

xDSL Differential Line Driver

The ISL1556 is a dual operational amplifier designed for VDSL and ADSL line driving in DMT based solutions. This device features a high drive capability of 350mA while consuming only 4.5mA 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.

The ISL1556 is available in the thermally-enhanced 16 Ld QFN package and is specified for operation over the full -40°C to +85°C temperature range. The ISL1556 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 ISL1556 is ideal for ADSL2+, SDSL, HDSL2 and VDSL line driving applications, including both 14.5dBm and 17.5dBm applications.

Features

- 17.5dBm output power capability
- Drives up to 350mA from a +12V supply
- 20V_{P-P} differential output drive into 50Ω
- -80dBc typical driver output distortion at full output at 150kHz
- -70dBc typical driver output distortion at 4MHz
- -70dBc typical driver output distortion at 10MHz
- -65dBc typical driver output distortion at 17MHz
- -60dBc typical driver output distortion at 30MHz
- Low quiescent current of 4.5mA per amplifier
- Supply range
 - For ISL1556IUEZ 4.5V to 12V
 - For ISL1556IRZ ±2.25V to ±6V, 4.5V to 12V
- 300MHz bandwidth
- Thermal shutdown
- Pb-free plus anneal available (RoHS compliant)

Applications

- Differential load driving only
- VDSL2 CO/CPE up to 17.5dBm
- Power line communications 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. #
ISL1556IRZ	6IRZ	-40 to +85	16 Ld QFN	MDP0046
ISL1556IRZ-T7*	6IRZ	-40 to +85	16 Ld QFN (Tape and Reel)	MDP0046
ISL1556IUEZ	BBYAA	-40 to +85	10 Ld HMSOP	MDP0050
ISL1556IUEZ-T7*	BBYAA	-40 to +85	10 Ld HMSOP (Tape and Reel)	MDP0050

*Please refer to TB347 for details on reel specifications

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.

All Intersil U.S. products are manufactured, assembled and tested utilizing ISO9001 quality systems.
Intersil Corporation's quality certifications can be viewed at www.intersil.com/design/quality

Intersil products are sold by description only. Intersil Corporation reserves the right to make changes in circuit design, software and/or specifications at any time without notice. Accordingly, the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by Intersil is believed to be accurate and reliable. However, no responsibility is assumed by Intersil or its subsidiaries for its use; nor for any infringements of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Intersil or its subsidiaries.

For information regarding Intersil Corporation and its products, see www.intersil.com