带有 15kV 接触放电保护和超低钳位电压的 4 通道双向低电容值静电放电保护 (ESD) 器件

查询样品: TPD4E101

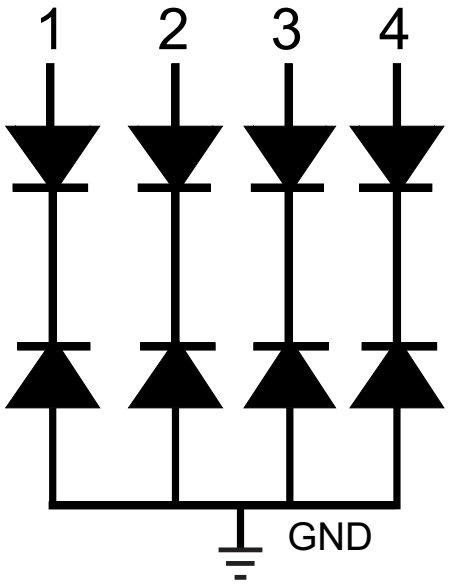
特性

- 为低压输入输出 **(IO)** 接口提供系统级的 **ESD** 保护
- **IEC 61000-4-2** 级别 **4**
  - **±15kV**（空气放电）
  - **±15kV**（接触放电）
- **IO** 电容值 **< 5pF**
- 超低泄漏电流
- 超低钳位电压
- 工业温度范围：**-40°C** 至 **125°C**
- 节省空间的微型四方扁平无引线 **(μQFN)** 封装

应用范围

- 手机
- 电子书
- 便携式媒体播放器
- 数码摄像机
- 平板个人电脑
- 机顶盒

器件电路原理图



说明

TPD4E101 是一款采用超小型封装的四通道 ESD 保护器件。 它是业界最小的 4 通道 ESD 保护器件。 较大的引脚间距帮助节省了印刷电路板 (PCB) 的制造成本。 此器件提供与 IEC61000-4-2 兼容的高达 15kV 接触放电保护。 此器件具有 ESD 钳位电路，此电路的背对背二极管支持单极/双向信号。 低线路电容使得此器件适合于广泛的支持数据速率可高达 700Mbps 的应用。在便携式应用方面的典型应用领域包括：

- 音频线路（麦克风、耳机和扬声器电话）
- SD 接口
- SIM 接口
- 辅助键盘或者其它按钮

To request a full datasheet, please send an email to:

lpd-marketing@list.ti.com

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
TPD4E101DPWR	ACTIVE	X2SON	DPW	4	3000	RoHS & Green	NIPDAU	Level-1-260C-UNLIM	-40 to 125	A1	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.

GENERIC PACKAGE VIEW

DPW 4 X2SON - 0.4 mm max height

PLASTIC SMALL OUTLINE - NO LEAD

Images above are just a representation of the package family, actual package may vary.
Refer to the product data sheet for package details.

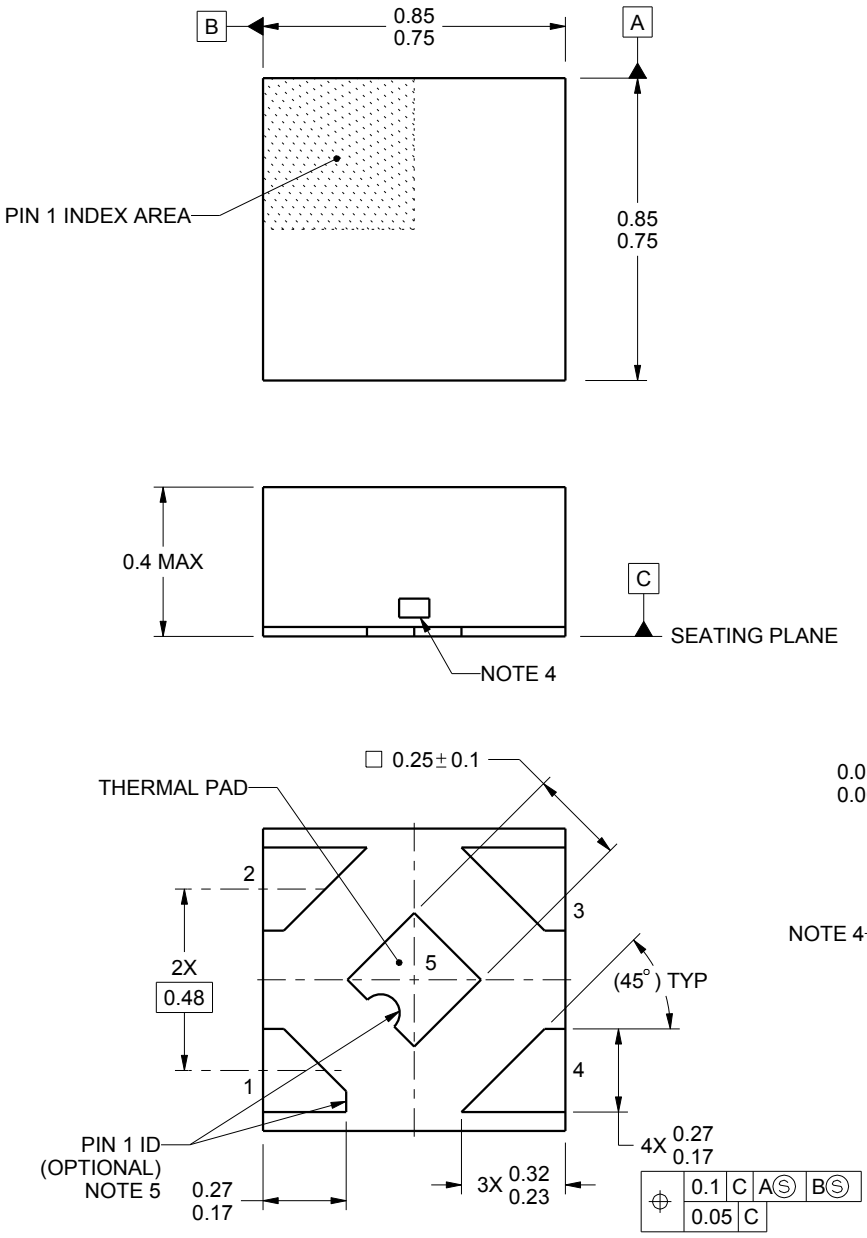
4211218-2/D

PACKAGE OUTLINE

DPW0004A

X2SON - 0.4 mm max height

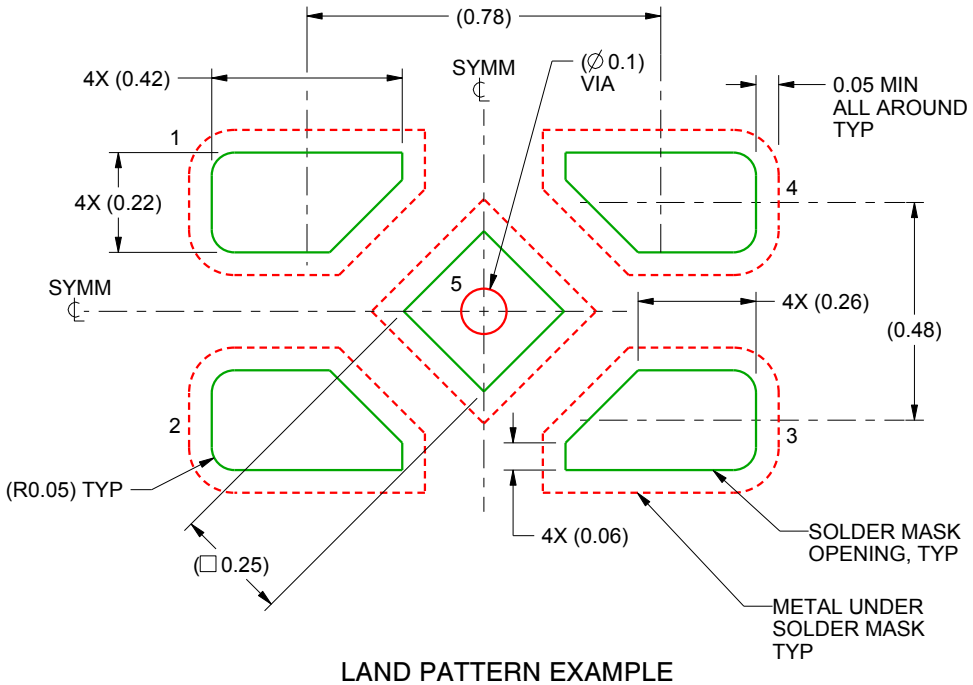
PLASTIC SMALL OUTLINE - NO LEAD



4218860/A 12/2015

NOTES:

1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. The package thermal pad must be soldered to the printed circuit board for thermal and mechanical performance.
4. The size and shape of this feature may vary.
5. Features may not exist. Recommend use of pin 1 marking on top of package for orientation purposes.

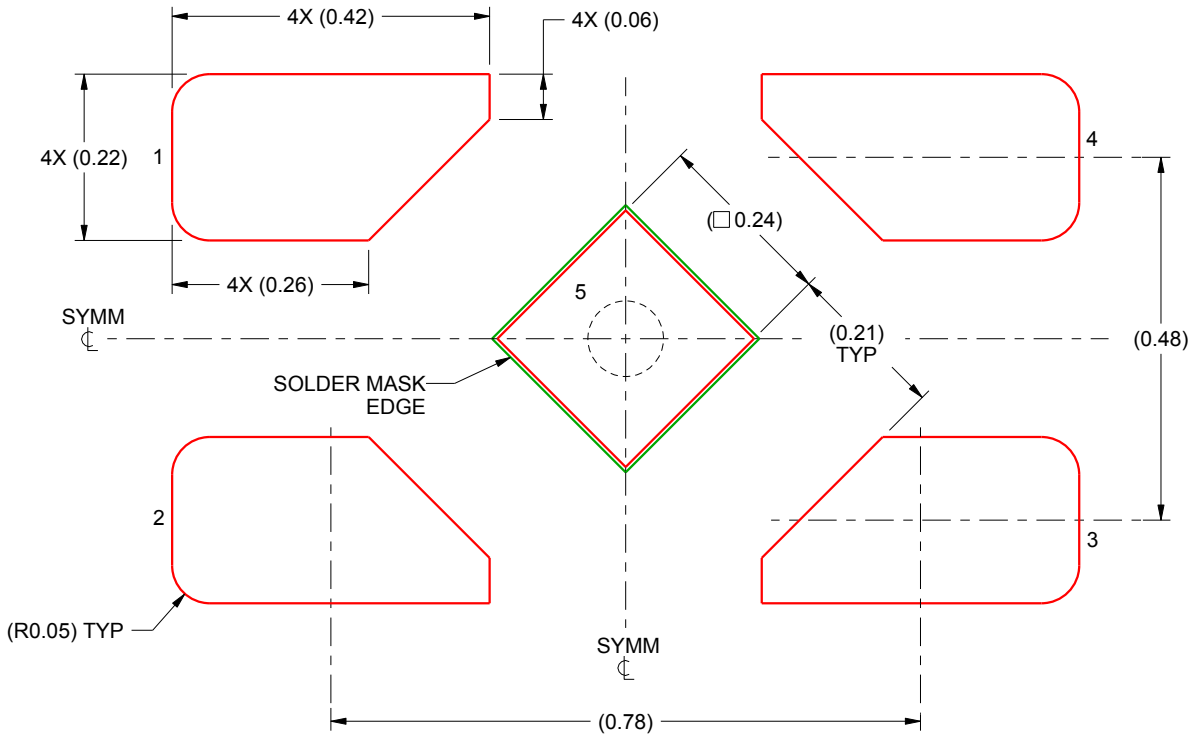


LAND PATTERN EXAMPLE
SOLDER MASK DEFINED
SCALE:60X

4218860/A 12/2015

NOTES: (continued)

6. This package is designed to be soldered to a thermal pad on the board. For more information, see Texas Instruments literature number SLUA271 (www.ti.com/lit/slua271).
7. Vias are optional depending on application, refer to device data sheet. If some or all are implemented, recommended via locations are shown.



SOLDER PASTE EXAMPLE
BASED ON 0.1 mm THICK STENCIL

EXPOSED PAD 5:
92% PRINTED SOLDER COVERAGE BY AREA
SCALE:100X

4218860/A 12/2015

NOTES: (continued)

8. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.

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