

## 耐辐射航空级芯片，精准可编程基准

查询样品: [TL1431-DIE](#)

### 特性

- 符合 **QMLV** 标准的 **100k Rad RHA**,  
标准军事绘图系统 (**SMD**) **5962R99620**
- 初始电压容差
- **0.2Ω** 典型输出阻抗
- 快速接通。。。 **500ns**
- 吸收电流能力
- 低基准电流 (**REF**)
- 可调节输出电压

### 说明

TL1431-DIE 是一款精准可编程基准。这个器件有一个 0.2Ω 的典型输出阻抗值。激活输出电路提供一个非常明显的接通特性，这使得此器件成为诸如板载调节、可调电源、和开关电源应用中齐纳 (Zener) 二极管和其它类型基准的出色替代产品。

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

PRODUCT	PACKAGE DESIGNATOR	PACKAGE	ORDERABLE PART NUMBER	PACKAGE QUANTITY
TL1431V	TD	Bare die in waffle pack <sup>(2)</sup>	TL1431VTDB1	100
			TL1431VTDB2	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 space 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.

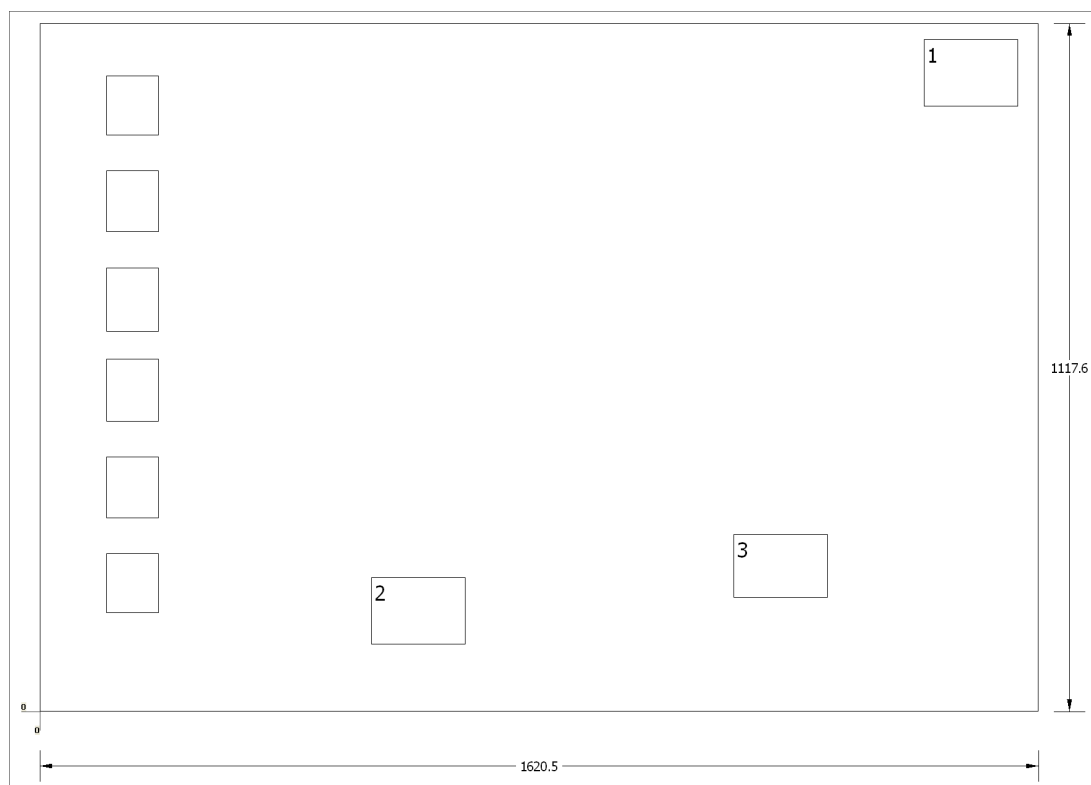


This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

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
10.5 mils.	Silicon with backgrind	Floating	TiW/AlCu2%	1626.9 nm



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

DESCRIPTION	PAD NUMBER	X MIN	Y MIN	X MAX	Y MAX
CATHODE	1	1435.1	982.98	1587.5	1092.2
ANODE	2	538.48	109.22	690.88	218.44
REF	3	1126.49	185.42	1278.89	288.29

## 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)
TL1431VTDB1	Active	Production	null (null)   0	100   NOT REQUIRED	Yes	Call TI	N/A for Pkg Type	25 to 25	
TL1431VTDB1.A	Active	Production	null (null)   0	100   NOT REQUIRED	Yes	Call TI	N/A for Pkg Type	25 to 25	
TL1431VTDB2	Active	Production	null (null)   0	10   NOT REQUIRED	Yes	Call TI	N/A for Pkg Type	25 to 25	
TL1431VTDB2.A	Active	Production	null (null)   0	10   NOT REQUIRED	Yes	Call TI	N/A for Pkg Type	25 to 25	

<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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**OTHER QUALIFIED VERSIONS OF TL1431-DIE :**

- Automotive : [TL1431-Q1](#)
- Enhanced Product : [TL1431-EP](#)
- Space : [TL1431-SP](#)

NOTE: Qualified Version Definitions:

- Automotive - Q100 devices qualified for high-reliability automotive applications targeting zero defects
- Enhanced Product - Supports Defense, Aerospace and Medical Applications
- Space - Radiation tolerant, ceramic packaging and qualified for use in Space-based application

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