

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 achieve an MTPR distortion measurement of better than 70dB, while consuming typically 5mA 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°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.

Features

- 450mA output drive capability
- 44.4V_{P-P} differential output drive into 100Ω
- ±5V to ±15V supply operation
- Internal fixed gain and biasing network
- Reduces BOM by 7 resistors and 1 capacitor per channel
- MTPR of -70dB
- Low differential input offset
- Channel separation
 - 80dB @ 500kHz
 - 75dB @ 1MHz
- Direct pin-to-pin replacement for ISL1532A
- Pb-free plus anneal available (RoHS compliant)

Applications

- Dual channel ADSL2+ line drivers
- SHDSL line drivers

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Ordering Information

PART NUMBER (NOTE)	PART MARKING	TAPE AND REEL	PACKAGE (Pb-free)	PKG. DWG. #
ISL1534IRZ	1534 IRZ	-	24 Ld QFN (4mmx5mm)	MDP0046
ISL1534IRZ-T13	1534 IRZ	13"	24 Ld QFN (4mmx5mm)	MDP0046
ISL1534IVEZ	1534 IVEZ	-	20 Ld HTSSOP (4.4mm)	MDP0048
ISL1534IVEZ-T13	1534 IVEZ	13"	20 Ld HTSSOP (4.4mm)	MDP0048

NOTE: Intersil Pb-free plus anneal 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-020.

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