

DLP301S 适用于 TI DLP® 3D 打印机的 0.3 英寸 360 万像素 DMD

1 特性

- 0.3 英寸 (7.93mm) 对角线微镜阵列
 - 1280 × 720 铝制微米级微镜阵列，采用正交布局
 - 5.4 微米微镜间距
 - ±17° 微镜倾斜度（相对于平坦表面）
 - 采用侧面照明，实现出色的效率和光学引擎尺寸
 - 偏振无关型铝微镜表面
- 8 位 SubLVDS 输入数据总线
- 专用 DLPC1438 3D 打印控制器和 DLPA200x/DLPA300x PMIC/LED 驱动器，确保可靠运行

2 应用

- TI DLP® 3D 打印机
 - 增材制造
 - 光聚合
 - 掩模立体光刻 (mSLA 3D 打印机)
- 牙科 DLP 3D 打印机
- 曝光：可编程空间和时间曝光

3 说明

DLP301S 数字微镜器件 (DMD) 是一款数控微光机电系统 (MOEMS) 空间照明调制器 (SLM)。当与适当的光学系统成对使用时，DMD 可显示非常清晰的高质量图像。该 DMD 是由 DLP301S DMD、DLPC1438 3D 打印控制器和 DLPA200x/DLPA300x PMIC/LED 驱动器所组成的芯片组的一部分。此 DMD 外形小巧，与控制器和 PMIC/LED 驱动器共同组成完整的系统解决方案，从而实现适用于快速、高分辨率的可靠 DLP 3D 打印机的高输出光学引擎。

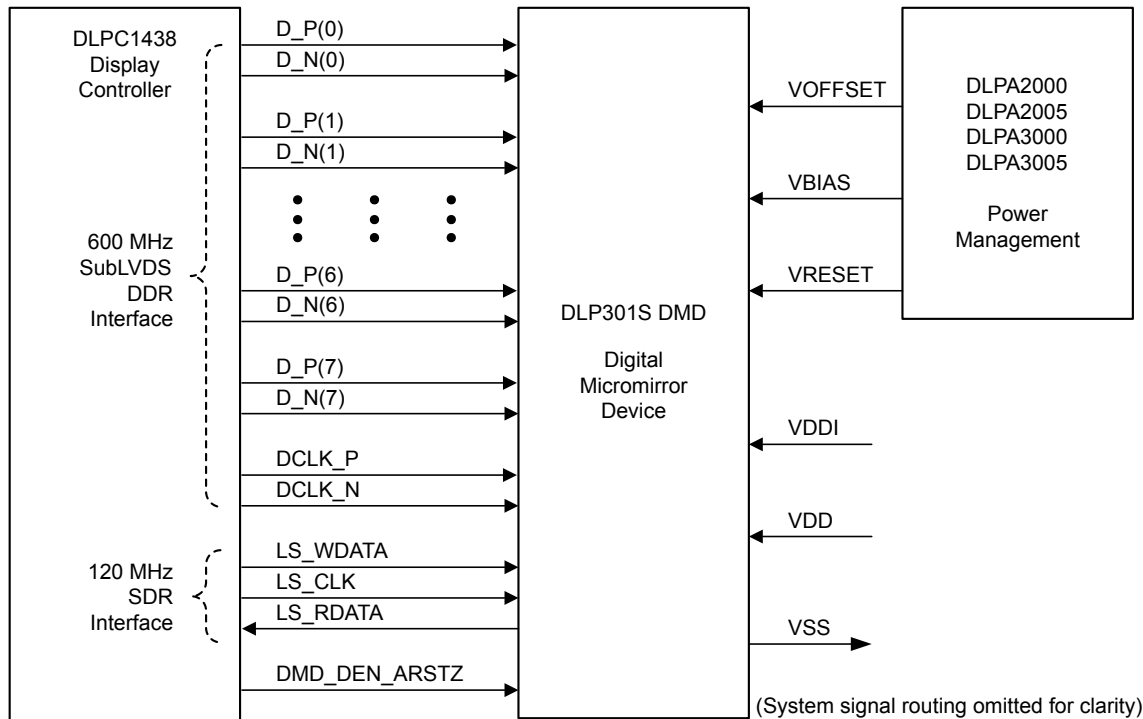
[TI DLP® 光控制技术入门页](#)，了解如何开始使用 DLP300S。

[ti.com](#) 上的 DLP 先进光控制资源可加快上市速度，这些资源包括[参考设计](#)、[光学模块制造商](#)和 [DLP 设计网络合作伙伴](#)。

器件信息(1)

器件型号	封装	封装尺寸 (标称值)
DLP301S	FQS (99)	19.25mm×7.20mm

(1) 如需了解所有可用封装，请参阅数据表末尾的可订购产品附录。



简化版应用



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4 Revision History

注：以前版本的页码可能与当前版本的页码不同

DATE	REVISION	NOTES
July 2021	*	Initial release.

5 Device and Documentation Support

5.1 Device Support

5.1.1 Device Nomenclature

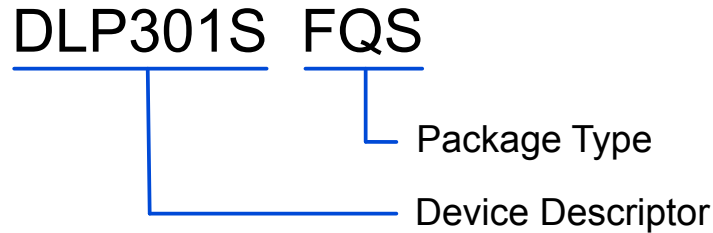


图 5-1. Part Number Description

5.1.2 Device Markings

The device marking includes the legible character string GHJJJK DLP301SFQS. GHJJJK is the lot trace code. DLP301SFQS is the orderable device number.

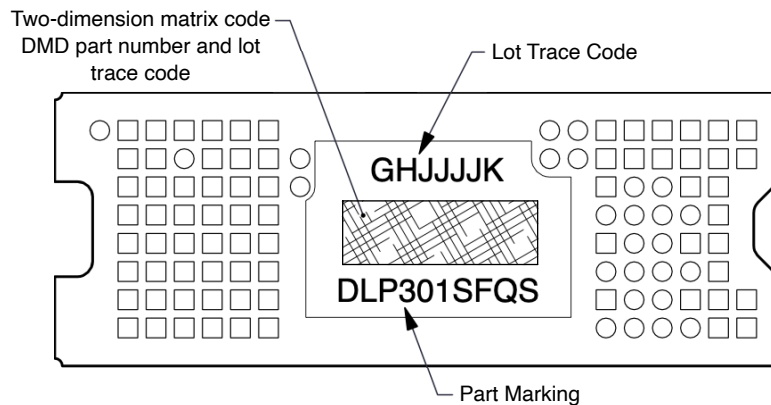


图 5-2. DMD Marking

5.2 接收文档更新通知

要接收文档更新通知，请导航至 ti.com 上的器件产品文件夹。点击 [订阅更新](#) 进行注册，即可每周接收产品信息更改摘要。有关更改的详细信息，请查看任何已修订文档中包含的修订历史记录。

5.3 Related Links

表 5-1 lists quick access links. Categories include technical documents, support and community resources, tools and software, and quick access to sample or buy.

表 5-1. Related Links

PARTS	PRODUCT FOLDER	SAMPLE & BUY	TECHNICAL DOCUMENTS	TOOLS & SOFTWARE	SUPPORT & COMMUNITY
DLP301S	Click here	Click here	Click here	Click here	Click here
DLPC1438	Click here	Click here	Click here	Click here	Click here
DLPA2000	Click here	Click here	Click here	Click here	Click here
DLPA2005	Click here	Click here	Click here	Click here	Click here
DLPA3000	Click here	Click here	Click here	Click here	Click here
DLPA3005	Click here	Click here	Click here	Click here	Click here

5.4 支持资源

TI E2E™ 支持论坛是工程师的重要参考资料，可直接从专家获得快速、经过验证的解答和设计帮助。搜索现有解答或提出自己的问题可获得所需的快速设计帮助。

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5.5 Trademarks

TI E2E™ is a trademark of Texas Instruments.

DLP® is a registered trademark of Texas Instruments.

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5.6 Electrostatic Discharge Caution



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.

5.7 术语表

TI 术语表

本术语表列出并解释了术语、首字母缩略词和定义。

6 Mechanical, Packaging, and Orderable Information

The following pages include mechanical, packaging, and orderable information. This information is the most current data available for the designated devices. This data is subject to change without notice and revision of this document. For browser-based versions of this data sheet, refer to the left-hand navigation.

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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
DLP301SFQS	ACTIVE	CLGA	FQS	99	120	RoHS & Green	NI/AU	N / A for Pkg Type	0 to 40		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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