

OPA846-DIE 宽带、低噪声、电压反馈运算放大器

1 特性

- 高带宽
- 低输入电压噪声
- 极低失真
- 高转换率
- 高直流精度
- 低电源电流
- 高增益带宽积

2 应用

- 高动态范围 ADC 前置放大器
- 低噪声、宽带、互阻抗放大器
- 宽带、高增益放大器
- 低噪声差动接收器
- VDSL 线路接收器
- 超声通道放大器
- 安全传感器前端

3 说明

OPA846-DIE 兼具极高增益带宽和大信号性能以及极低输入电压噪声，且耗散较低的电源电流。经典的差分输入级以及两个正向增益级和一个高功率输出级相结合，使得 OPA846-DIE 成为具有出色直流精度和输出驱动能力的优质低失真放大器。借助电压反馈架构，所有标准运算放大器应用应用都能实现非常高的性能。

低输入电压和电流噪声以及增益带宽相结合，使得 OPA846 成为适合宽带互阻抗级的理想放大器。

可使用一项全新的外部补偿技术来为 OPA846-DIE 提供一个低于最小稳定增益的十分平坦的频率响应，从而进一步改进其已经十分出色的失真性能。

订购信息⁽¹⁾

产品	封装标识符	封装	可订购部件号	封装数量
OPA846	TD	裸片采用叠片封装 ⁽²⁾	OPA846TDB1	300
			OPA846TDB2	10

(1) 要获得最新的封装和订购信息，请参阅本文档末尾的封装选项附录，或者浏览 TI 网站 www.ti.com。

(2) 加工过程遵循德州仪器 (TI) 商业生产基本规范，制造过程符合德州仪器 (TI) 质量控制系统的实际要求。电气筛选仅包括室温下的直流参数和功能测试。除非德州仪器 (TI) 另有说明，否则不对交流性能和过热性能进行保证。在最少 75 倍的放大倍数下，按照 MIL-STD-883 测试方法 2010 条件 B 执行目视检查。

4 修订历史记录

Changes from Original (December 2013) to Revision A	Page
• Added designator to diagram in <i>Bare Die Information</i> section.....	2
• Added note after diagram in <i>Bare Die Information</i> section regarding added designator	2
• Changed description for pad number 5 and 6 in the <i>Bond Pad Coordinates in Microns</i> table	2



OPA846-DIE

ZHCSBV4A – DECEMBER 2013 – REVISED MARCH 2017

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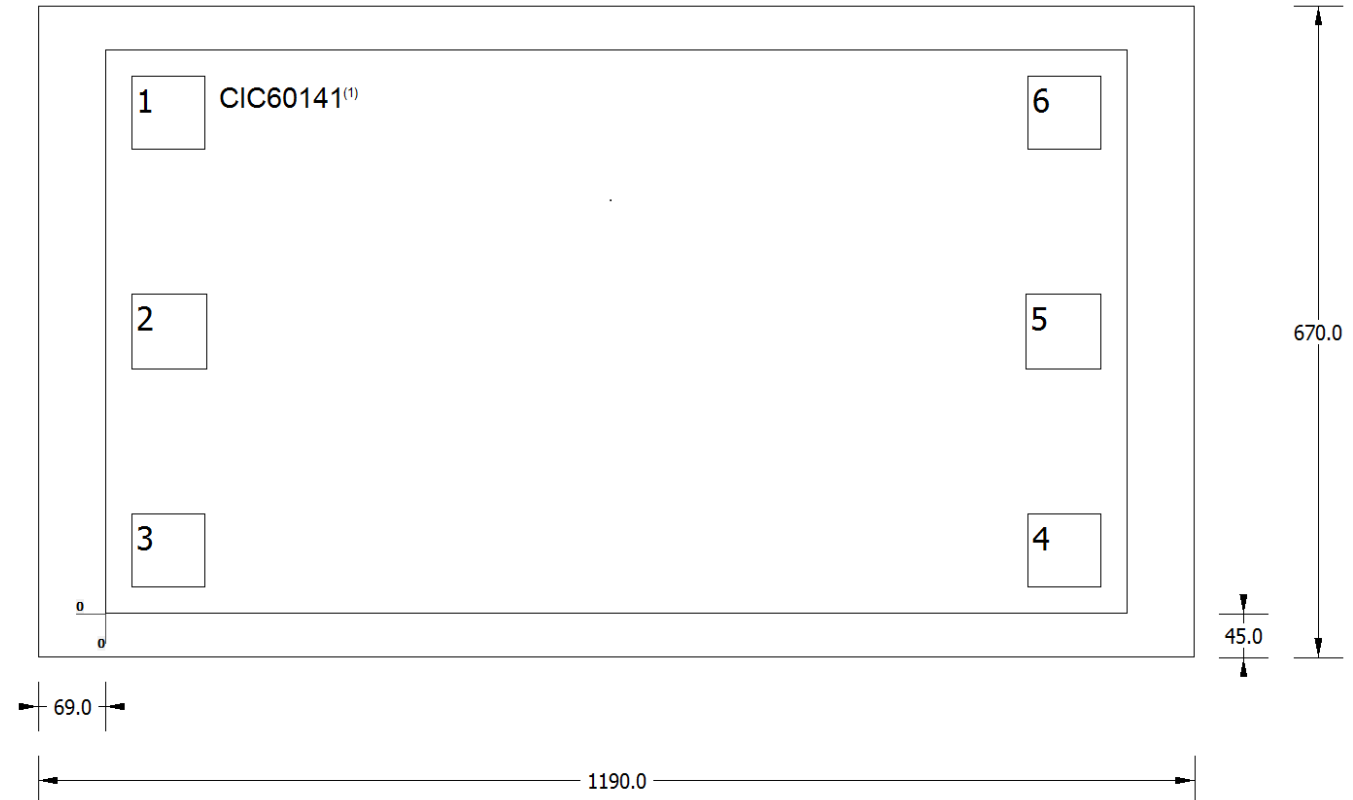


This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

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.

5 Bare Die Information

DIE THICKNESS	BACKSIDE FINISH	BACKSIDE POTENTIAL	BOND PAD METALLIZATION COMPOSITION	BOND PAD THICKNESS
10.5 mils.	Silicon with backgrind	Floating	Ti/Alcu (0.5%)/TiW	1010 nm



(1) Designator "CIC60140" may appear on die.

Table 1. Bond Pad Coordinates in Microns

DESCRIPTION	PAD NUMBER	X MIN	Y MIN	X MAX	Y MAX
N/C	1	27	477	103	553
Inverting Input	2	27	251	105	329
Noninverting Input	3	27	27	103	103
Output	4	949	27	1025	103
–Vs	5	947	251	1025	329
+Vs	6	949	477	1025	553

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
OPA846TDB1	LIFEBUY			0	300	RoHS & Green	Call TI	N / A for Pkg Type	25 to 25		
OPA846TDB2	LIFEBUY			0	10	RoHS & Green	Call TI	N / A for Pkg Type	25 to 25		

⁽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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邮寄地址：Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
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