

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: **± 2.25 V 至 ± 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 ± 2.25 -V 至 ± 18 -V 的双电源上。

ORDERING INFORMATION⁽¹⁾

PRODUCT	PACKAGE DESIGNATOR	PACKAGE ⁽²⁾	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.
- (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

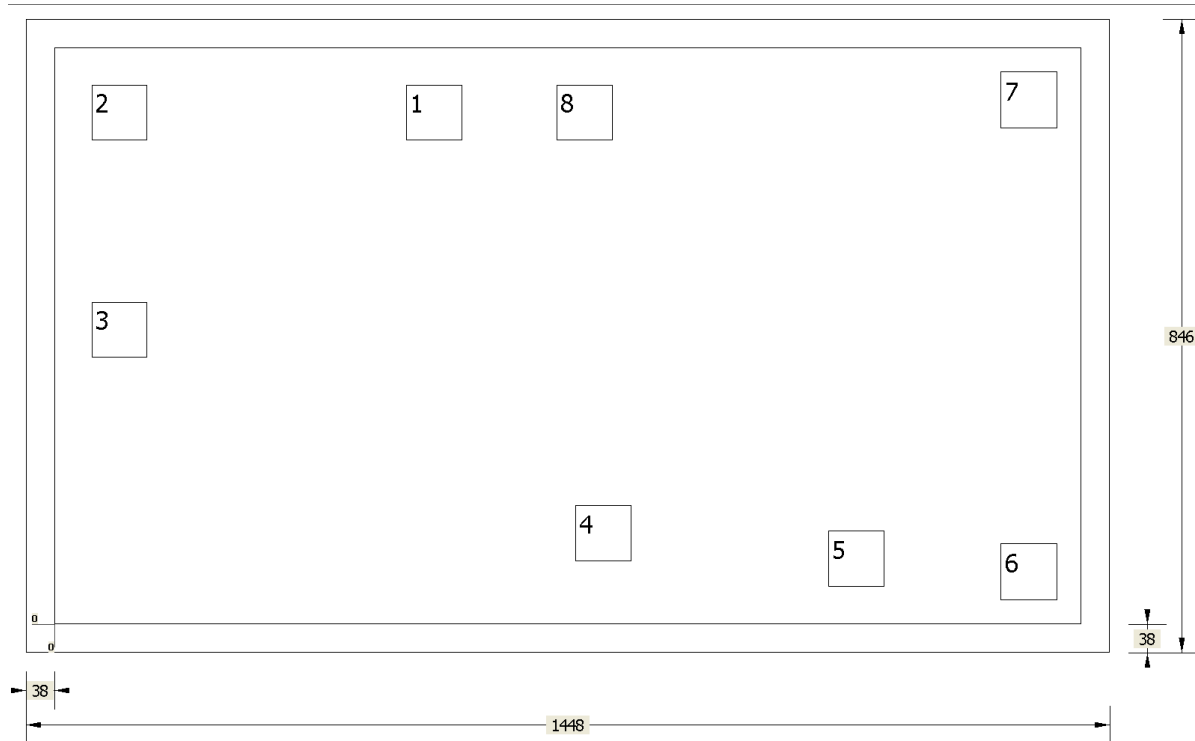


Table 1. Bond Pad Coordinates in Microns

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 (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead finish/ Ball material (6)	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
OPA140ATDD1	ACTIVE			0	252	RoHS & Green	Call TI	N / A for Pkg Type			Samples
OPA140ATDD2	ACTIVE			0	10	RoHS & Green	Call TI	N / A for Pkg Type			Samples

(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) **RoHS:** TI defines "RoHS" to mean semiconductor products that are compliant with the current EU RoHS requirements for all 10 RoHS substances, including the requirement that RoHS substance do not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, "RoHS" products are suitable for use in specified lead-free processes. TI may reference these types of products as "Pb-Free".

RoHS Exempt: TI defines "RoHS Exempt" to mean products that contain lead but are compliant with EU RoHS pursuant to a specific EU RoHS exemption.

Green: TI defines "Green" to mean the content of Chlorine (Cl) and Bromine (Br) based flame retardants meet JS709B low halogen requirements of <=1000ppm threshold. Antimony trioxide based flame retardants must also meet the <=1000ppm threshold requirement.

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

(4) There may be additional marking, which relates to the logo, the lot trace code information, or the environmental category on the device.

(5) Multiple Device Markings will be inside parentheses. Only one Device Marking contained in parentheses and separated by a "~" will appear on a device. If a line is indented then it is a continuation of the previous line and the two combined represent the entire Device Marking for that device.

(6) Lead finish/Ball material - Orderable Devices 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.

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