

Op Amp Single High Speed Amplifier R-R I/O $\pm 8.25V/16.5V$ 8-Pin SOIC Tube



Images are for reference only

[Inquiry](#)

Manufacturer: [Texas Instruments, Inc](#)

Package/Case: SOIC-8

Product Type: Amplifier ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

General Description

Fabricated using the BiCom-II process, the THS4281 is a low-power, rail-to-rail input and output, voltage-feedback operational amplifier designed to operate over a wide power-supply range of 2.7-V to 15-V single supply, and ± 1.35 -V to ± 7.5 -V dual supply. Consuming only 750 μ A with a unity gain bandwidth of 90 MHz and a high 35-V/ μ s slew rate, the THS4281 allows portable or other power-sensitive applications to realize high performance with minimal power. To ensure long battery life in portable applications, the quiescent current is trimmed to be less than 900 μ A at +25°C, and 1 mA from -40°C to +85°C.

The THS4281 is a true single-supply amplifier with a specified common-mode input range of 400 mV beyond the rails. This allows for high-side current sensing applications without phase reversal concerns. Its output swings to within 40 mV from the rails with 10-k Ω loads, and 150 mV from the rails with 1-k Ω loads.

The THS4281 has a good 0.1% settling time of 78 ns, and 0.01% settling time of 150 ns. The low THD of -87 dBc at 100 kHz, coupled with a maximum offset voltage of less than 2.5 mV, makes the THS4281 a good match for high-resolution ADCs sampling less than 2 MSPS.

The THS4281 is offered in a space-saving SOT23-5 package, a small MSOP-8 package, and the industry standard SOIC-8 package.

Key Features

Very Low Quiescent Current: 750 μ A (at 5 V)

Rail-to-Rail Input and Output:
Common-Mode Input Voltage Extends 400 mV Beyond the Rails

Output Swings Within 150 mV From the Rails

Wide -3 -dB Bandwidth at 5 V:
90 MHz at Gain = +1, 40 MHz at Gain = +2

High Slew Rate: 35 V/ μ s

Fast Settling Time (2-V Step):
78 ns to 0.1%

150 ns to 0.01%

Low Distortion at Gain = +2, $V_O = 2 \cdot V_{PP}$, 5 V:
 -91 dBc at 100 kHz, -67 dBc at 1 MHz

Input Offset Voltage: 2.5 mV (Max at +25°C)

Output Current > 30 mA (10- Ω Load, 5 V)

Low Voltage Noise of 12.5 nV/ $\sqrt{\text{Hz}}$

Supply Voltages: +2.7 V, 3 V, +5 V, ± 5 V, +15 V

Packages: SOT23, MSOP, and SOIC

APPLICATIONS

Portable/Battery-Powered Applications

High Channel Count Systems

ADC Buffer

Active Filters

Current Sensing

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Recommended For You

THS3092D

Texas Instruments, Inc
SOP-8

THS7316DR

Texas Instruments, Inc
SOP-8

THS4131IDGNR

Texas Instruments, Inc
MSOP8

THS4011CD

Texas Instruments, Inc
SOP

THS7374IPW

Texas Instruments, Inc
TSSOP14

THS6184RHFR

Texas Instruments, Inc
QFN

THS4503IDGN

Texas Instruments, Inc
MSOP8

THS7376IPWR

Texas Instruments, Inc
TSSOP14

THS7314D

Texas Instruments, Inc
SOP8

THS4130IDGK

Texas Instruments, Inc
MSOP8

THS7353PW

Texas Instruments, Inc
TSSOP20

THS4551IRGTR

Texas Instruments, Inc
VQFN16

THS4631D

Texas Instruments, Inc
SOP-8

THS3061DGN

Texas Instruments, Inc
MSOP8

THS3062D

Texas Instruments, Inc
SOIC8