LinearDimensions
SEMICONDUCTOR

LND5432HT

Temperature-Insensitive Comparator with Rail-to-Rail Input/output with Extended Temperature Range

GENERAL DESCRIPTION

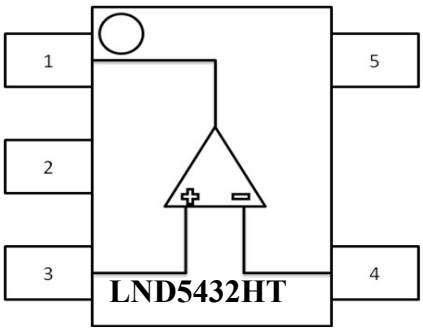
The LND5432HT is a high-gain differential amplifier with rail-to-rail input voltage performance range, designed in 0.5µm SOI technology.

The LND5432HT uses a 3.3V supply, and provides rise and fall times of less than 75ns at the output.

The LND5432HT uses a two sided folded cascode primary differential stage to create a rail-to-rail input range. The intermediate stage has two variations, a differential amplifier or a logic controlled dual-pass-transistor. The final stage shapes the output using buffers/inverters.

At 27^{0}C, over the 0.0V-3.3V common mode input voltage range the input-offset error is less than 1mV and 250µV for the differential amplifier and logic controlled variations respectively. Over the temperature range of 27^{0}C to 200^{0}C the input-offset error is 2.85mV for both variations.

PIN DIAGRAM



FEATURES

- Rail-to-Rail input/output performance range
- 2.85mV Input-Offset Error (Temperature-Insensitive)
- 250µV Attainable Input-Offset Error (27^{0}C)
- Propagation delay of 375 ns
- Internally biased for temperature insensitive operation
- No phase inversion
- (Two versions of design)

APPLICATIONS

- Null and Zero-Crossing Detector
- Temperature Insensitive High-Gain Op-Amp.
- 10-Bit(or less) resolution ADC-Comparator for 27^{0}C to 200^{0}C
- 13-Bit(or less) resolution ADC-Comparator at 27^{0}C

PIN DESCRIPTION

Pin Number	Description
1	Output Voltage (V_{BUFF})
2	Ground Voltage (V_{SS})
3	Non-Inverting Input (V_{NONINV})
4	Inverting Input (V_{INV})
5	Supply Voltage (V_{DD})