

ISL1557A

12V xDSL Differential Line Driver with Enhanced Output Protection

FN6568

Rev 2.00

December 9, 2015

The ISL1557A is a dual operational amplifier designed for VDSL2 and ADSL line driving in DMT based solutions. This device features a high drive capability of 750mA while consuming only 6mA of supply current per amplifier and operating from a single 4.5V to 12V supply. The driver achieves a typical distortion of -80dBc, at 150kHz into a 25Ω load. ISL1557A is design with stronger output clamps to enhance protection against lightning transients.

The ISL1557A is available in the thermally-enhanced 16 Ld QFN and 10 Ld HMSOP package and is specified for operation over the full -40°C to +85°C temperature range. The ISL1557A has control pins C₀ and C₁ for controlling the bias and enable/disable of the outputs. These controls allow for lowering the power to fit the performance/power ratio for the application.

The ISL1557A is ideal for ADSL2+, SDSL, HDSL2 and VDSL line driving applications, including both 14.5dBm and 21dBm applications.

Features

- 21dBm output power capability
- Drives up to 750mA from a +12V supply
- 20V_{P-P} differential output drive into 21Ω
- -80dBc typical driver output distortion at full output at 150kHz
- -75dBc typical driver output distortion at 4MHz
- -82dBc typical driver output distortion at 10MHz
- -79dBc typical driver output distortion at 17MHz
- Low quiescent current of 6mA per amplifier
- Supply range
 - For ISL1557AIUEZ 4.5V to 12V
 - For ISL1557AIRZ ±2.25V to ±6V, 4.5V to 12V
- 300MHz bandwidth
- Thermal shutdown
- Pb-free (RoHS compliant)

Applications

- VDSL2 line drivers
- ADSL2+ CPE line driving
- G.SHDSL, HDSL2 line drivers

Ordering Information

PART NUMBER (Note)	PART MARKING	TEMP. RANGE (°C)	PACKAGE (Pb-Free)	PKG. DWG. #
ISL1557AIRZ	155 7AIRZ	-40 to +85	16 Ld 4x4 QFN	MDP0046
ISL1557AIRZ-T7*	155 7AIRZ	-40 to +85	16 Ld 4x4 QFN (Tape and Reel)	MDP0046
ISL1557AIUEZ (No longer available or supported)	BBBGA	-40 to +85	10 Ld HMSOP	MDP0050

*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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