Adaptive Linear Power™ +12V ADSL-CO Line Driver

Preliminary Technical Data — AD8393

FEATURES

- **Analog Devices' Adaptive Linear Power™ architecture**
  - **Low power consumption for DSL line driver applications**
  - **Enables high port density Central Office modems.**
- **Allows single +12V supply (or +/-6V supplies) and a transformer ratio of 1:1.2**
  - **Delivers power dissipation of 575mW for non-overlapped applications (19.8dBm line power)**
  - **Delivers 624mW for overlapped applications (20.4dBm line power).**
- **MTPR of –67.4dBc (526KHz, 5.3 Crest Factor, non-overlapped, R_L= 70Ω)**

BENEFITS

- **Reduces system complexity and cost – Low power architecture enables more ports per cubic centimeter, reduced thermals, lower system power, and lower line card power.**
- **Simplifies line card voltage requirements – Single supply operation (+12V) for CO designs.**

APPLICATIONS

- **ADSL DSLAMs**
- **xDSL line cards using DMT signals**

PRODUCT DESCRIPTION

The AD8393 is a low power, high output current, low distortion line driver that enables high port density DSL line card designs. The AD8393 features ADI's Adaptive Linear Power™ architecture, which delivers the same performance typically found with +/-12V drivers, but does so with a single +12V supply. Able to drive Discrete Multi-Tone signals with a Peak to Average Ratio from 3.3 to 6.4, the AD8393 with a 1:1.2 transformer dissipates only 575mW of total power for non-overlapped ADSL applications (19.8dBm line power) and only 624mW for overlapped ADSL applications (20.4dBm line power).

The AD8393 offers distinctive advantages over competitive solutions. The low power architecture allows an increase in modem port count for a given thermal and power budget. The single +12V supply simplifies the line card voltage bus requirements. Both these key advantages enabled by the AD8393 directly reduce DSL system complexity and cost.

The AD8393 is available in 28L TSSOP and 32L 5x5mm LFCSP packages.

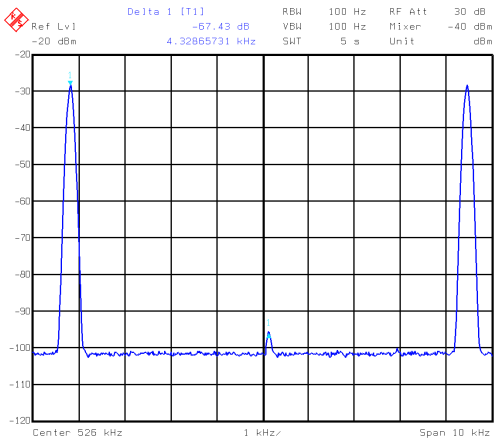

Fig. 1. AD8393 MTPR Performance

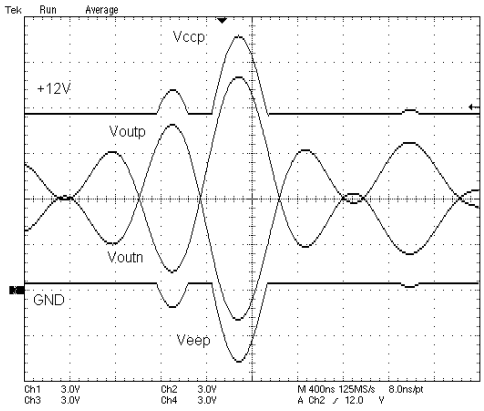

Fig. 2. Plot of AD8393 showing Adaptive Linear Power™ where the supply voltage anticipates the peak output

REV PrA Jan 2002

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