

Dragonfly™ – Full Range

Piezo Exciter

(Patent pending)



Product data sheet (Apr 2023)

Dragonfly™ is a cutting-edge piezoelectric exciter that enables any thin panel to function as a full-range speaker. With a focus on optimizing high output pressure levels and flat frequency responses, Dragonfly™ is the ideal solution for a variety of applications, including automotive, aerospace, OLED display devices, medical device, consumer and industrial.

Advantages

- Full range frequency response from 60 to 20kHz. SLP as high as 110 dB
- Immersive and transparent sound directly from the panel
- Low power consumption
- Less than 3mm thick
- Easy integration
- Lightweight
- Super reliable
- Highly customizable
- No electromagnetic field

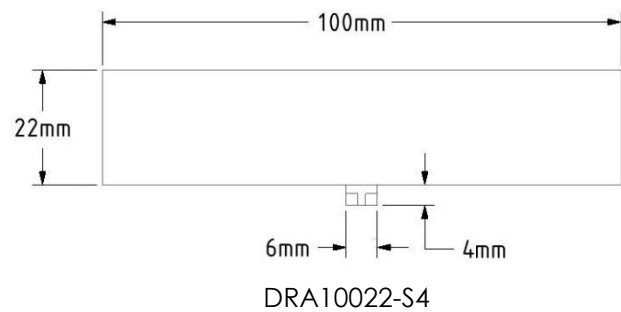
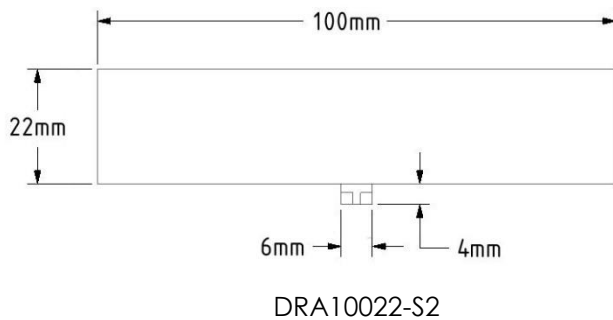
Applications

- Automotive (hidden speakers for EVs)
- Aerospace (hidden speakers for aircraft cabins)
- OLED, microLED TV and monitor (display panel speakers)

- Medical device (that requires IP65 certification)
- Consumer (smart speakers, home appliances, stereo systems...)
- Others (conference room, retail space, church...)

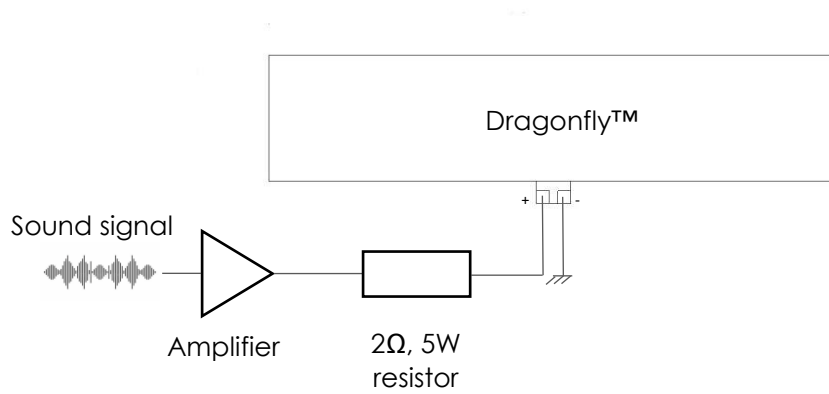
Mechanical dimensions

The following dimensions are for the standard models of Dragonfly™. However, it's important to note that the design of Dragonfly™ should be customized to meet the specific requirements of each application, which means that its dimensions may differ accordingly.



Electrical connections

Dragonfly™ can be connected to a regular audio amplifier (for example class A, AB, and D), or a customized piezo amplifier. To avoid overcurrent, it is advisable to incorporate a small power resistor between the speaker and the amplifier.



Specifications

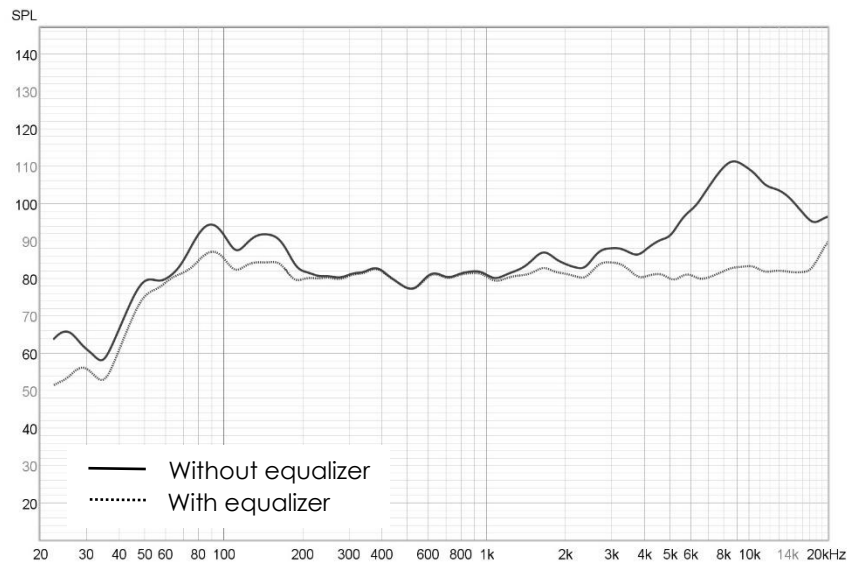
	Unit	Tolerance	DRA10022-S2M	DRA10022-S4H
Capacitance	μF	±15%	310	620
Max voltage	V	-	-80 to +80	-80 to +80
Power consumption*	W	±10%	0.3W	0.6W
Frequency range	Hz	±10%	80-20 kHz	60-20 kHz
Sensitivity**	dB	±2	88	88
Thickness	mm	±0.1	2.5	2.5
Mass	g	±0.2	15	45
Operating T	C	-	-20 to 65	-20 to 65

* Measured at 100Vp-p, 1 kHz sine signal.

** The panel speaker includes one Dragonfly™ unit attached to a 24" x 12" x 0.1" ABS panel. The measurement was performed in a normal listening room and a listening distance of 1m.

Frequency response

The chart below shows the frequency response curve of a 24" x 12" x 0.1" ABS panel with a single Dragonfly™ unit attached onto its rear surface. It is noted that the frequency response characteristics may differ depending on size, shape, and material of the panel. Our application engineers are available to provide support and guidance on optimizing the frequency response.



Mounting instructions

Dragonfly™ come with pre-applied 3M VHB double-sided tape for convenient integration. It is important to follow the installation instructions provided by 3M to guarantee a robust adhesion bond.

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 For more information, please visit <https://flora.tech/dragonfly/>