

## 420-MHz HIGH-SPEED CURRENT-FEEDBACK AMPLIFIER

 Check for Samples: [THS3001-DIE](#)

### FEATURES

- **High Speed:**
  - 40-ns Settling Time (0.1%)
- **High Output Drive**
- **Excellent Video Performance**
- **Low Input Offset Voltage**
- **Very Low Distortion**
- **Wide Range of Power Supplies**
- **Evaluation Module Available**

### APPLICATIONS

- **Communication**
- **Imaging**
- **High-Quality Video**

### DESCRIPTION

The THS3001 is a high-speed current-feedback operational amplifier, ideal for communication, imaging, and high-quality video applications. This device offers a very fast slew rate, bandwidth, and settling time for large-signal applications requiring excellent transient response. In addition, the THS3001 operates with a very low distortion, making it well suited for applications such as wireless communication basestations or ultrafast ADC or DAC buffers.

### ORDERING INFORMATION<sup>(1)</sup>

PRODUCT	PACKAGE DESIGNATOR	PACKAGE	ORDERABLE PART NUMBER	PACKAGE QUANTITY
THS3001	TD	Bare Die In Waffle Pack <sup>(2)</sup>	THS3001TDA1	360
			THS3001TDA2	10

(1) For the most current package and ordering information, see the Package Option Addendum at the end of this document, or see the TI web site at [www.ti.com](http://www.ti.com).

(2) Processing is per the Texas Instruments commercial production baseline and is in compliance with the Texas Instruments Quality Control System in effect at the time of manufacture. Electrical screening consists of DC parametric and functional testing at room temperature only. Unless otherwise specified by Texas Instruments AC performance and performance over temperature is not warranted. Visual Inspection is performed in accordance with MIL-STD-883 Test Method 2010 Condition B at 75X minimum.



Please be aware that an important notice concerning availability, standard warranty, and use in critical applications of Texas Instruments semiconductor products and disclaimers thereto appears at the end of this data sheet.

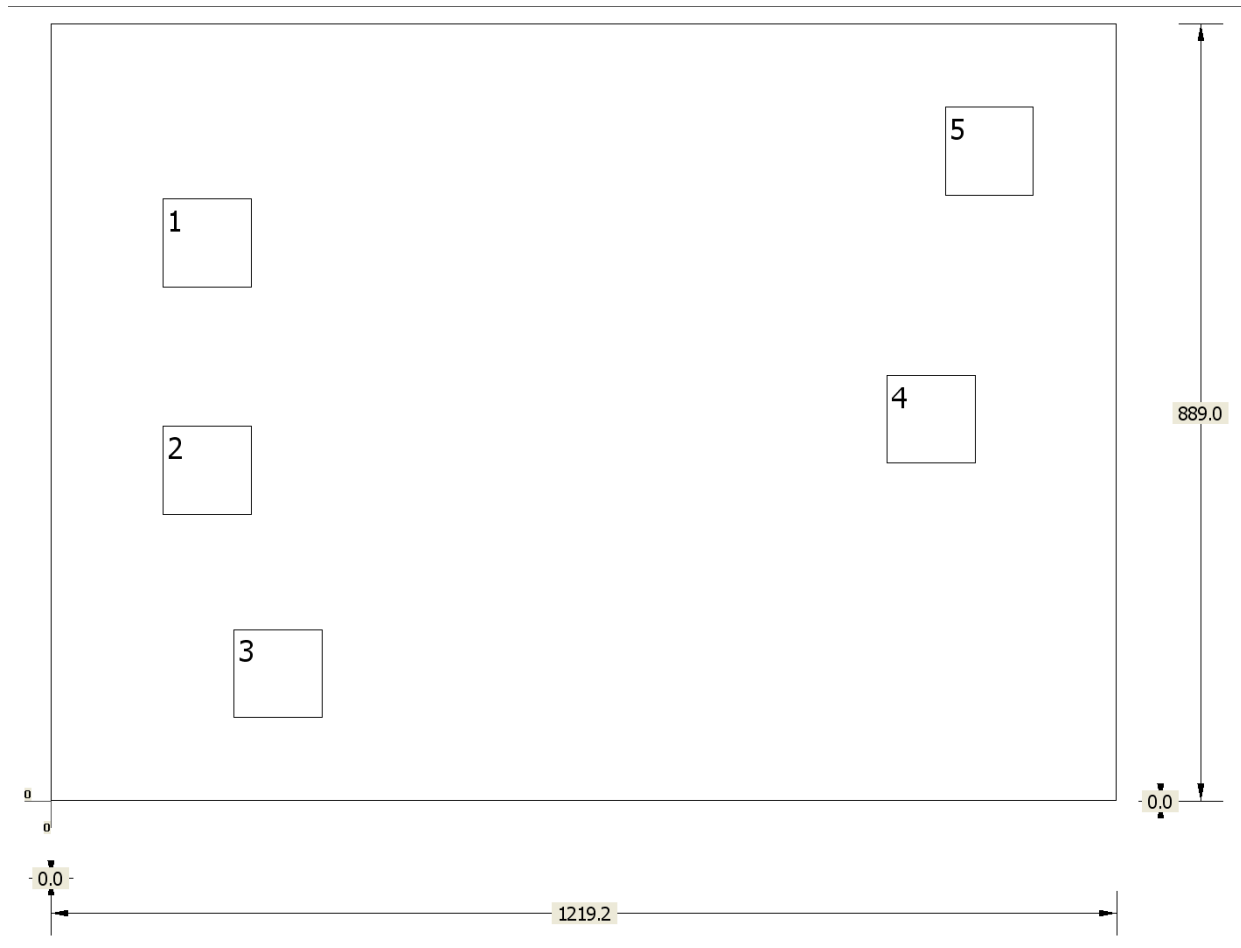


This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.

**BARE DIE INFORMATION**

DIE THICKNESS	BACKSIDE FINISH	BACKSIDE POTENTIAL	BOND PAD METALLIZATION COMPOSITION	BOND PAD THICKNESS
10.5 mils.	Silicon with backgrind	Floating	TiW/AlSi(1%)Cu(0.5%)	1820 nm



**Table 1. Bond Pad Coordinates in Microns**

DESCRIPTION	PAD NUMBER	X MIN	Y MIN	X MAX	Y MAX
IN-	1	128.4	587	230	688.6
IN+	2	128.4	327.4	230	429
VCC-	3	209.25	94.9	310.85	196.5
OUT	4	956.2	385.85	1057.8	487.45
VCC+	5	1022.7	692.5	1124.3	794.1

**PACKAGING INFORMATION**

Orderable Device	Status <sup>(1)</sup>	Package Type	Package Drawing	Pins	Package Qty	Eco Plan <sup>(2)</sup>	Lead/Ball Finish	MSL Peak Temp <sup>(3)</sup>	Samples (Requires Login)
THS3001TDA1	ACTIVE			0	360	TBD	Call TI	N / A for Pkg Type	
THS3001TDA2	ACTIVE			0	10	TBD	Call TI	N / A for Pkg Type	

<sup>(1)</sup> The marketing status values are defined as follows:

**ACTIVE:** Product device recommended for new designs.

**LIFEBUY:** TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

**NRND:** Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

**PREVIEW:** Device has been announced but is not in production. Samples may or may not be available.

**OBSOLETE:** TI has discontinued the production of the device.

<sup>(2)</sup> Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check <http://www.ti.com/productcontent> for the latest availability information and additional product content details.

**TBD:** The Pb-Free/Green conversion plan has not been defined.

**Pb-Free (RoHS):** TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

**Pb-Free (RoHS Exempt):** This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.

**Green (RoHS & no Sb/Br):** TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

<sup>(3)</sup> MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

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