HIGH-SPEED, SINGLE-SUPPLY, RAIL-TO-RAIL OPERATIONAL AMPLIFIER
MicroAmplifier™ SERIES

Check for Samples: OPA4350-DIE

FEATURES

- **Rail-to-Rail Input**
- **Rail-to-Rail Output**
- **Wide Bandwidth**
- **High Slew Rate**
- **Low Noise**
- **Low THD+Noise**
- **Unity-Gain Stable**

APPLICATIONS

- **Cell Phone PA Control Loops**
- **Driving A/D Converters**
- **Video Processing**
- **Data Acquisition**
- **Process Control**
- **Audio Processing**
- **Communications**
- **Active Filters**
- **Test Equipment**

DESCRIPTION

The OPA4350 rail-to-rail CMOS operational amplifier is optimized for low voltage, single-supply operation. Rail-to-rail input/output, low noise, and high speed operation makes it ideal for driving sampling analog-to-digital (A/D) converters. It is also well suited for cell phone PA control loops and video processing (75-Ω drive capability) as well as audio and general purpose applications.

The OPA4350 operates on a single supply as low as 2.5 V with an input common-mode voltage range that extends 300 mV below ground and 300 mV above the positive supply.

ORDERING INFORMATION(1)

PRODUCT	PACKAGE DESIGNATOR	PACKAGE	ORDERABLE PART NUMBER	PACKAGE QUANTITY
OPA4350	TD	Bare Die In Waffle Pack(2)	OPA4350TDC1	130
			OPA4350TDC2	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.

(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.

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PRODUCTION DATA information is current as of publication date. Products conform to specifications per the terms of the Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.

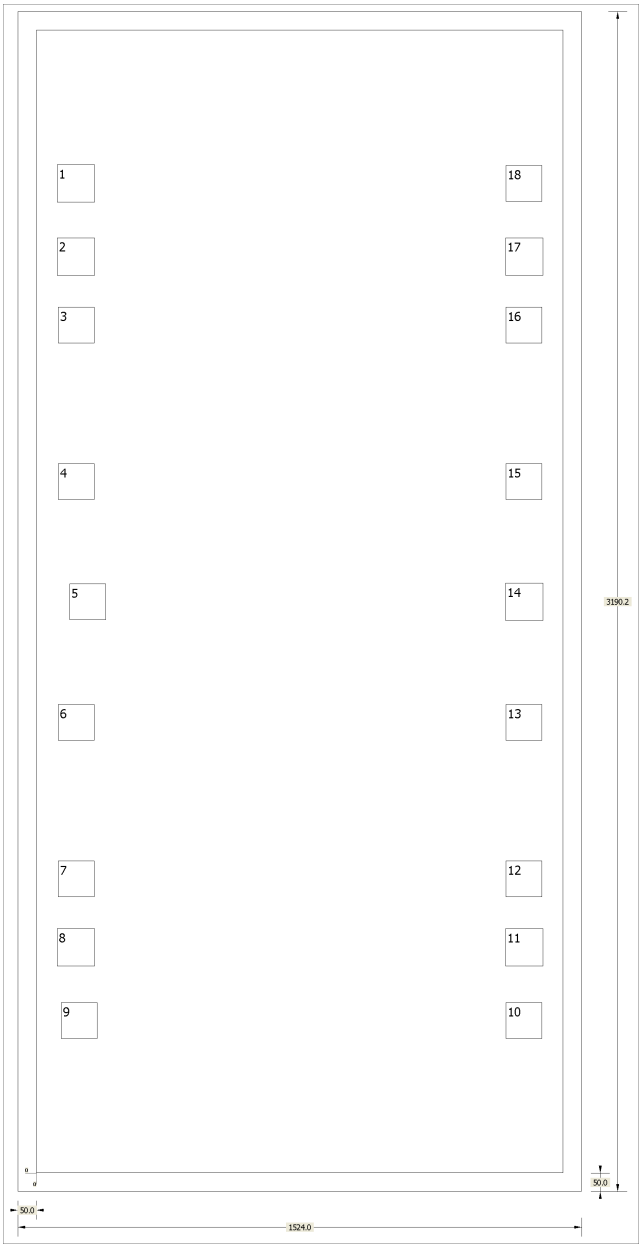
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This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

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	Ti/AlSiCu/TiN	800 nm



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Table 1. Bond Pad Coordinates in Microns(1)

DESCRIPTION	PAD NUMBER	X MIN	Y MIN	X MAX	Y MAX
Out A	1	5	2550.35	107	2652.35
N/C	2	5	2352.5	107	2454.5
-In A	3	7.65	2168.95	105.65	2266.95
+In A	4	7.65	1746.1	105.65	1844.1
V+	5	38.9	1420.7	136.9	1518.7
+In B	6	7.65	1095.3	105.65	1193.3
-In B	7	7.65	672.45	105.65	770.45
N/C	8	5	484.9	107	586.9
Out B	9	15.85	289.45	113.85	387.45
Out C	10	1218.35	289.45	1316.35	387.45
N/C	11	1217	484.9	1319	586.9
-In C	12	1218.35	672.45	1316.35	770.45
+In C	13	1218.35	1095.3	1316.35	1193.3
V-	14	1217	1418.7	1319	1520.7
+In D	15	1218.35	1746.1	1316.35	1844.1
-In D	16	1218.35	2168.95	1316.35	2266.95
N/C	17	1217	2352.5	1319	2454.5
Out D	18	1218.35	2551.95	1316.35	2649.95

(1) Substrate floating

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PACKAGING INFORMATION

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/ Ball Finish	MSL Peak Temp (3)	Samples (Requires Login)
OPA4350TDC1	ACTIVE			0	130	TBD	Call TI	N / A for Pkg Type	
OPA4350TDC2	ACTIVE			0	10	TBD	Call TI	N / A for Pkg Type	

(1) 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.

(2) 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.
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(3) MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

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