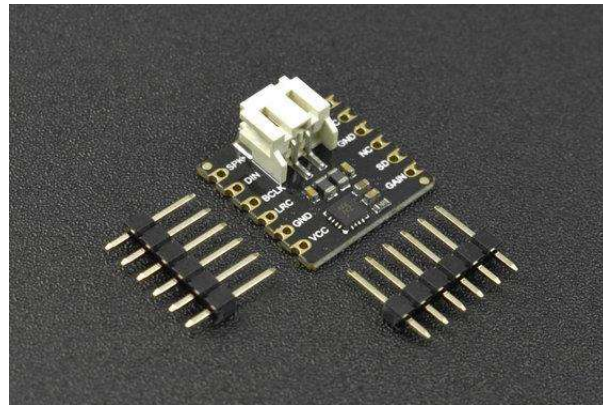
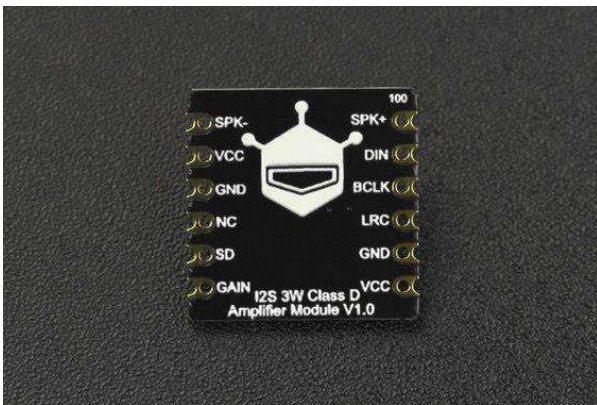
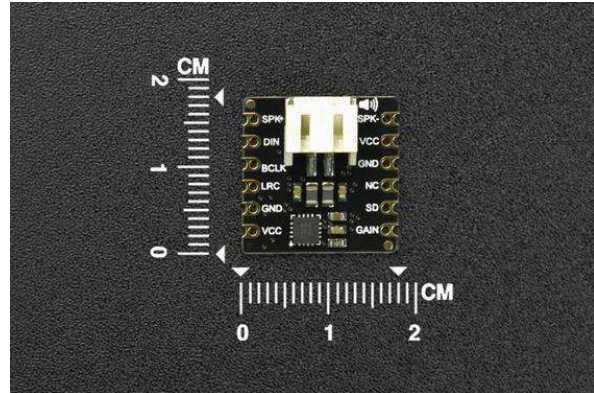
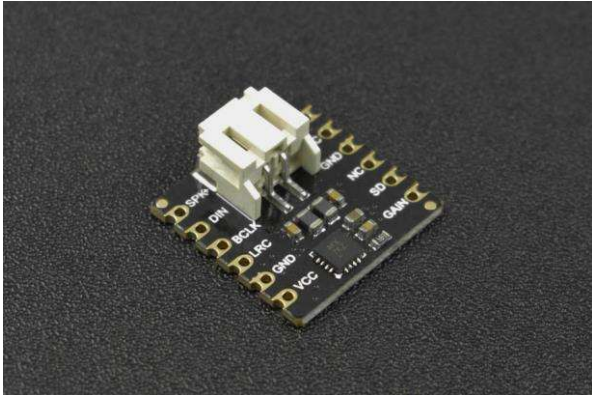




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# MAX98357 I2S Amplifier Module

SKU: DFR0954

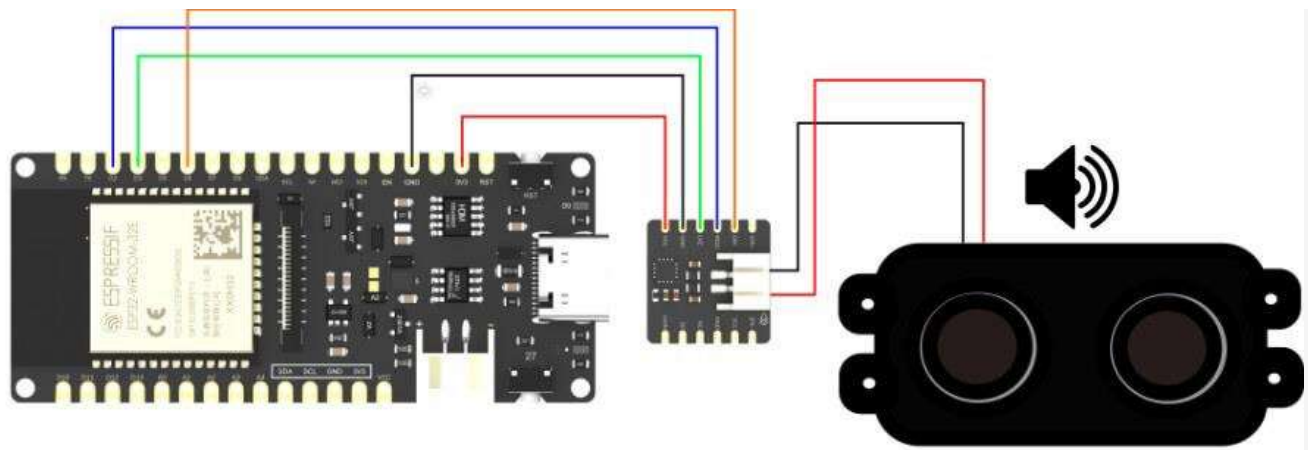


## INTRODUCTION

This I2S digital amplifier based on the MAX98357 I2S Class D amplifier module works great with microcontrollers with I2S audio outputs like ESP32 and can be applied to projects like IoT nodes, smart home devices, Bluetooth audio players, and so on.

The module supports a 3.3V-5V power supply. And it can output over 2.5W of power when driven by 5V and a 4Ω speaker. Besides, it allows users to set different modes (off, left channel, right channel, and mixed) by changing the resistance on the SD port. The product defaults to mixed mode.

Featuring a small size, this I2S amplifier comes with stamp holes that enable it to be directly plugged into or mounted on a PCB and breadboard. Also, it is designed with PH2.0 and stamp holes for connecting speakers, flexible, and convenient to use.



## FEATURES

- MAX98357 I2S digital Class D amplifier, power >2.5W
- 3.3V~5V voltage power supply
- Switchable sound channel
- Adjustable gain
- Stamp holes design, support SMT and DIP
- Two ways to connect a speaker: PH2.0 and stamp holes

## APPLICATIONS

- Bluetooth Audio Player
- IoT Node Audio Player
- Smart Home Voice Interaction
- Robotic Device Audio Player

## SPECIFICATION

- Module Parameters
- MCU: MAX98357A
- Operating Voltage: DC 3.3V~5V
- Output Power: 8Ω 1.8W / 4Ω 2.5W (at 12db)
- Output Channel: single channel
- Communication Interface: I2S interface
- Operating Temperature: -40°C - + 80°C
- Storage Temperature: -40°C - + 80°C

- Dimension (Without Packaging): 18mm × 18mm/ 0.059 × 0.059
- Chip Audio-relevant Parameters  
(VDD = 5V, VGND = 0V, GAIN\_SLOT = VDD. BCLK = 3.072MHz, LRCLK = 48kHz, speaker loads (ZSPK) connected between OUTP and OUTN, ZSPK = J, TA = TMIN to TMAX, unless otherwise noted. Typical values are at TA = +25NC.) (Note 2)
- Sample Rate: 8kHz~96kHz
- THD:  
0.02% (f = 1kHz, POUT = 1W, TA = +25NC, ZSPK = 4I + 33FH, TQFN)  
0.013% (f = 1kHz, POUT = 0.5W, TA = +25NC, ZSPK = 8I + 68FH)
- Dynamic Range: 105DB (A-weighted, VRMS = 2.54V, 24- or 32-bit data)
- Output Noise: 25FVRMS (A-weighted, 24- or 32-bit data (Note 4))
- Gain (relative to the reference level of 2.1dBV):  
GAIN\_SLOT = GND through 100kΩ: Min 14.4dB, Typical 15dB, Max 15.6dB  
GAIN\_SLOT = GND: Min 11.4dB, Typical 12dB, Max 12.6dB  
GAIN\_SLOT = unconnected: Min 8.4dB, Typical 9dB, Max 9.6dB  
GAIN\_SLOT = VDD: Min 5.4dB, Typical 6dB, Max 6.6dB  
GAIN\_SLOT = VDD through 100kΩ: Min 2.4dB, Typical 3dB, Max 3.6dB
- Efficiency: 92% (ZSPK = 8I + 68FH, THD+N = 10%, f = 1kHz, gain = 12dB)
- DAC Gain Error: 1%
- Frequency Response: ±0.2dB
- Class D Switching Frequency: 330kHz
- Spread Spectrum Bandwidth: ±12.5kHz

## DOCUMENTS

- [Product wiki](#)
- [STP 3D Model](#)
- [2D CAD Dimension](#)
- [2D PDF Dimension](#)
- [Schematics](#)
- [MAX98357A Datasheet](#)

## SHIPPING LIST

- MAX98357 I2S Amplifier Module × 1