- **Supports Both FDM G.lite and Full Rate ADSL Applications**
- **14-Bit Integrated A/D and D/A Converters**
- **1.104 (G.lite)/2.208 (Full Rate) MHz Update Rate for the RX Channel**
- **276/552 kHz Update Rate for the TX Channel**
- **Home Phoneline Networking Alliance (HPNA) Compatible**
- **Integrated Line Driver for TX and Line Receiver for RX**
- **Integrated TX/RX Filter, PGAs and Equalizer**
- **Integrated Voltage Compensated Crystal Oscillator (VCXO) DAC and Digital Phase Lock Loop (DPLL)**
- **3.3-V and 12-V Supply**
- **Minimum –150 dBm/Hz for Analog Input Reference Noise (see Note)**

NOTE: Result for appropriate receive channel gains setting

- **Direct Single Serial Interface to TIs C54x or C6x DSP (Data and Control)**
- **6 General Purpose I/O Pins**
- **Integrated Auxiliary Amplifiers for System Flexibility**
- **Software and Hardware Power Down Modes**
- **Power Dissipation**
  - **710 mW Without Line Driver**
  - **1.25 W With Line Driver Across 50 Ω Load**
- **Hardware Power-Down . . . 80 mW**
- **Industrial Temperature Range**
- **Available in a 64-Pin PAP Package (PowerPAD™)**

PRODUCT PREVIEW

description

The TLFD600PAP is a high-speed, programmable, analog front end for Customer Premise Equipment (CPE) modems that supports G.lite and full rate ADSL applications. The codec is also Home Phoneline Networking Alliance (HPNA)-compatible, with the ability to operate with up to three HPNA devices connected to the same line. The device performs transmit encoding (D/A conversion), receive decoding (A/D conversion), transmit and receive filtering functions, receive equalizer, and programmable gain amplifications (PGA). The device also incorporates voltage compensated crystal oscillator (VCXO) DAC, DPLL, and line drivers for TX and RX channels which reduces the number of system components. Two auxiliary amplifiers are provided, on-chip, for additional on-board filtering and amplification with additional off-chip passive components. The receive channel has an update rate of 1.104 Msps in the G.lite mode and 2.208 Msps in the full rate mode. The transmit channel has an update rate of 276/552 Ksps in G.lite mode and 552 Ksps in full rate mode.

A simple serial interface on the digital side reduces system component count. Both data and command lines share the same serial port. The interface can connect directly to the TI C6x and C54x family of DSP chips.

The device operates using 3.3-V and 12-V supply lines (12 V is used for the on-chip TX line driver) and is packaged in a single 64-pin PAP (PowerPAD™) package. It is characterized for operation from –40°C to 85°C.

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