# same sky

# **Audio**

# **Buzzers, Microphones & Speakers**

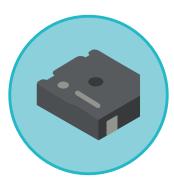
A product's ability to accurately take-in and clearly output audio signals is a vital part of its design. To ensure that your product finds its proper voice, we have developed a diverse range of compact buzzers, microphones, and speakers that minimize footprints and maximize reliability, making them the ideal audio solution for almost any application.

# Featured Tech • • • • •



## **Waterproof Audio Solutions**

Designed to protect against moisture and other environmental contaminants, Same Sky offers a range of buzzers, microphones, and speakers with Ingress Protection (IP) ratings, including IPX5, IP65, IPX7, IP57, IP67, IPX8, and IP68. With a variety of configurations, packages sizes, and performance specifications, our waterproof audio products give engineers additional flexibility when designing for industrial, outdoor, or any application where environmental factors may be a concern.



## **Micro Audio Solutions**

To address the continued miniaturization of electronic designs, Same Sky carries a range of micro buzzers, microphones, and speakers in ultra-compact footprints. We offer buzzers with package sizes as small as 3.2 x 3.2 mm, microphones as small as  $2.75 \times 1.85 \times 0.90$  mm, and speakers as small as  $10 \times 10$  mm, making them ideal for a variety of portable equipment, handheld devices, and space-constrained applications.

### **Engineering Tools**



#### Resource Library

Gain access to a wide range of videos, blogs, ebooks, webinars, and more to assist in your next design.



#### CAD Model Library

Save time and resources by utilizing our library of free, ready-made 3D models and PCB footprints to help you to streamline the design process.



#### Audio Calculators

Use our buzzer and speaker SPL calculators as well as our speaker power calculator to quickly solve or convert a range of key audio specifications.

# **Global Stock Availability**

Our network of global distribution partners provides you with quick and easy access to thousands of our audio products, ready to ship same day across the globe.



## **Audio Product Line**







#### **Buzzers**

#### Piezo and Magnetic Technology

- Indicators, transducers, piezo elements & sirens
- Available with & without driving circuit
- · Package sizes as small as 3.2 mm
- Profiles as low as 0.13 mm
- 65 to 115 dB sound pressure levels
- Numerous mounting styles
- 300 to 5,000 Hz rated frequencies
- Washable & wave solder compatible
- · Waterproof models up to IP68
- IEC 60601-1-8 medical buzzers available
- · Illuminated buzzer models available





## Microphones

#### **Electret Condenser and MEMS**

- Omnidirectional, unidirectional & noise canceling directivity
- · -54 to -24 dB sensitivities
- · Sensitivity tolerances as low as 1 dB
- 55 to 72 dBA signal to noise ratios
- Packages as small as 2.75 x 1.85 x 0.95 mm
- · Low current draw down to 80 A
- Terminal, pin, wire & surface mount termination types
- Reflow solder compatible models
- Operating frequencies up to 20,000 Hz
- Waterproof models up to IP67







## **Speakers**

#### 10 to 205 mm Package Sizes

- Oval, rectangular, round & square frame shapes
- 72 to 135 dB sound pressure levels
- Variety of cone types
- · 2 to 84 mm heights
- Alnico, Ferrite, Nd-Fe-B & Sm2Co17 magnets
- Numerous mounting styles
- 50 to 3,000 Hz resonance frequencies
- · Enclosed speaker models
- Waterproof models up to IP67 and IPX8
- IEC 60601-1-8 medical speakers available

#### CUSTOM CAPABILITIES

#### **Mechanical Modifications**

- · Custom size & height profiles
- Modified mounting styles
- Alternate materials for housing, pins & plating

#### **Electrical Adjustments**

- Voltage
- SPL
- Frequency
- Current consumption

#### **Additional Modifications**

- · Washable stickers over sound holes
- IP ratings
- · Operating/storage temperature ranges

#### **Mechanical Modifications**

- Custom wires & connectors
- Alternate materials

#### **Electrical Adjustments**

- Operating voltage
- · Sensitivity rating
- SNR rating
- Impedance
- Current consumption

#### **Additional Modifications**

- Washable stickers over sound holes
- IP ratings
- Operating/storage temperature ranges

#### **Mechanical Modifications**

- Custom size & height profiles
- · Custom wires & connectors
- Alternate materials for cone, magnet & plastics

#### **Electrical Adjustments**

- · Input power
- Voltage
- · SPL
- Frequency
- Current consumption
- Impedance

## **Audio Design Services**

Same Sky's industry-leading audio design services employ advanced simulation tools and testing as well as decades of expertise to help you optimize a range of audio parameters to your specific system needs. Our services and capabilities include audio simulation, product customizations and integrations, audio consulting, and audio testing and validation.









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