

FEATURES**Voltage feedback amplifier**

**Ideal for ADSL and ADSL+ Central Office (CO) and
Customer Premises Equipment (CPE) applications**

Enables high current differential applications

Low power operation

**Single or dual power supply operation from +10 V (± 5 V)
up to +24 V (± 12 V)**

**4 mA total quiescent supply current for full power ADSL
and ADSL+ CO applications**

**Adjustable supply current to minimize power
consumption**

High output voltage and current drive

400 mA peak output drive current

44.2 V p-p differential output voltage

Low distortion

-82 dBc @ 1 MHz second harmonic

-91 dBc @ 1 MHz third harmonic

High speed

300 V/ μ s differential slew rate

APPLICATIONS

ADSL/ADSL+ CO and CPE line driver

xDSL line driver

High current differential amplifier

GENERAL DESCRIPTION

The AD8390 is a high output current, low power consumption differential amplifier. It is particularly well suited for the Central Office driver interface in Digital Subscriber Line systems such as ADSL and ADSL+. The driver is capable, in full bias operation, of providing 24.4 dBm output power into low resistance loads, enough to power a 20.4 dBm line, while compensating for losses due to hybrid insertion, transformer insertion, and back termination resistors.

The AD8390 fully differential amplifier is available in a thermally enhanced leadframe chip scale package (LFCSP-16) as AD8390ACP and a 16-lead QSOP/EP as AD8390ARC. Significant control and flexibility in bias current have been designed into the AD8390. There are four power modes controlled by two digital bits PWDN(1,0). This provides three levels of driver bias and one powered-down state. In addition, the I_{ADJ} pin can be used for fine quiescent current trimming to tailor the performance of the AD8390.

The low power consumption, high output current, high output voltage swing, and robust thermal packaging enable the AD8390 to be used as the Central Office line driver in ADSL, ADSL+, and proprietary xDSL systems, as well as other high current applications requiring a differential amplifier.

*For more information about the AD8390,
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