

xDSL Differential Line Driver

The ISL1558 is a quad operational amplifier designed for VDSL2 and ADSL2+ line driving in DMT based solutions. This device features a high drive capability of 750mA while consuming only 6mA of supply current per amplifier at low bias and operating from a single 4.5V to 12V supply. The driver achieves a typical distortion of -80dBc, at 200kHz into a 50Ω differential load.

The ISL1558 is available in the thermally-enhanced 24 Ld QFN package and is specified for operation over the full -40°C to +85°C temperature range. The ISL1558 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 ISL1558 is ideal for VDSL2 and ADSL2+ central office 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 200kHz
- -75dBc typical driver output distortion at 4MHz
- -71dBc typical driver output distortion at 10MHz
- -75dBc typical driver output distortion at 17MHz
- Low quiescent current of 6mA per amplifier
- Supply range
 - ±2.25V to ±6V, 4.5V to 12V
- 300MHz bandwidth
- Thermal shutdown
- Pb-free plus anneal available (RoHS compliant)

Applications

- VDSL2/ADSL2+ line drivers

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Ordering Information

PART NUMBER (Note)	PART MARKING	TAPE AND REEL	TEMP. RANGE (°C)	PACKAGE (Pb-Free)	PKG. DWG. #
ISL1558IRZ	1558 IRZ	-	-40 to +85	24 Ld QFN	MDP0046
ISL1558IRZ-T13	1558 IRZ	13"	-40 to +85	24 Ld QFN	MDP0046
ISL1558IVEZ	ISL1558 IVEZ	-	-40 to +85	24 Ld HTSSOP	MDP0048
ISL1558IVEZ-T13	ISL1558 IVEZ	13"	-40 to +85	24 Ld HTSSOP	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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