

10W Stereo/Mono Digital Audio Amplifier with Headphone Driver and SubWoofer PWM out

Features

- 16/18/20/24-bit input with I²S, Left-alignment and Right-alignment data format
- PSNR & DR(A-weighting)
Loudspeaker: 91dB (PSNR), 86dB (DR) @18V
Headphone: 86dB (PSNR), 86dB (DR)
- Multiple sampling frequencies (Fs)
32kHz / 44.1kHz / 48kHz and
64kHz / 88.2kHz / 96kHz and
128kHz/176.4kHz/192kHz
- System clock = 64x, 128x, 192x, 256x, 384x, 512x, 576x, 768x, 1024x Fs
64x~1024x Fs for 32kHz / 44.1kHz / 48kHz
64x~512x Fs for 64kHz / 88.2kHz / 96kHz
64x~256x Fs for 128kHz/176.4kHz/192kHz
- Supply voltage
12V~18V for loudspeaker driver
3.15V~3.45V for others
- Loudspeaker output power for 18V
2x10W into 8Ω@0.2% THD+N for stereo
1x20W into 4Ω@0.3% THD+N for mono
- Headphone power
40mW into 32Ω@1kHz and 1% THD+N
80mW into 16Ω@1kHz and 1% THD+N
- Sound processing including :
Bass (+18dB~-12dB, 3dB frequency is 250Hz),
Treble (+18dB~-12dB, 3dB frequency is 7kHz),
5 bands parametric EQ,
Volume control (+24dB~-103dB, 1dB/step) and
Dynamic range control

- Anti-pop design
- Over-temperature protection
- Under-voltage shutdown
- Short-circuit protection
- I²C control interface
- Subwoofer PWM output

Applications

- CD and DVD
- TV audio
- Car audio
- Boom-box
- MP3 docking systems
- Powered speaker
- Wireless audio
- USB speaker

Description

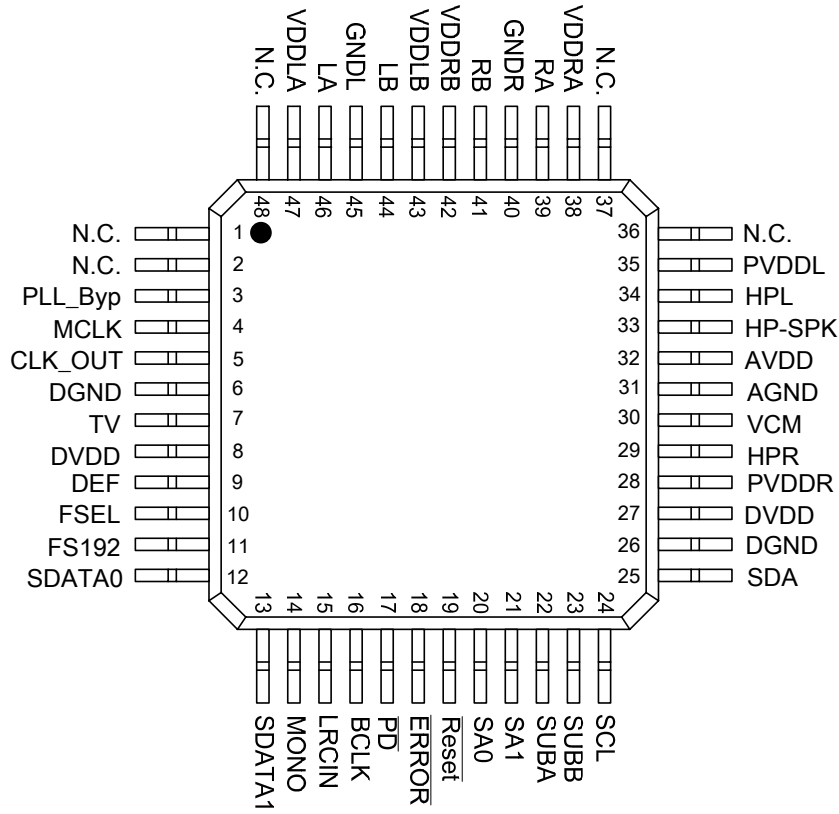
This is a stereo (8Ω)/mono (4Ω) fully digital audio amplifier with output power which can drive up to 2x10W for stereo or 1x20W for mono at 18V supply voltage, no external heat-sink or fan is requirement.

Using I²C digital control interface, AD82571A provides sound processing includes Volume, Bass, Treble, EQ, Mixing and Dynamic Range Control (DRC). Protection circuits are provided to protect AD82571A damage while connection error. It is possible to compose of 2.1 channels with two pieces of AD82571A and 5.1 channels with four pieces.

ORDERING INFORMATION

Product Number	Package	Comments
AD82571A-LEG	7x7 48L E-LQFP	Pb-free

Pin Assignment



Pin Description

PIN	NAME	TYPE	DESCRIPTION	CHARACTERISTICS
1	N.C.			
2	N.C.			
3	PLL_Byp	I	0: PLL enable; 1: PLL disable	Schmitt trigger TTL input buffer
4	MCLK	I	Master clock input	Schmitt trigger TTL input buffer
5	CLK_OUT	O	Clock output from PLL	TTL output buffer
6	DGND	P	Digital Ground	
7	TV	I	0: I ² C control; 1: Hardware control	Schmitt trigger TTL input buffer
8	DVDD	P	Digital Power	
9	DEF	I	Default volume setting	Schmitt trigger TTL input buffer
10	FSEL	I	0: 48kHz; 1: 96kHz	Schmitt trigger TTL input buffer
11	FS192	I	192k sampling rate selection	Schmitt trigger TTL input buffer
12	SDATA0	I	Serial audio data input 0	Schmitt trigger TTL input buffer
13	SDATA1	I	Serial audio data input 1	Schmitt trigger TTL input buffer