EL1526

Dual Channel Differential DSL Line Driver for Centillium Maximus CO Chipsets

FN7405
Rev 1.00
February 11, 2005

The EL1526 is to be used with Centillium's Maximus CO chipset for very high performance ADSL applications. The line driver supports use of ADSL downstream spectrum up to 3.75MHz, beyond traditional 1.1MHz range. For the extended spectrum, payload rates up to 50Mbps is achievable in conjunction of High-Bit-Loading (HBL) feature of Maximus CO chipset. This feature allows DMT tones to carry higher than 15 bits per tone, resulting in higher performance ADSL services.

The EL1526 is an integral part of the signal chain for HBL. The driver has been optimized for flat gain response and reduced harmonic distortion and noise in the bands of interest to improve the overall signal to noise in the system. A unique internal compensation circuit eliminates the need for external common mode snubber filters in active termination applications.

These drivers achieve a total harmonic distortion (THD) measurement of typically -64dB @ 2.2MHz, while consuming typically 5mA per DSL channel of total supply current. This supply current can be set using a resistor on the I_{ADJ} pin. Two other pins (C_0 & C_1) can also be used to adjust supply current to one of four pre-set modes (full-I_S, 3/4-I_S, 1/2-I_S, and full power-down). The EL1526 operates on ±5V to ±12V supplies and retains its bandwidth and linearity over the complete supply range.

The device is supplied in the small footprint (4x5mm) 24-pin QFN package and is specified for operation over the full -40°C to +85°C temperature range.

Ordering Information

PART NUMBER	PACKAGE	TAPE & REEL	PKG. DWG. #
EL1526IL	24-Pin QFN	-	MDP0046
EL1526IL-T7	24-Pin QFN	7”	MDP0046
EL1526IL-T13	24-Pin QFN	13”	MDP0046
EL1526ILZ (See Note)	24-Pin QFN (Pb-Free)	-	MDP0046
EL1526ILZ-T7 (See Note)	24-Pin QFN (Pb-Free)	7”	MDP0046
EL1526ILZ-T13 (See Note)	24-Pin QFN (Pb-Free)	13”	MDP0046

NOTE: Intersil Pb-free products employ special Pb-free material sets; molding compounds/die attach materials and 100% matte tin plate termination finish, which are RoHS compliant and compatible with both SnPb and Pb-free soldering operations. Intersil Pb-free products are MSL classified at Pb-free peak reflow temperatures that meet or exceed the Pb-free requirements of IPC/JEDEC J STD-020C.

Features

- 450mA output drive capability
- 44.1V_{P-P} differential output drive into 100Ω
- -85dBc THD @ 1MHz 2V_{P-P}
- High slew rate of 500V/µs
- Bandwidth - 46MHz
- Current control pins
- Channel separation
  - 80dB @ 500kHz
  - 75dB @ 1MHz
- Pb-Free available (RoHS compliant)

Applications

- ADSL line drivers for **Centillium Maximus** CO chipsets

Pinout

EL1526
(24-PIN QFN)
TOP VIEW