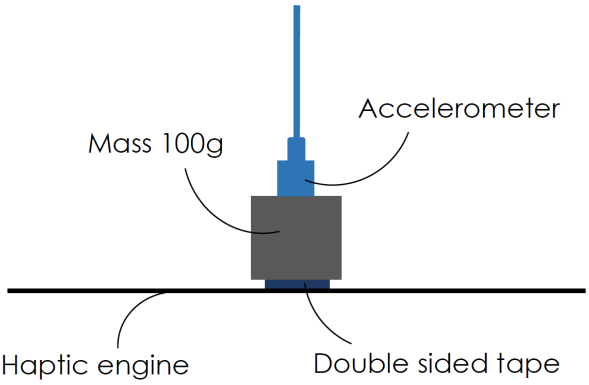
**Maximum acceleration was measured using the setup shown in the "haptics characteristics" section below.*

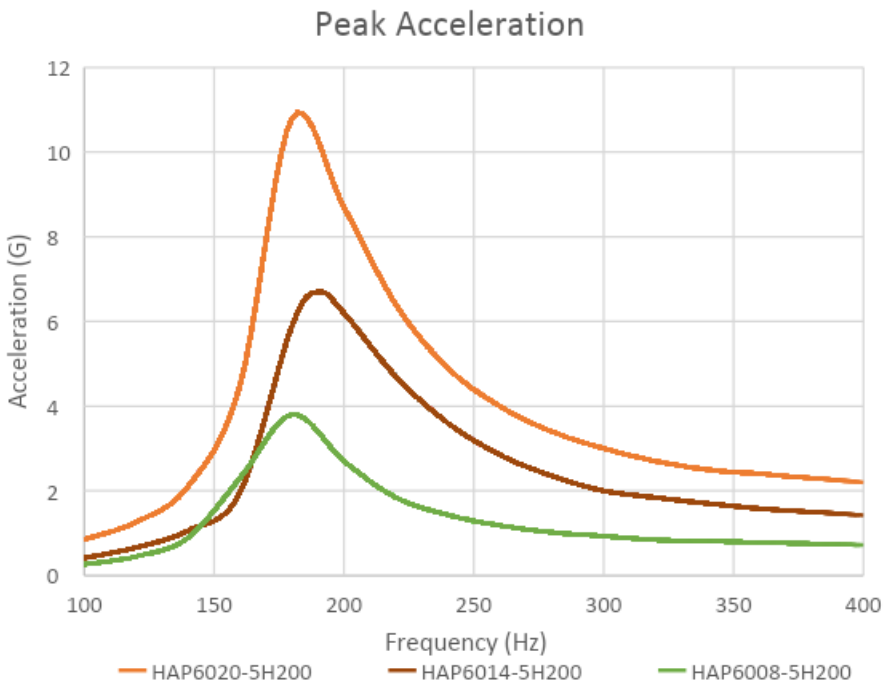
Haptics characteristics

The haptics characterization setup is as follows.

- A 100g mass is attached to the haptic actuator's center using double-sided tape.
- A mini accelerometer is securely glued to the mass.
- The mass and actuator are suspended on the accelerometer cable, allowing free vibration.

- A 140Vp-p sine wave serves as the input signal for the actuator, with varying frequencies from 100 to 400 Hz.





Mounting instructions

The Dragonfly™ Haptic can be easily mounted onto the backside of a touchscreen using a strip of double-sided tape (pre-applied) at its center. It is important to leave adequate gaps between the actuator and the touchscreen, as well as between the actuator and the back panel. This precaution ensures that there is no interference or interaction between the actuator and the surrounding components during operation, avoiding rattling noise issues. The Dragonfly™ Haptic Curve can be placed directly on a PCB, so that the electrodes at its ends make contact with the copper pads on the PCB to form electrical connections.