

# 高精度、低噪声、轨到轨输出、 11-MHZ 接面场效应晶体管 (JFET) 运算放大器

查询样品: [OPA140A-DIE](#)

## 特性

- 非常低的偏移漂移
- 非常低的偏移
- 低输入偏置电流
- 极低  $1/f$  噪声
- 低噪声
- 转换率
- 低电源电流
- 输入电压范围包括  $V^-$  电源
- 单电源运作: **4.5 V 至 36 V**
- 双电源运作:  **$\pm 2.25$  V 至  $\pm 18$  V**
- 无相位反转

## 应用范围

- 电池供电仪器
- 工业控制
- 医疗仪表
- 光电二极管放大器
- 有源滤波器
- 数据采集系统
- 自动测试系统

## 说明

OPA140A 运算放大器是一款特有合理范围内的漂移和低输入偏置电流的低功耗 JFET 输入放大器。包括 V 在内的轨到轨输出摆幅和输入范围 -- 这使得设计人员能够利用 JFET 放大器的低噪声特性而同时又可接口连接至最新的、单电源、精度模数转换器 (ADCs) 和数模转换器 (DACs)。OPA140A 运行在 4.5 V 至 36 V 的单电源或者  $\pm 2.25$ -V 至  $\pm 18$ -V 的双电源上。

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

PRODUCT	PACKAGE DESIGNATOR	PACKAGE <sup>(2)</sup>	ORDERABLE PART NUMBER	PACKAGE QUANTITY
OPA140A	TD	Bare Die In Waffle Pack	OPA140ATDD1	252
			OPA140ATDD2	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.



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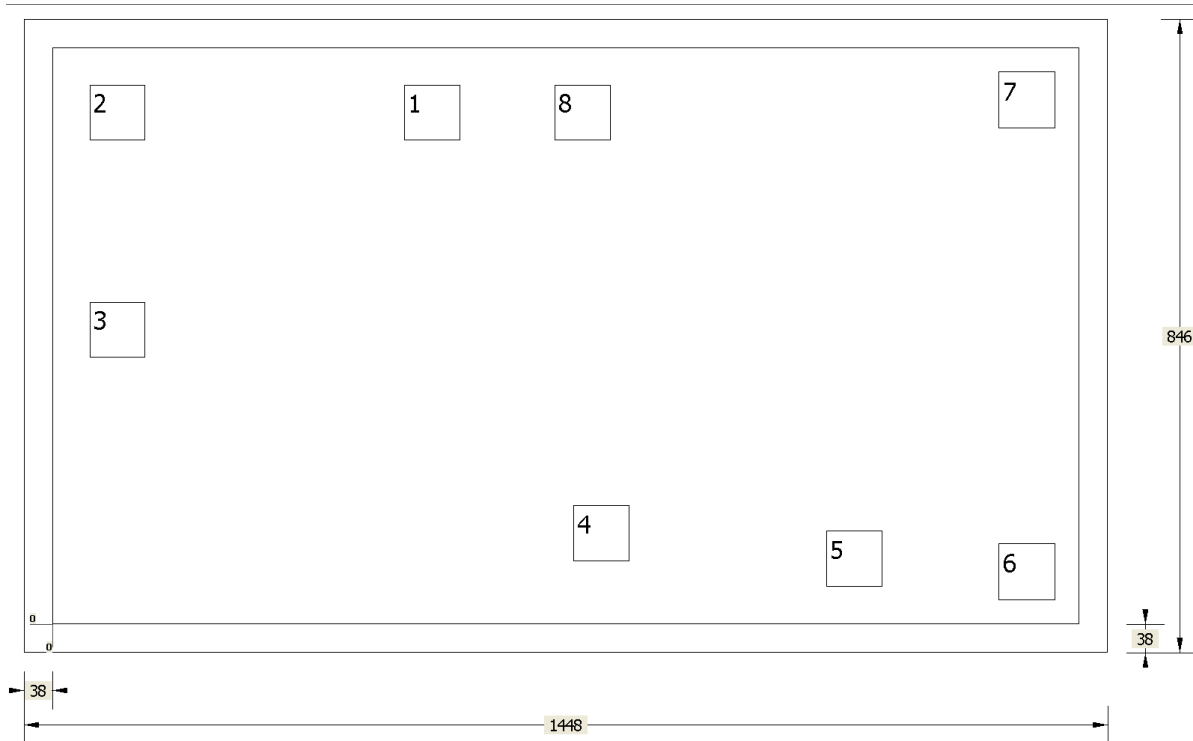


This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

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
15 mils.	Silicon with backgrind	Floating	TiW/AlCu (0.5%)	1100 nm



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

DISRIPTION	PAD NUMBER	X MIN	Y MIN	X MAX	Y MAX
VIN	1	469.600	-720.500	544.600	-645.500
N/C	2				
VIP	3	49.500	-430.500	124.500	-355.500
N/C	4				
V-	5	1034.050	-124.550	1109.050	-49.550
OUT	6	1264.500	-107.500	1339.500	-32.500
V+	7	1264.500	-737.500	1339.500	-662.500

**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)
OPA140ATDD1	ACTIVE			0	252	TBD	Call TI	N / A for Pkg Type	
OPA140ATDD2	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.

**OBSELETE:** 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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逻辑	<a href="http://www.ti.com.cn/logic">www.ti.com.cn/logic</a>	汽车电子	<a href="http://www.ti.com.cn/automotive">www.ti.com.cn/automotive</a>
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