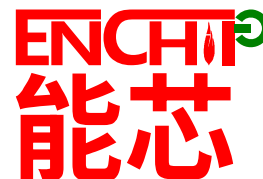

AXPA231xx

60W Filter-free Class-D Stereo Amplifier Family With AM Avoidance



Datasheet — Dec 2021

Description

The AXPA231xx series are stereo efficient, digital amplifier power stage for driving speakers from 15W/8Ω up to 60W/4Ω. The AXPA231xx employs a multiple switching frequency option to avoid AM interferences. This is achieved together with an option of either master or slave option, making it possible to synchronize multiple devices. The AXPA231xx series are fully protected against faults like short circuit, over-temperature, over-voltage, and under-voltage. Faults are reported back to the processor to prevent the devices from being damaged during fault conditions.

Features

- Supports multiple output configurations:
 - 2x60W into a 4Ω BTL load at 24V (AXPA23117)
 - 2x50W into a 4Ω BTL load at 21V (AXPA23166)
 - 2x30W into a 8Ω BTL load at 24V (AXPA23128)
 - 2x15W into a 8Ω BTL load at 15V (AXPA23130)
- Wide voltage range: 4.5V to 26V
- Efficient class-D operation
 - >90% power efficiency combined with low idle loss greatly reduces heat sink size
 - Advanced modulation scheme
- Multiple switching frequencies
 - AM avoidance
 - Spread spectrum frequency modulation
 - Master and slave synchronization
 - Up to 1.2MHz switching frequency
- Feedback power stage architecture with high PSRR reduces PSU requirements
- Programmable power limit
- Differential and single-ended inputs
- Stereo and mono mode with single filter mono configuration
- Single power supply reduces component count
- Integrated self-protection circuits including over-voltage, Under-voltage, Over-temperature, and short circuit with error reporting
- Thermally enhanced packages
 - HTSSOP28 Power Pad Down (AXPA23130, AXPA23128)
 - SSOP38 Power Pad Down (AXPA23166)
 - SSOP38 Power Pad Up (AXPA23117)
- -40°C to 85°C ambient temperature range

Applications

- Mini-micro-component
- Speaker bar, docks
- After-market Automotive
- TV
- Consumer audio applications