

Dual Channel Fixed Gain Differential DSL Line Driver

The ISL1534 is a dual channel differential amplifier designed for driving full rate ADSL2+ signals at very low power dissipation. The high drive capability of 450mA makes this driver ideal for DMT designs. It contains two pairs of wideband, high-voltage, current mode feedback amplifiers designed on Intersil's HS30 Bipolar SOI process for low power consumption in DSL systems. The amplifiers have an internal fixed gain, which helps eliminate both feedback and gain resistors reducing board size and cost.

These drivers consuming typically 4mA per DSL channel of total supply current. This supply current can be set using a resistor on the IADJ pin. Two other pins (C0 and C1) 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). C0 and C1 inputs are design to pull high initially. Floating these inputs will put the device in disable mode. This is contrary to EL1528 where C0 and C1 inputs pull low initially and is in the enable state when C0 and C1 pins are floated.

The device is supplied in a thermally-enhanced small footprint (4mmx5mm) 24 Ld QFN packages. The ISL1534 is specified for operation over the full -40°C to $+85^{\circ}\text{C}$ temperature range.

The ISL1534 provides larger output swing at heavy loads, higher slew rate, and higher bandwidth while maintaining pin-to-pin drop-in compatibility with the ISL1532A. The ISL1534 integrates 50k pull-up resistors on C0 and C1 pins.

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Features

- 450mA output drive capability
- 44.4V_{P-P} differential output drive into 100Ω
- $\pm 5\text{V}$ to $\pm 15\text{V}$ supply operation
- Internal fixed gain and biasing network
- Reduces BOM by 7 resistors and 1 capacitor per channel
- Low differential input offset
- Channel separation
 - 80dB @ 500kHz
 - 75dB @ 1MHz
- Direct pin-to-pin replacement for ISL1532A
- Pb-free (RoHS compliant)

Applications

- Dual channel ADSL2+ line drivers
- SHDSL line drivers

Ordering Information

PART NUMBER (Note)	PART MARKING	PACKAGE (Pb-Free)	PKG. DWG. #
ISL1534IRZ	1534 IRZ	24 Ld QFN (4mmx5mm)	MDP0046
ISL1534IRZ-T13*	1534 IRZ	24 Ld QFN (4mmx5mm)	MDP0046
ISL1534IVEZ	1534 IVEZ	20 Ld HTSSOP (4.4mm)	MDP0048
ISL1534IVEZ-T13*	1534 IVEZ	20 Ld HTSSOP (4.4mm)	MDP0048

*Please refer to TB347 for details on reel specifications.

NOTE: These Intersil Pb-free plastic packaged products employ special Pb-free material sets, molding compounds/die attach materials, and 100% matte tin plate plus anneal (e3 termination finish, which is 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-020.

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