

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.

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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.

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