Philips Semiconductors

At the forefront of leading–edge car radio designs, Philips Semiconductors is continually improving the functionality and performance of automotive audio systems to meet increased consumer and industry demands. Adding to our existing world–class portfolio, our latest dedicated car radio amplifier is equipped with a number of on–chip protection and diagnostic features providing the highest quality in–vehicle audio reproduction.

TDA8592J

Smart quad audio amplifier

Audio amplifier with intelligent diagnostics for car radio applications

The TDA8592J quad BTL audio amplifier incorporates a set of intelligent diagnostics with I²C control. Delivering up to 4 x 50 W (EIAJ) into a 4 Ohm load, and up to 75 W with 2 Ohm loading, this robust device is designed to demanding automotive standards. It is insensitive to noise from external interference and has several built-in amplifier and loudspeaker protections (every BTL amplifier can be individually enabled/disabled), making it ideal for all high power car radio and audio applications. The TDA8592J's I²C control feature includes independent on / off channel switching, mute with internal timer, selectable line driver gain and clip detection level.

Smart diagnostics provide valuable test aids for many assembly, service and normal operating situations. For example, connections can be checked during system assembly to ensure all connectors and speakers are properly connected; or during fault analysis when the audio application is serviced to determine any problems such as disconnected tweeter or short to ground. Additionally, during normal operation the diagnostic facilities can be used to avoid overstress and / or damage.

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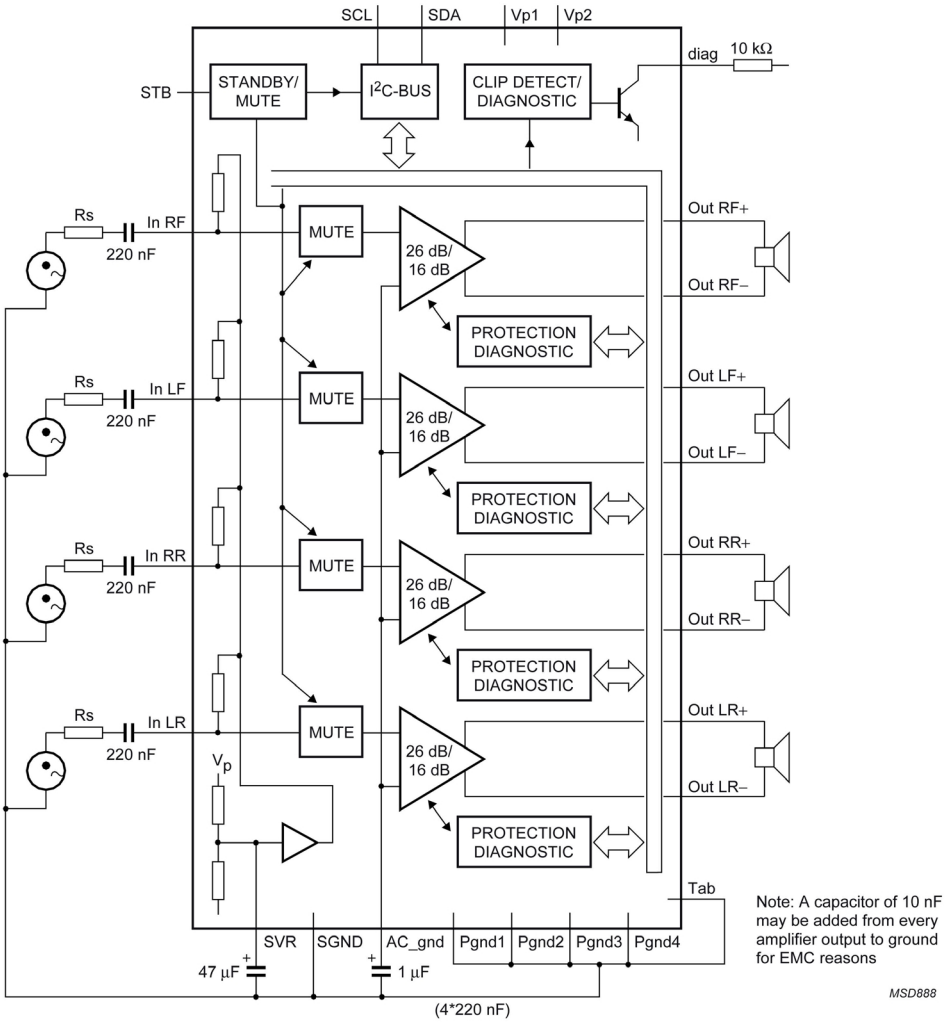
Key features

- 4 x 50 W audio amplifier with internally fixed 26 dB gain
- Diagnostic output gives clip information at 2.5 or 10% THD (selectable)
- Output short circuit indication; short across load, to battery and to ground
- Single mode control pin (standby, operating, mute / on)
- Soft thermal clipping to prevent audio holes
- No on/off switching plops for all operating modes
- Range of system protection features including:
  - ESD protection
  - load dump / overvoltage and reverse polarity
  - thermal protection to avoid thermal break down
  - independent short circuit protection per channel
  - programmable thermal pre-warning
  - output offset detection
- DBS27 low thermal resistance package

TDA8592J



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