

# 2x20W Stereo Class-D Audio Amplifier with Power Limit

### **Features**

- Single supply voltage
  4.5V ~ 26V for loudspeaker driver
  Built-in LDO output 5V for others
- Loudspeaker power from 24V supply BTL Mode: 20W/CH into 8Ω @<10% THD+N PBTL Mode: 40W/CH into 4Ω @<10% THD+N</li>
- Loudspeaker power from 12V supply BTL Mode: 9W/CH into 8Ω @10% THD+N
- 87% efficient Class-D operation eliminates need for heat sink
- Differential inputs
- Four selectable, fixed gain settings
- Internal oscillator
- Short-Circuit protection with auto recovery option
- Under-Voltage detection
- Over-Voltage protection
- Pop noise and click noise reduction
- Adjustable power limit function for speaker protection
- Output DC detection for speaker protection
- Filter-Free operation
- Over temperature protection with auto recovery
- Superior EMC performance

# **Applications**

- TV audio
- Boom-Box
- Powered speaker
- Monitors
- Consumer Audio Equipment

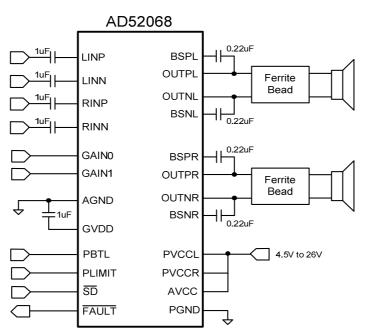
### **Description**

The AD52068 is a high efficiency stereo class-D audio amplifier with adjustable power limit function. The loudspeaker driver operates from  $4.5V\sim26V$  supply voltage and analog circuit operates at 5V supply voltage. It can deliver 20W/CH output power into  $8\Omega$  loudspeaker within 10% THD+N at 24V supply voltage and without external heat sink when playing music.

AD52068 provides parallel BTL (Mono) application, and it can deliver 40W into  $4\Omega$  loudspeaker at 24V supply voltage. The adjustable power limit function allows user to set a voltage rail lower than half of 5V to limit the amount of current through the speaker.

Output DC detection prevents speaker damage from long-time current stress. AD52068 provides superior EMC performance for filter-free application. The output short circuit and over temperature protection include auto-recovery feature.

# **Simplified Application Circuit**



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