DIGITAL AMPLIFIER POWER STAGE

Features

- PVDD range from 10.8V to 16.5V
- Support single-ended input audio PWM (AD) modulated signal
- Support differential input audio PWM (AD & BD) modulated signal
- Loudspeaker output power for stereo (BTL)
  - 10W x 2CH @ THD+N=0.4% into 8Ω at 15V
  - 8W x 2CH @ THD+N=8.4% into 8Ω at 12V
- Loudspeaker output power for mono (BTL)
  - 20W x 1CH @ THD+N=0.45% into 8Ω at 15V
- Over-temperature protection
- Over-current protection
- Under-voltage detection
- Error report
- Built-in anti-pop function
- 24-pin E-TSSOP thermally-enhanced package

Applications

- TV audio
- DVD Receiver
- Home Theaters

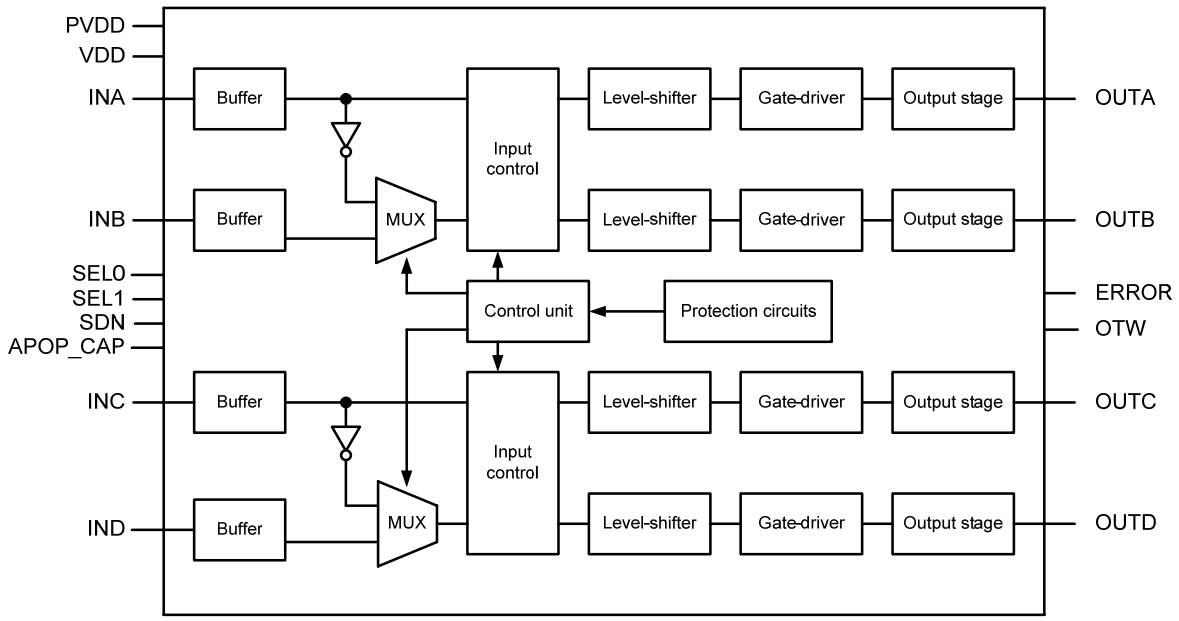
Description

The AD9256H is a high performance stereo digital amplifier power stage. It can deliver 10W x 2CH output power into 8Ω loudspeaker for stereo or 20W x 1ch output power into 4Ω loudspeaker for mono in BTL configuration within <1% THD+N at 15V supply.

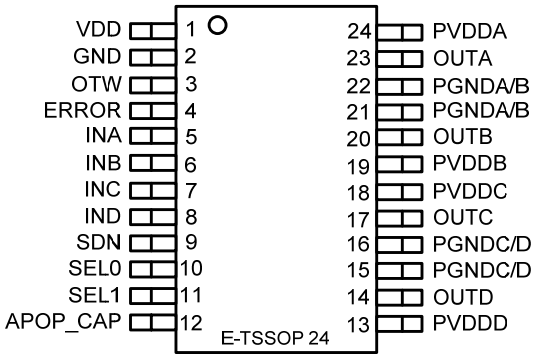
A patented, built-in anti-pop function can reduce the speaker's pop noise without requiring complex anti-pop sequence in PWM input.

The AD9256H's chip is integrated with over-temperature, over-current, and under-voltage protection circuits. These additions safeguard the AD9256H against fault conditions that could damage the chip and system catastrophically.

Functional Block Diagram



Pin Assignments



Pin Description

PIN	NAME	TYP	DESCRIPTION
1	VDD	P	Power supply for digital circuit
2	GND	P	Ground for digital circuit
3	OTW	O	Over temperature warning.
4	ERROR	O	Error pointer
5	INA	I	PWM input A
6	INB	I	PWM input B
7	INC	I	PWM input C
8	IND	I	PWM input D
9	SDN	I	Shutdown (active-low) with soft pulled resistor 100kohm to ground
10	SEL0	I	Mode select pin 0
11	SEL1	I	Mode select pin 1
12	APOP_CAP	O	Anti-pop capacitor
13	PVDDD	P	Power supply for half bridge D
14	OUTD	O	Half-bridge output D
15	PGNDC/D	P	Ground for half bridge C/D
16	PGNDC/D	P	Ground for half bridge C/D
17	OUTC	O	Half-bridge output C
18	PVDDC	P	Power supply for half bridge C
19	PVDDB	P	Power supply for half bridge B
20	OUTB	O	Half-bridge output B
21	PGNDA/B	P	Ground for half bridge A/B
22	PGNDA/B	P	Ground for half bridge A/B
23	OUTA	O	Half-bridge output A
24	PVDDA	P	Power supply for half bridge A