



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.
- Single +12V supply (or +/-6V supplies)
 - 600mW total power consumption for non-overlapped applications (19.8dBm line power into 70Ω resistive load)
 - 660mW total power consumption for overlapped applications (20.4 dBm line power into 70Ω resistive load)
- MTPR of -67.4dBc (526KHz, 5.3 Crest Factor, non-overlapped, $R_L = 70\Omega$)

BENEFITS

- Reduces system complexity and cost – Low power architecture enables greater port density, reduced thermals, and lower system 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 increased port density in 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. The AD8393 is designed to drive DMT (Discrete Multi-Tone) signals with a Peak to Average Ratio of 3.3 to 6.4. Driving a DMT signal with a Peak to Average Ratio of 5.3, the AD8393 consumes only 600mW of total power for non-overlapped ADSL applications (19.8dBm line power into 69.8Ω resistive load).

The AD8393-1 has been optimized for peak input signals (PMPP-PMPN) of 1.0V to 1.3V. The AD8393-2 has been optimized for peak input signals (PMPP-PMPN) of 0.6V to 0.9V.

The AD8393 is available in a 32L 5x5mm LFCSP package.

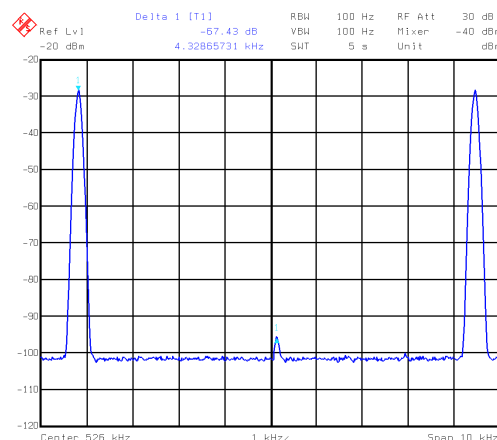


Fig. 1. AD8393 MTPR Performance

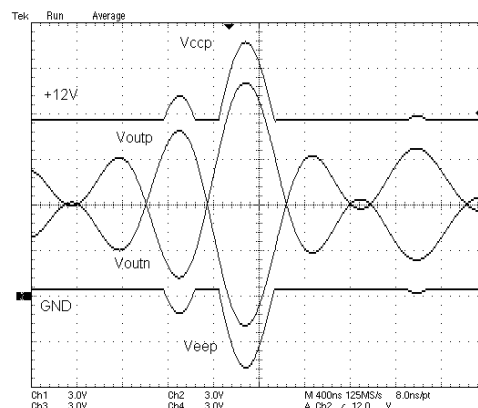


Fig. 2. AD8393 single +12V supply operation showing Adaptive Linear Power™ supplies and driver outputs. Internally, the supplies (V_{ccp} , V_{eep}) are brought outside the rails to accommodate peaks above 12 V and below GND.

To inquire about AD8393 samples and an evaluation board, contact Analog Devices via email at:
high_current_drivers.com@analog.com

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