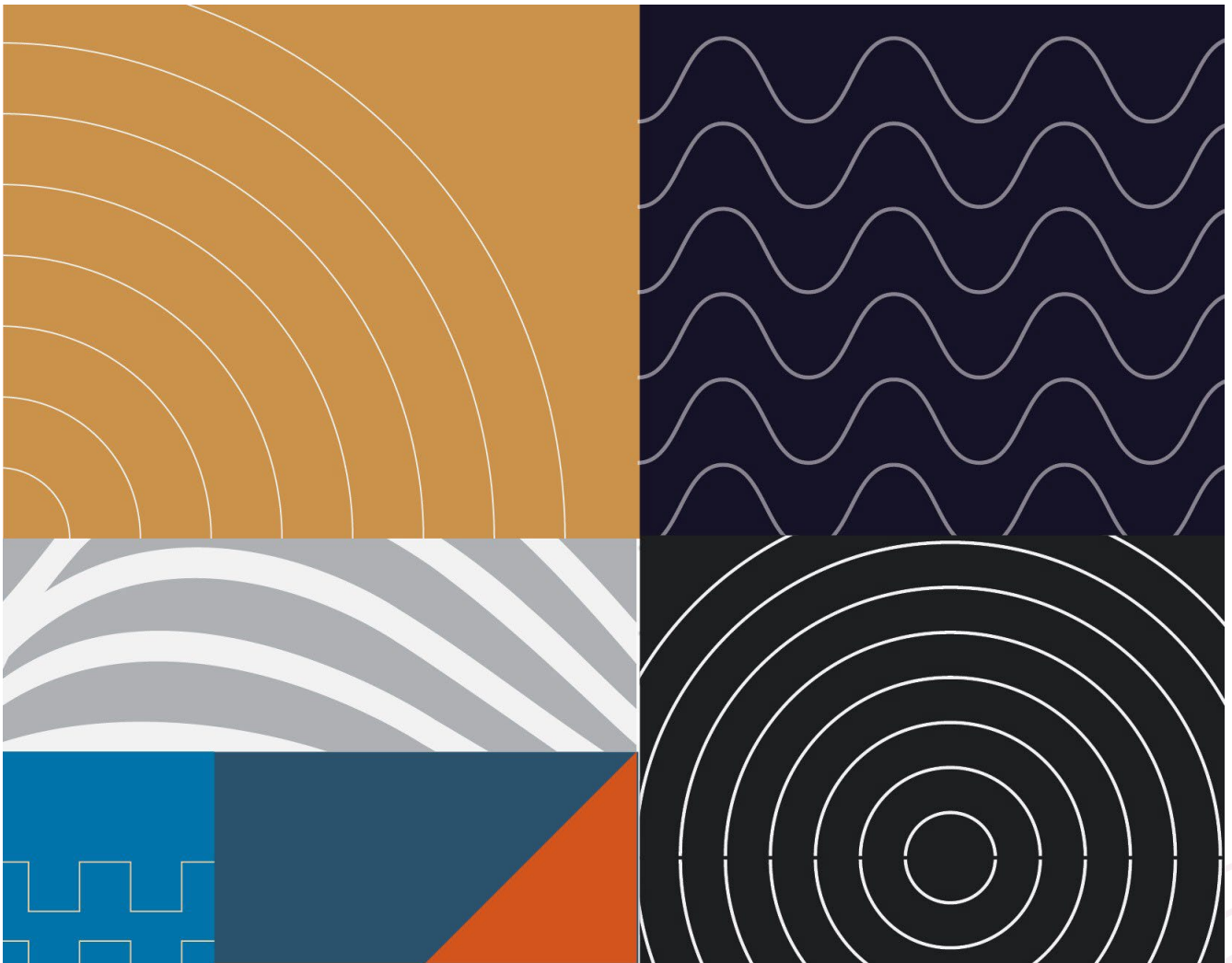




NEW PRODUCT HIGHLIGHT

# SPEAKERS



[PUIAUDIO.COM](http://PUIAUDIO.COM)

# Table Of Contents

New Product Introduction	2
Speakers Key Features	3

# New Product Introduction

---

PUI Audio offers a diverse range of 40mm speakers featuring various mounting options and performance specifications. We are thrilled to announce three new 40mm speakers, each offering a distinct high-fidelity sound experience. Additionally, we are introducing an 18mm speaker with high-temperature surface mount capabilities, catering to specific applications in the medical, consumer, and industrial sectors.

PUI Audio has a speaker for when you need to be heard!





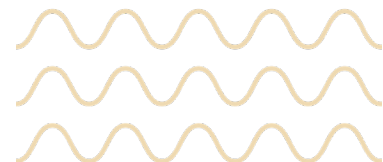
## AS04004MS

### Key Features:

- High Input power with low resonant frequency
- Low Threshold distortion
- 5W rated input power with maximum up to 6W.
- 4-ohm impedance
- IP 65 Rated
- 80 dB SPL across its 115 Hz to 20,000 Hz frequency range. The 115 Hz resonant frequency adds depth to the bass, creating a dynamic listening environment.



[www.puiaudio.com](http://www.puiaudio.com)



## AS04008MS-3

### Key Features:

- High Input power with low resonant frequency
- Low Threshold distortion
- 5W rated input power with maximum up to 6W
- 8-ohm impedance
- IP 65 Rated
- 80 dB SPL, across its 150 Hz to 20,000 Hz frequency range. The 150 Hz resonant frequency enhances the depth of bass tones, delivering a rich and immersive sound profile.



[www.puiaudio.com](http://www.puiaudio.com)



## AS04008MR-F-2

### Key Features:

- Only 5mm tall for space constrained designs.
- Flange mount for easy assembly in the end application.
- 1W rated input power with 2.0W max input power.
- 8-ohm impedance and an impressive 85 dB SPL within its wide 300 Hz to 7000 Hz frequency range.



[www.puiaudio.com](http://www.puiaudio.com)

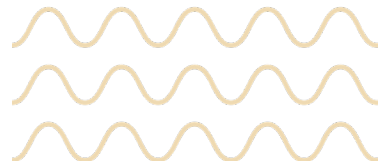


## SMS-1804MS-HT

### Key Features:

Currently we offer surface mount speakers in 13mm, 15mm and 20mm. This new 18mm speaker provides a unique audio experience designed to easily assemble in the end application.

- Slim 5.9mm height for a low-profile package
- 18mm, this sleek speaker rated at a 1W input power and the ability to handle up to 1.5W max input power outputs 96 dB SPL across its broad 950 Hz to 20,000 Hz frequency range.
- -40°C to 105°C operating temperature range for a wide range of applications.



[www.puiaudio.com](http://www.puiaudio.com)

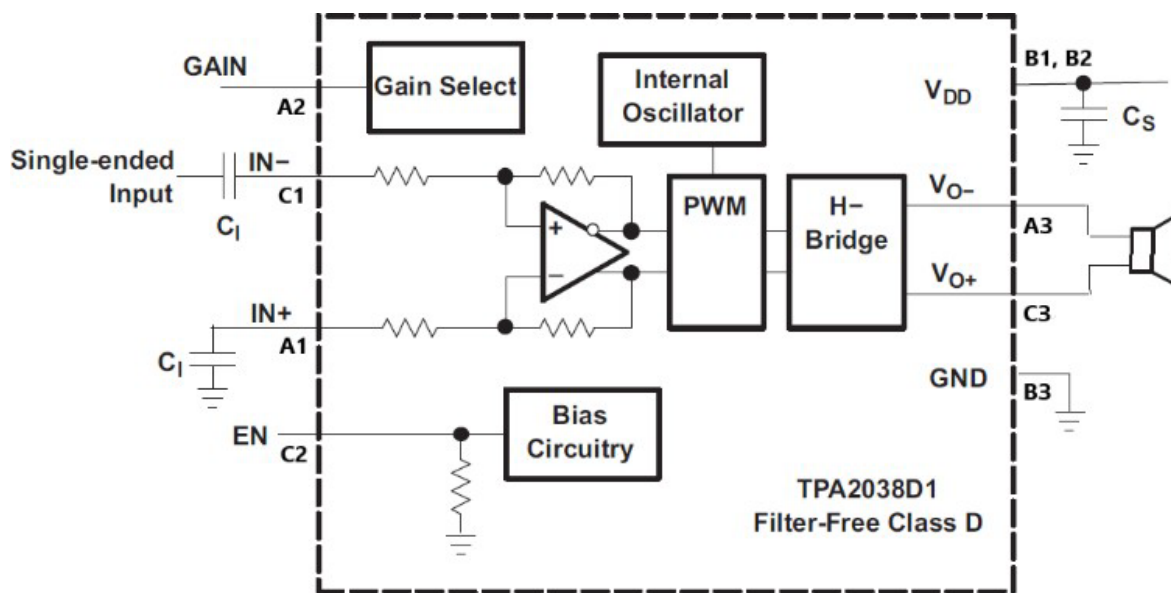


Additional speaker products at

[www.puiaudio.com](http://www.puiaudio.com)

# Drive Circuit

There are various means of driving a speaker depending on the specifications. Please reference our Speaker Whitepaper for various power levels. Below is an example of Class D amplifiers that have the primary benefit of higher efficiency when compared to analog amplifiers operating at the same output power level. The amplifier below operates on a single supply (applied to pins B1 and B2) ranging from 2.5V to 5.5V. At  $V_{DD} = 5.0V$ , the output power into an  $8\Omega$  load is a nominal 1.46W and 2.57W into a  $4\Omega$  load.



Filterless, Single-Supply Class D Amplifier Drives  $8\Omega$  Speaker with 1.4W

Utilizing the TPA2038D1 from Texas Instruments, this amplifier has two gain settings determined by the GAIN pin (A2) voltage applied. A gain of 6dB is selected by connecting GAIN to the supply voltage ( $V_{DD}$ ), and a gain of 12dB is achieved by applying GND.

The input coupling capacitor ( $C_I$ ) value working with the input resistance of IN will determine the high-pass filter's cutoff frequency formed at the amplifier's input. The input resistance is a function of the voltage applied to the GAIN pin: with the supply voltage applied, the input resistance is a nominal  $150k\Omega$ ; with GND applied to the GAIN pin, the input resistance is  $75k\Omega$ . Therefore, the capacitor's value can be determined as follows:

$$C_I = 1/2\pi(R_{IN})f_{(-3dB)}$$

Review our new  
speakers today!

[www.puiaudio.com](http://www.puiaudio.com)

