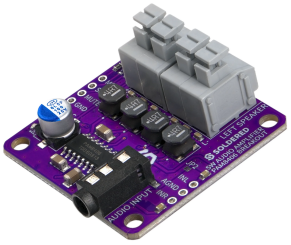
PRODUCT DATASHEET



Soldered 5W audio amplifier PAM8406 board

333269

Compact 5W stereo amplifier with high efficiency and versatile modes, perfect for driving speakers in battery-powered projects.

Full product documentation, files and tutorials: **solde.red/333269**

CORE ATTRIBUTES

SKU **333269**

DIMENSIONS **38.0 × 38.0 × — mm**

BARCODE **732388645909**

DESCRIPTION

The Soldered 5W Audio Amplifier PAM8406 breakout is a compact stereo amplifier for driving a pair of speakers directly from a quiet line-level signal. It delivers up to 5 W per channel into a 2 Ω load, about 3 W into 4 Ω, or 1.8 W into 8 Ω, using only a 2.5-5.5 V supply. The board is built around the Diodes PAM8406, which can work as Class-D amplifier with up to 90% efficiency, good for battery-powered projects, or as a cleaner Class-AB amplifier. You choose the mode with a single MODE pin on the control header. Connect audio through the on-board 3.5 mm jack or the 3-pin input header, connect your left and right speakers to the two screw terminals, and you are ready to go. The board includes a full LC output filter to reduce EMI and support longer speaker leads, and MUTE and shutdown lines broken out next to power.. A simple and practical way to give your project a voice.

TECHNICAL DETAILS

- **IC (amplifier):** PAM8406, stereo Class-D / Class-AB
- **Output power (Class-D, 5 V, 10% THD):** 5 W/ch @ 2 Ω · 3.14 W/ch @ 4 Ω · 1.8 W/ch @ 8 Ω
- **Output power (5 V, 1% THD):** 4 W @ 2 Ω · 2.55 W @ 4 Ω · 1.6 W @ 8 Ω
- **Mode:** Class-D or Class-AB, selectable via MODE pin (defaults to Class-D, 10 kΩ pull-up)
- **Efficiency:** up to 90% (Class-D, 8 Ω, 1 kHz)
- **Audio input:** 3.5 mm stereo jack + 3-pin header (INL, GND, INR)
- **Control / power header:** 5-pin - MODE, SHDN, MUTE, GND, VCC
- **Speaker outputs:** 2 × 2-pin 5.0 mm screw terminal (KF235-5.0) - left and right
- **Supply voltage:** 2.5-5.5 V (abs. max 6.0 V)
- **Switching frequency (Class-D):** 250 kHz
- **Protection:** short-circuit (auto-recovery), thermal shutdown, UVLO (~2.0 V)
- **Pop suppression:** no pop at turn-on / turn-off
- **IC operating temperature:** -40 °C to +85 °C

- **Board size:** 38 × 38 mm
- **Mounting:** 4 × 3.2 mm holes (M3)

SPECIFICATIONS

INTERFACE	Analog
QWIIC COMPATIBLE	No
BREADBOARD COMPATIBLE	Yes
IC PART NUMBER	PAM8406
SUPPLY VOLTAGE MIN V	2.5
SUPPLY VOLTAGE MAX V	5.5
PROTECTION FEATURES	Short Circuit, Thermal Shutdown

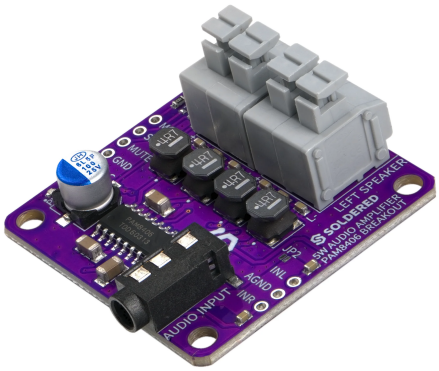
DOCUMENTS

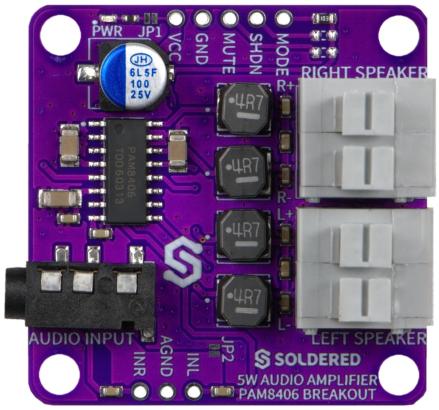
Main IC Datasheet · EN	https://cms.soldered.com/products/333269/documents/ic-datasheet/333269_ic-datasheet_07b335.pdf

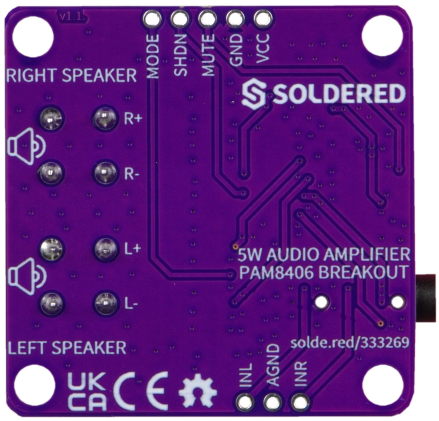
LINKS

Full Documentation	https://docs.soldered.com/pam8406/overview/
Hardware Details	https://docs.soldered.com/pam8406/hardware/
Pinout	https://cms.soldered.com/products/333269/media/333269_pinout-png_3e0db3.png

GALLERY


MUTE
GND
LEFT SPEAKER
SOLDERED
5W AUDIO AMPLIFIER
PAM8406 BREAKOUT
INL
AGND
INR
AUDIO INPUT


PWR
JP1
VCC
GND
MUTE
SHDN
MODE
RIGHT SPEAKER
R+
R-
L+
L-
LEFT SPEAKER
AUDIO INPUT
INR
AGND
INL
JP2
SOLDERED
5W AUDIO AMPLIFIER
PAM8406 BREAKOUT


MODE
SHDN
MUTE
GND
VCC
RIGHT SPEAKER
R+
R-
L+
L-
LEFT SPEAKER
SOLDERED
5W AUDIO AMPLIFIER
PAM8406 BREAKOUT
solde.red/333269
INL
AGND
INR