

Dual Channel Differential VDSL2 Line Driver

The ISL1539 is to be used for high performance long reach and high speed applications, including ADSL2, ADSL2+, and VDSL2 20dBm.

The ISL1539 is an integral part of the signal chain. The driver has been optimized for flat gain response and reduced harmonic distortion and noise in the bands of interest to improve the overall signal to noise in the system.

These drivers achieve a total harmonic distortion (THD) measurement of typically -60dB MTPR @ 1.1MHz, while consuming typically 10mA per DSL channel of total supply current. This supply current can be set using a resistor on the I_{ADJ} pin. Two other pins (C₀ and C₁) can also be used to adjust supply current to one of four pre-set modes (full-I_S, 3/4-I_S, 1/2-I_S, and full power-down). The ISL1539 operates on ±5V to ±15V supplies and retains its bandwidth and linearity over the complete supply range.

The device is supplied in the small footprint (4mmx5mm) 24 Ld QFN package and is specified for operation over the full -40°C to +85°C temperature range.

Features

- 450mA output drive capability
- 44.1V_{P-P} differential output drive into 100Ω
- -85dBc THD @ 1MHz 2V_{P-P}
- High slew rate of 1200V/μs differential
- Bandwidth - 80MHz @ A_V = 10
- Current control pins
- Channel separation
 - 80dB @ 500kHz
 - 75dB @ 1MHz
 - 60dB @ 4MHz
- Pb-free plus anneal available (RoHS compliant)

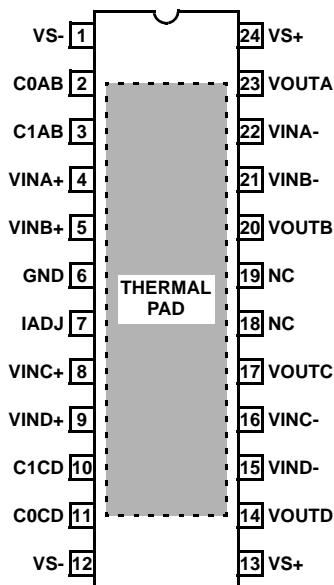
Applications

- VDSL2 20dBm
- ADSL2++

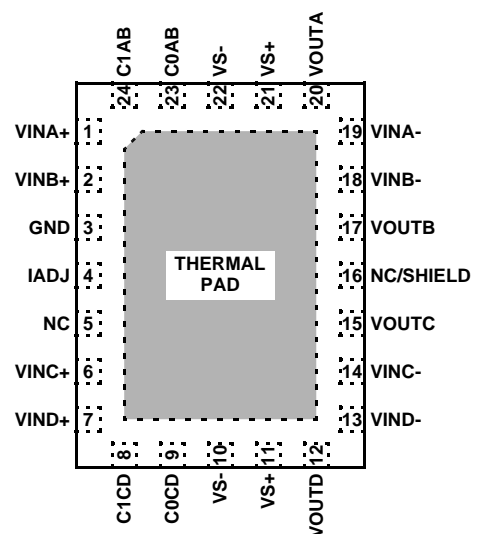
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Pinouts

ISL1539
(24 LD HTSSOP)
TOP VIEW



ISL1539
(24 LD QFN)
TOP VIEW



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