

xDSL Differential Line Driver

The ISL1557 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.

The ISL1557 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 ISL1557 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 ISL1557 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
- -71dBc typical driver output distortion at 10MHz
- -75dBc typical driver output distortion at 17MHz
- Low quiescent current of 6mA per amplifier
- Supply range
 - For ISL1557IUE 4.5V to 12V
 - For ISL1557IR ±2.25V to ±6V, 4.5V to 12V
- 300MHz bandwidth
- Thermal shutdown
- Pb-free plus anneal available (RoHS compliant)

Applications

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

Ordering Information

| PART NUMBER (Note) | PART MARKING | TAPE AND REEL | TEMP. RANGE (°C) | PACKAGE (Pb-Free) | PKG. DWG. # |
|--------------------|--------------|---------------|------------------|-----------------------|-------------|
| ISL1557IRZ | 7IRZ | - | -40 to +85 | 16 Ld QFN (Pb-free) | MDP0046 |
| ISL1557IRZ-T7 | 7IRZ | 7" | -40 to +85 | 16 Ld QFN (Pb-free) | MDP0046 |
| ISL1557IRZ-T13 | 7IRZ | 13" | -40 to +85 | 16 Ld QFN (Pb-free) | MDP0046 |
| ISL1557IUEZ | BBVAA | - | -40 to +85 | 10 Ld HMSOP (Pb-free) | MDP0050 |
| ISL1557IUEZ-T7 | BBVAA | 7" | -40 to +85 | 10 Ld HMSOP (Pb-free) | MDP0050 |
| ISL1557IUEZ-T13 | BBVAA | 13" | -40 to +85 | 10 Ld HMSOP (Pb-free) | MDP0050 |

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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