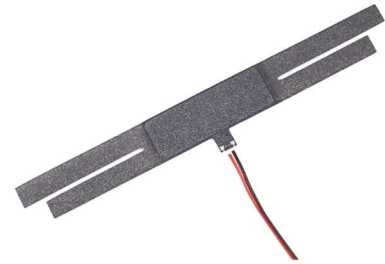


Dragonfly™ – Full Range Piezo Speaker

Product data sheet (Nov 2022)



Dragonfly™ is a true full-range piezoelectric panel speaker that enables OLED display devices to be ultra slim. It is optimized to have a high output pressure level and a flat frequency response. This means it can be used as a standalone loudspeaker for electronics devices with an OLED display.

Advantages

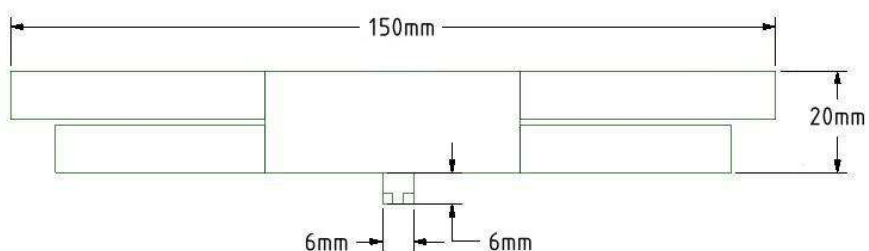
- Full range frequency response from 80 to 20kHz
- Immersive sound directly from the screen
- SLP as high as 110 dB
- Low power consumption
- As thin as 3mm
- Easy integration
- Lightweight
- Super reliable

Applications

- OLED TV
- OLED monitor
- Laptop/tablet
- Display panel
- Automotive display

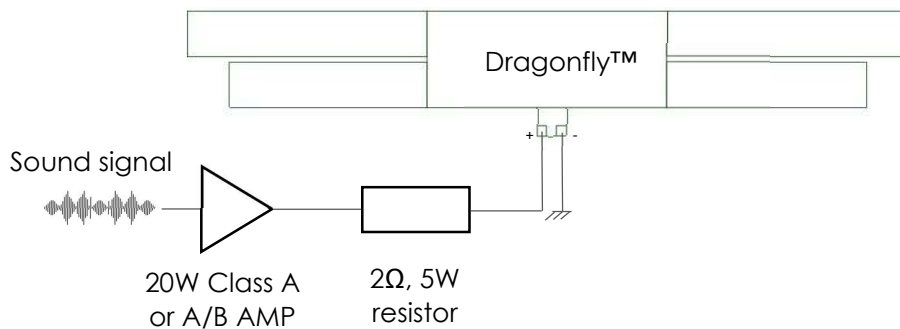
Mechanical dimensions

The size of a typical Dragonfly™ is 150mm x 26mm x 3mm. Dragonfly™ design is customized for each application, and thus, its dimensions will vary accordingly.



Electrical connections

Dragonfly™ can be connected to a linear amplifier. The amplifier can be a regular class A (or A/B) audio amplifier. It can also be a custom piezo amplifier. A small power resistor should be used between the speaker and the amplifier to prevent overcurrent.

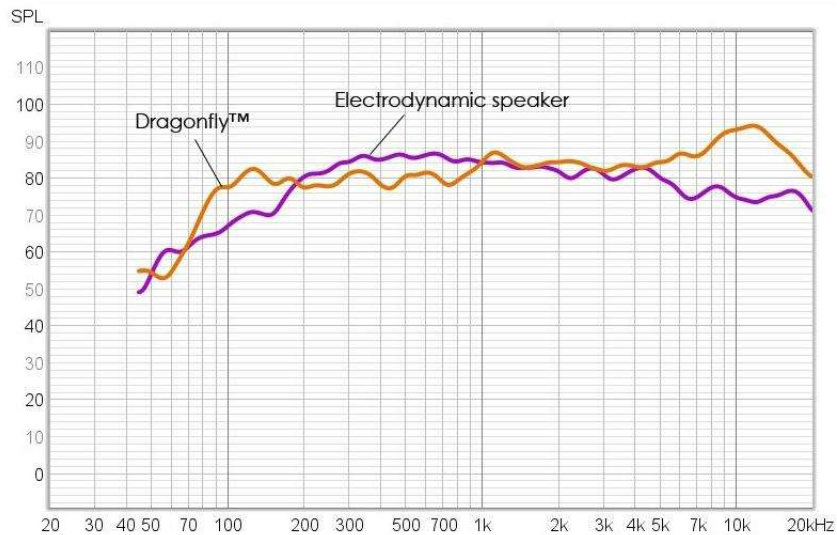


Specifications

Piezo material	PZT-5H
Capacitance	2.8 μ F \pm 25%
Max voltage	\pm 160 V
Operating temperature	-20 to 85C
Power consumption	2.5W (100Vp-p, 1kHz)
Frequency range	80-20kHz
Mass	15g

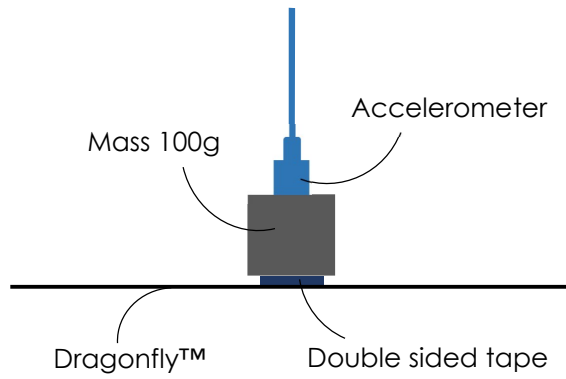
Frequency response

The chart below shows an example of the frequency response curve when Dragonfly™ units were attached to the back side of a 1200mm x 680mm x 1.5mm glass panel. Frequency response characteristics will be slightly different for different applications. Our engineering team will help customize the frequency response curve to your specific requirements.

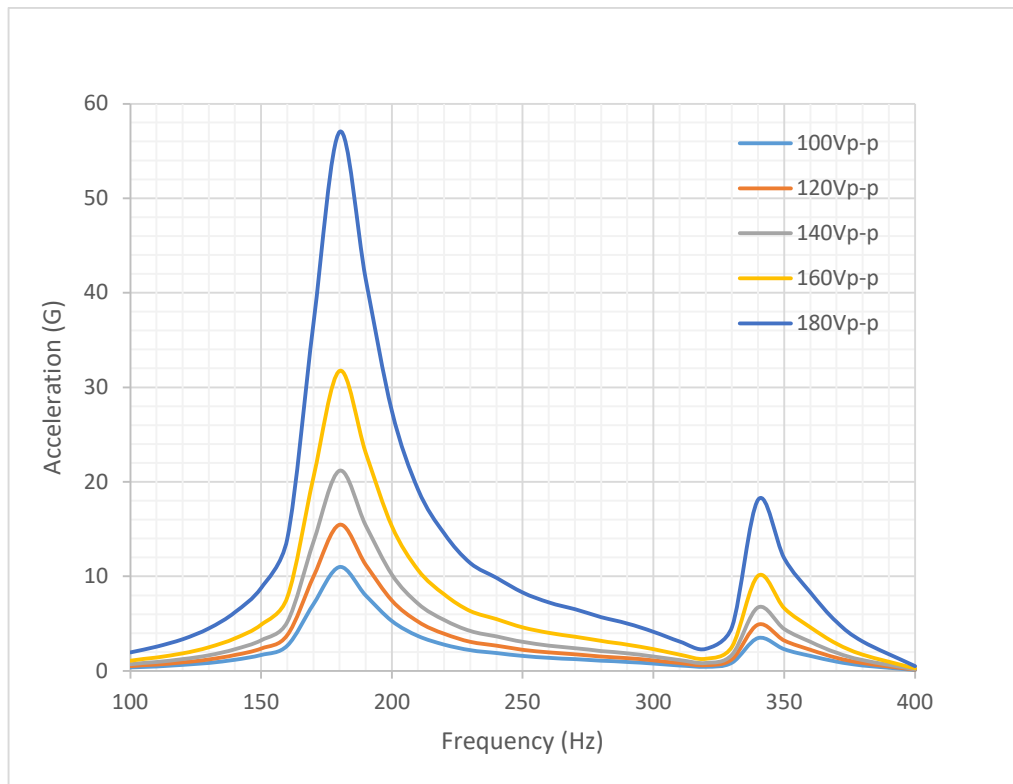


Haptics characteristics

Haptics characterization setup is shown below. A 100g mass is attached to a Dragonfly™ actuator at its center using double sided tape. A mini accelerometer is glued to the mass. The mass and the actuator are hung on the accelerometer cable and free to vibrate.



Sine wave with different voltages and frequencies is applied to the actuator. The acceleration results show that Dragonfly™ can generate very strong haptic feedback. It can be used as both a speaker and a haptic engine at the same time.



Mounting instructions

Dragonfly™ should be attached to the back side of the display using double sided tape. Upon request it can come with pre-applied double-sided tape. The attachment location on the display is customized for each application.