

# 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.



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.

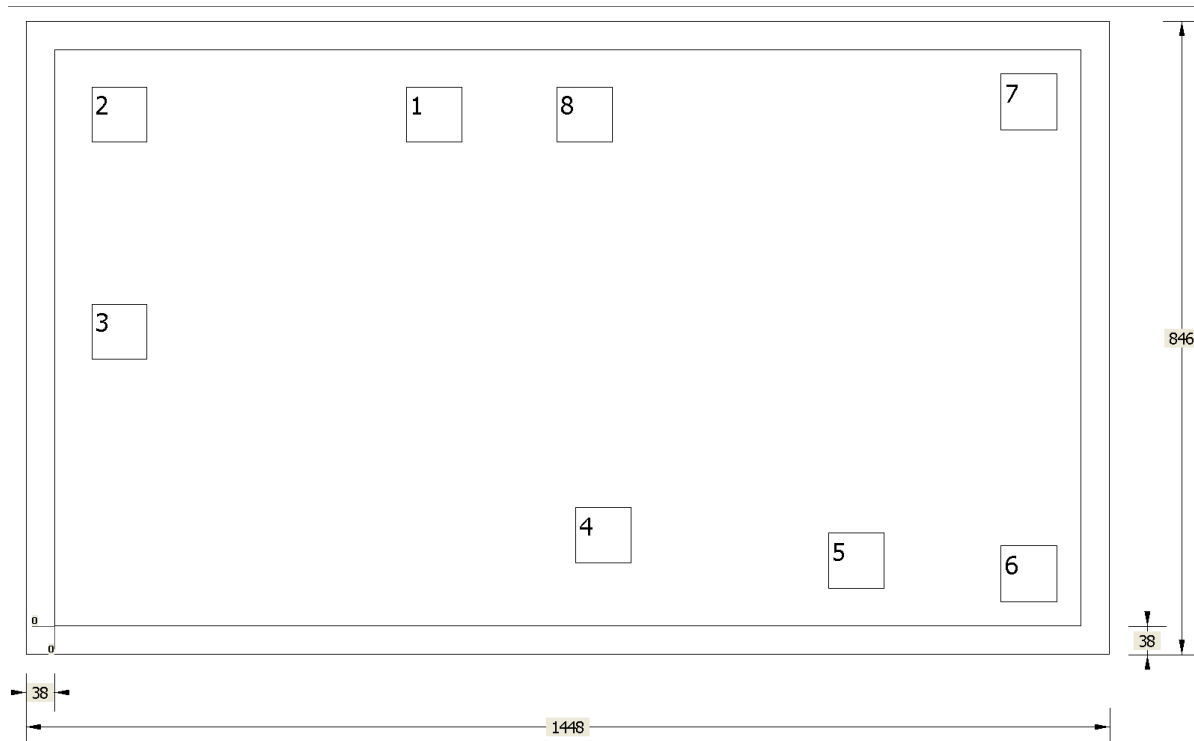


This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

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



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

DISCRIPTION	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 part number	Status (1)	Material type (2)	Package   Pins	Package qty   Carrier	RoHS (3)	Lead finish/ Ball material (4)	MSL rating/ Peak reflow (5)	Op temp (°C)	Part marking (6)
OPA140ATDD1	Active	Production	null (null)   0	252   null	Yes	Call TI	N/A for Pkg Type	-	
OPA140ATDD1.B	Active	Production	null (null)   0	252   null	Yes	Call TI	N/A for Pkg Type	See OPA140ATDD1	
OPA140ATDD2	Active	Production	null (null)   0	10   null	Yes	Call TI	N/A for Pkg Type	-	
OPA140ATDD2.B	Active	Production	null (null)   0	10   null	Yes	Call TI	N/A for Pkg Type	See OPA140ATDD2	

<sup>(1)</sup> **Status:** For more details on status, see our [product life cycle](#).

<sup>(2)</sup> **Material type:** When designated, preproduction parts are prototypes/experimental devices, and are not yet approved or released for full production. Testing and final process, including without limitation quality assurance, reliability performance testing, and/or process qualification, may not yet be complete, and this item is subject to further changes or possible discontinuation. If available for ordering, purchases will be subject to an additional waiver at checkout, and are intended for early internal evaluation purposes only. These items are sold without warranties of any kind.

<sup>(3)</sup> **RoHS values:** Yes, No, RoHS Exempt. See the [TI RoHS Statement](#) for additional information and value definition.

<sup>(4)</sup> **Lead finish/Ball material:** Parts may have multiple material finish options. Finish options are separated by a vertical ruled line. Lead finish/Ball material values may wrap to two lines if the finish value exceeds the maximum column width.

<sup>(5)</sup> **MSL rating/Peak reflow:** The moisture sensitivity level ratings and peak solder (reflow) temperatures. In the event that a part has multiple moisture sensitivity ratings, only the lowest level per JEDEC standards is shown. Refer to the shipping label for the actual reflow temperature that will be used to mount the part to the printed circuit board.

<sup>(6)</sup> **Part marking:** There may be an additional marking, which relates to the logo, the lot trace code information, or the environmental category of the part.

Multiple part markings will be inside parentheses. Only one part marking contained in parentheses and separated by a "~" will appear on a part. If a line is indented then it is a continuation of the previous line and the two combined represent the entire part marking for that device.

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