

## 20-W Stereo Digital Audio Power Amplifier with EQ, 3-Band AGL, 3D and Capless HP/Line Driver

### DESCRIPTION

The EUA2839 is a 20-W, digital audio power amplifier with 4 half-bridged power drivers. The EUA2839 is a slave device that all clocks are provided by the external sources. One serial data input allows processing of up to two discrete audio channels and seamless integration to most digital audio processors. A bidirectional I<sup>2</sup>C interface allows reading or writing to change the internal register status. The EUA2839 has integrated an advanced headphone amplifier and line driver to increase system-level integration and reduce total solution costs.

Advanced EMI Suppression Technology enables the use of inexpensive ferrite bead filters at the outputs while meeting EMC requirements for system cost reduction.

The EUA2839 also features short-circuit and thermal protection preventing the device from being damaged during a fault condition. The EUA2839 is available in thermally efficient 48-pin LQFP package.

- **Audio Processing**
  - DC Blocking Filters
  - Channel Volume Control 24 dB to mute
  - 20 Biquads for Speaker EQ
  - Programmable 3-Band Automatic Gain Limiting (AGL)
  - 3D Effects
- **Benefits**
  - EQ: Speaker Equalization Improves Audio Performance
  - DRC: Enables Speaker Protection and Night-Mode Listening
  - Soft Mute
  - Auto detect: Automatically Detects Sample-rate Changes
  - Thermal and short circuit protection
- Available in LQFP-48 (EP) Package
- RoHS compliant and 100% lead(Pb)-free Halogen-Free

### FEATURES

- **Audio Input/Output**
  - Wide Power Supply Voltage: 8 V to 26 V
  - Digital Supply: 3.3V
  - 20W/ch into an 8-Ω Load from an 18-V Supply
  - 40W into an 4-Ω Mono load from an 18-V supply
  - Supports 8 kHz - 192 kHz Sample Rates Serial Audio Input (LJ/RJ/I<sup>2</sup>S)
  - Bidirectional I<sup>2</sup>C interface
  - Slave Address Select Pin
  - Support 3-wire I<sup>2</sup>S Mode (No MCLK Required)
  - Capless Headphone Amplifier/Line Driver

### APPLICATIONS

- LCD TV
- Low Cost Audio Equipment
- Sound Bar

### Typical Application Circuit

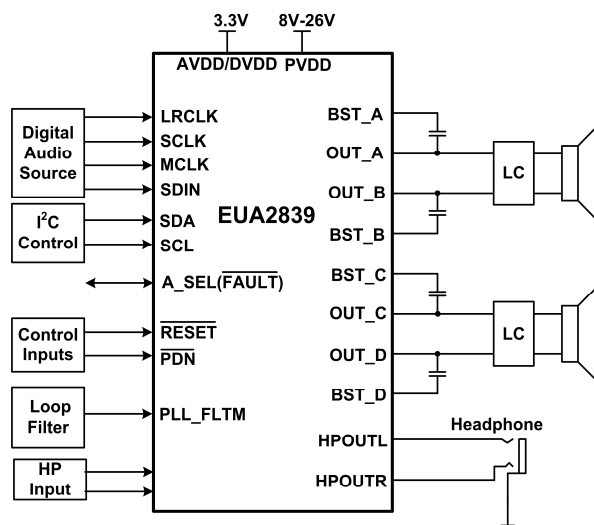


Figure1. Simplified Application Schematic