

## LT1013-DIE 高精度双路运算放大器

### 1 特性

- 单电源供电
  - 输入电压范围扩展至接地
  - 灌电流时输出摆幅至接地
- 低电源电流
- 低峰峰值电压噪声
- 低电流噪声

### 2 应用

- 电池供电的精密仪表
- 仪表放大器
- 热电偶放大器
- 多重极限阈值检测
- 有源滤波器
- 多个增益块

### 3 说明

LT1013-DIE 是一款高精度双路运算放大器，具有高增益、低电源电流、低噪声和低偏移电压温度系数等特性。

#### 器件信息<sup>(1)</sup>

产品	封装标识符	封装	可订购部件号	封装数量
LT1013	TD	裸片采用叠片封装 <sup>(2)</sup>	LT1013TDJ1	100
			LT1013TDJ2	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](http://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) 另有规定，否则交流性能和过温性能无法得到保证。按照 MIL-STD-883 测试方法 2010 条件 B 执行目视检查，至少检查 75 次。



# LT1013-DIE

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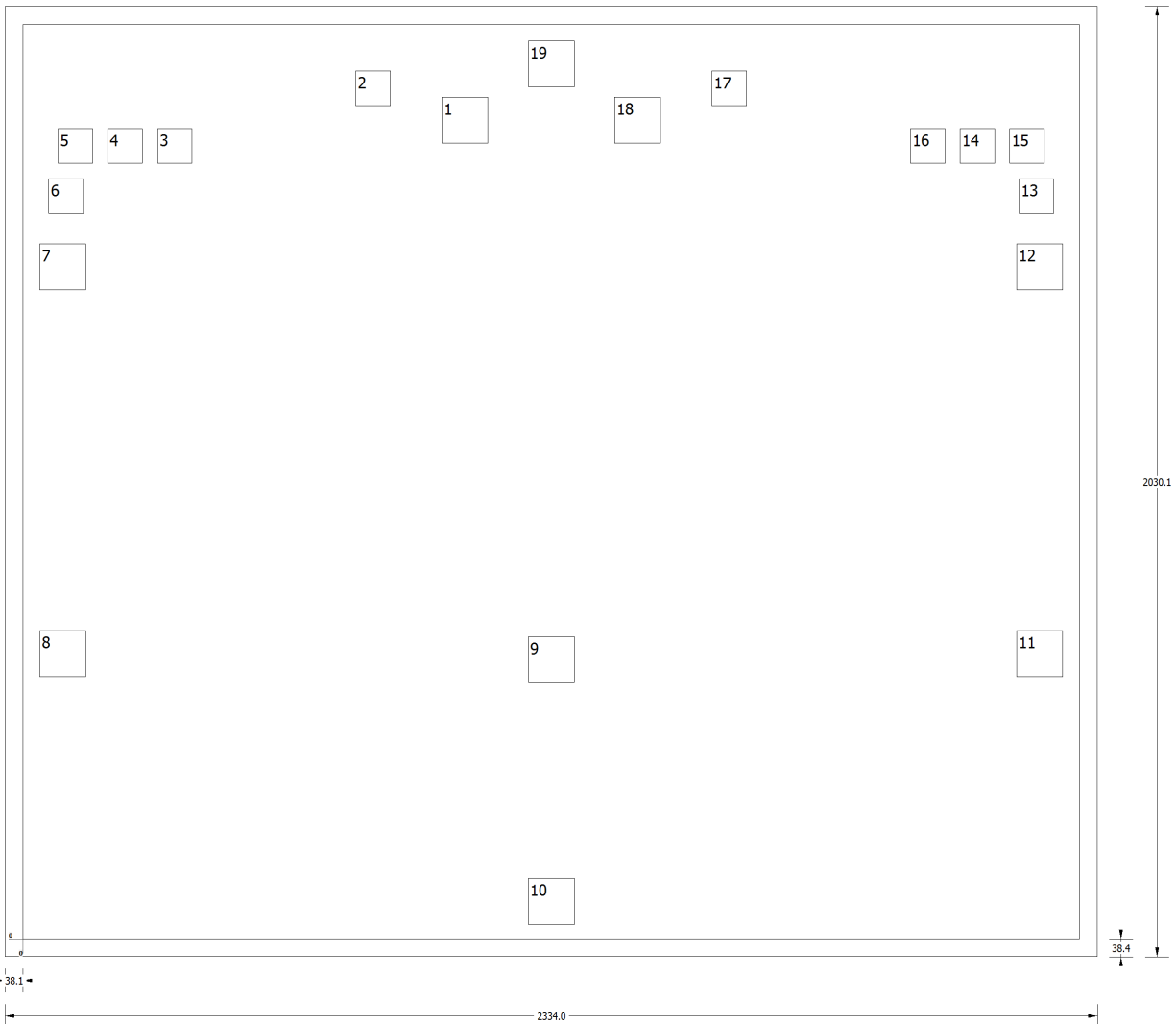


This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

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.

## 4 Bare Die Information

DIE THICKNESS	BACKSIDE FINISH	BACKSIDE POTENTIAL	BOND PAD METALLIZATION COMPOSITION	BOND PAD THICKNESS
15 mils	Silicon with backgrind	Floating	TiW/AlCu2%	1627 nm



**Bond Pad Coordinates in Microns**

DESCRIPTION	PAD NUMBER	X MIN	Y MIN	X MAX	Y MAX
1OUT	1	895.35	1699.26	994.41	1798.32
N/C	2	711.2	1779.27	786.13	1854.2
N/C	3	287.528	1655.826	362.458	1730.756
N/C	4	181.356	1655.826	256.286	1730.756
N/C	5	75.184	1655.826	150.114	1730.756
N/C	6	55.118	1548.892	130.048	1623.822
1IN-	7	35.56	1385.57	134.62	1484.63
1IN+	8	35.56	560.07	134.62	659.13
N/C	9	1079.5	547.37	1178.56	646.43
V <sub>CC-</sub>	10	1079.5	30.48	1178.56	129.54
2IN+	11	2123.44	560.07	2222.5	659.13
2IN-	12	2123.44	1385.57	2222.5	1484.63
N/C	13	2128.012	1548.892	2202.942	1623.822
N/C	14	2001.774	1655.826	2076.704	1730.756
N/C	15	2107.946	1655.826	2182.876	1730.756
N/C	16	1895.602	1655.826	1970.532	1730.756
N/C	17	1471.93	1779.27	1546.86	1854.2
2OUT	18	1263.65	1699.26	1362.71	1798.32
V <sub>CC+</sub>	19	1079.5	1818.64	1178.56	1917.7

**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
LT1013TDJ1	ACTIVE			8	100	RoHS & Green	Call TI	N / A for Pkg Type	25 to 25		Samples
LT1013TDJ2	ACTIVE			0	10	RoHS & Green	Call TI	N / A for Pkg Type	25 to 25		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.

**OBSELETE:** 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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