

SN74LV126A 具有三态输出的四通道总线缓冲门

1 特性

- 2V 至 5.5V V_{CC} 运行
- 5V 时, t_{pd} 最大值为 6.5ns
- V_{OLP} (输出接地反弹) 典型值 $<0.8V$ ($V_{CC} = 3.3V$ 、 $T_A = 25^\circ C$)
- $V_{CC} = 3.3V$ 、 $T_A = 25^\circ C$ 时, V_{OHV} (输出 V_{OH} 下冲) 典型值 $>2.3V$
- I_{off} 支持带电插入、局部关断模式和后驱动保护
- 所有端口上均支持混合模式电压运行
- 闩锁性能超过 250mA, 符合 JESD 17 规范

2 应用

- 服务器
- 网络交换机
- 电子销售终端
- 电视
- 机顶盒

3 说明

这款 SN74LV126A 四路总线缓冲门可在 2V 至 5.5V V_{CC} 下运行。

这款四路总线缓冲门可在 2V 至 5.5V V_{CC} 下运行。

SN74LV126A 器件采用具有三态输出的独立线路驱动器。当每个输出的相关输出使能 (OE) 输入为低电平时, 输出被禁用。

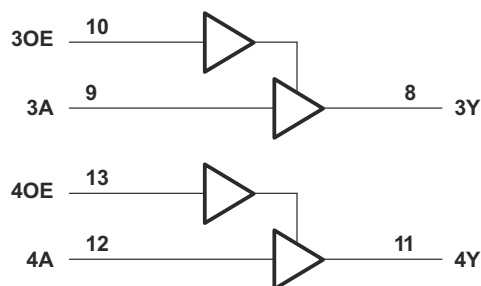
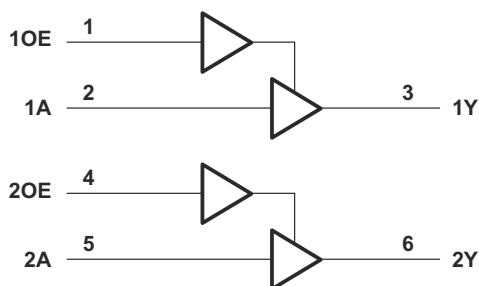
为了确保加电或断电期间的高阻抗状态, OE 应该通过一个下拉电阻器接在接地 (GND) 上; 此电阻器的最小值由驱动器电流供源能力决定。

封装信息

| 器件型号 | 封装 ⁽¹⁾ | 封装尺寸 ⁽²⁾ |
|------------|-------------------|---------------------|
| SN74LV126A | D (SOIC, 14) | 8.65mm × 6mm |
| | NS (SOP, 14) | 10.2mm × 7.8mm |
| | DB (SSOP, 14) | 6.2mm × 7.8mm |
| | PW (TSSOP, 14) | 5mm × 6.4mm |

(1) 有关更多信息, 请参阅节 11。

(2) 封装尺寸 (长 × 宽) 为标称值, 并包括引脚 (如适用)。



逻辑图 (正逻辑)



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4 Pin Configuration and Functions

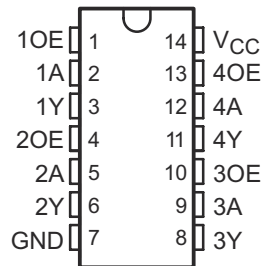


图 4-1. SN74LV126A: D, DB, DGV, NS, or PW Package, 14-Pin SOIC, SSOP, TVSOP, SOP, or TSSOP (Top View)

表 4-1. Pin Functions

| PIN | | TYPE ⁽¹⁾ | DESCRIPTION |
|------|-----|---------------------|--------------------------|
| NAME | NO. | | |
| 1OE | 1 | I | Channel 1, Output Enable |
| 1A | 2 | I | Channel 1, Input A |
| 1Y | 3 | O | Channel 1, Output Y |
| 2OE | 4 | I | Channel 2, Output Enable |
| 2A | 5 | I | Channel 2, Input A |
| 2Y | 6 | O | Channel 2, Output Y |
| GND | 7 | — | Ground |
| 3Y | 8 | O | Channel 3, Output Y |
| 3A | 9 | I | Channel 3, Input A |
| 3OE | 10 | I | Channel 3, Output Enable |
| 4Y | 11 | O | Channel 4, Output Y |
| 4A | 12 | I | Channel 4, Input A |
| 4OE | 13 | I | Channel 4, Output Enable |

表 4-1. Pin Functions (续)

| PIN | | TYPE ⁽¹⁾ | DESCRIPTION |
|-----------------|-----|---------------------|-----------------|
| NAME | NO. | | |
| V _{CC} | 14 | — | Positive Supply |

(1) I = input, O = output, P = power, G = ground

5 Specifications

5.1 Absolute Maximum Ratings

over operating free-air temperature range (unless otherwise noted) ⁽¹⁾

| | | MIN | MAX | UNIT |
|------------------|---|-------|------------------------|------|
| V _{CC} | Supply voltage | - 0.5 | 7 | V |
| V _I | Input voltage ⁽²⁾ | - 0.5 | 7 | V |
| V _O | Voltage applied to any output in the high-impedance or power-off state ⁽²⁾ | - 0.5 | 7 | V |
| V _O | Output voltage ⁽²⁾ ⁽³⁾ | - 0.5 | V _{CC} + 0.5V | V |
| I _{IK} | Input clamp current, V _I < 0 | | - 20 | mA |
| I _{OK} | Output clamp current, V _O < 0 | | - 50 | mA |
| I _O | Continuous output current, V _O = 0 to V _{CC} | | ±35 | mA |
| | Continuous current through V _{CC} or GND | | ±70 | mA |
| T _{stg} | Storage temperature | - 65 | 150 | °C |

- (1) Stresses beyond those listed under *Absolute Maximum Ratings* may cause permanent damage to the device. These are stress ratings only, which do not imply functional operation of the device at these or any other conditions beyond those indicated under *Recommended Operating Conditions*. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.
- (2) The input and output negative-voltage ratings may be exceeded if the input and output current ratings are observed.
- (3) This value is limited to 5.5V maximum.

5.2 ESD Ratings

| | | | VALUE | UNIT |
|--------------------|-------------------------|--|-------|------|
| V _(ESD) | Electrostatic discharge | Human-body model (HBM), per ANSI/ESDA/JEDEC JS-001 ⁽¹⁾ | ±2000 | V |
| | | Charged-device model (CDM), per JEDEC specification JESD22-C101 ⁽²⁾ | ±1000 | |

- (1) JEDEC document JEP155 states that 500-V HBM allows safe manufacturing with a standard ESD control process.
- (2) JEDEC document JEP157 states that 250-V CDM allows safe manufacturing with a standard ESD control process.

5.3 Recommended Operating Conditions

see ⁽¹⁾

| | | | MIN | MAX | UNIT |
|-----------------|---------------------------|-------------------------------|-----------------------|-----------------|------|
| V _{CC} | Supply voltage | | 2 | 5.5 | V |
| V _{IH} | High-level input voltage | V _{CC} = 2V | 1.5 | | V |
| | | V _{CC} = 2.3 to 2.7V | V _{CC} × 0.7 | | |
| | | V _{CC} = 3 to 3.6V | V _{CC} × 0.7 | | |
| | | V _{CC} = 4.5 to 5.5V | V _{CC} × 0.7 | | |
| V _{IL} | Low-level input voltage | V _{CC} = 2V | 0.5 | | V |
| | | V _{CC} = 2.3 to 2.7V | V _{CC} × 0.3 | | |
| | | V _{CC} = 3 to 3.6V | V _{CC} × 0.3 | | |
| | | V _{CC} = 4.5 to 5.5V | V _{CC} × 0.3 | | |
| V _I | Input voltage | | 0 | 5.5 | V |
| V _O | Output voltage | High or low state | 0 | V _{CC} | V |
| | | 3-state | 0 | 5.5 | |
| I _{OH} | High-level output current | V _{CC} = 2V | - 50 | | mA |
| | | V _{CC} = 2.3 to 2.7V | - 2 | | |
| | | V _{CC} = 3 to 3.6V | - 8 | | |
| | | V _{CC} = 4.5 to 5.5V | - 16 | | |

5.3 Recommended Operating Conditions (续)

see (1)

| | | MIN | MAX | UNIT |
|-----------------|------------------------------------|-------------------------------|-----|------|
| I _{OL} | Low-level output current | V _{CC} = 2V | 50 | μA |
| | | V _{CC} = 2.3 to 2.7V | 2 | mA |
| | | V _{CC} = 3 to 3.6V | 8 | |
| | | V _{CC} = 4.5 to 5.5V | 16 | |
| Δt/Δv | Input transition rise or fall rate | V _{CC} = 2.3 to 2.7V | 200 | ns/V |
| | | V _{CC} = 3 to 3.6V | 100 | |
| | | V _{CC} = 4.5 to 5.5V | 20 | |
| T _A | Operating free-air temperature | - 40 | 125 | °C |

(1) All unused inputs of the device must be held at V_{CC} or GND for proper device operation. Refer to the TI application report, *Implications of Slow or Floating CMOS Inputs*, [SCBA004](#).

5.4 Thermal Information

| THERMAL METRIC ⁽¹⁾ | D | DB | DGV | NS | PW | UNIT | |
|-------------------------------|---|------|-------|-------|------|-------|------|
| | 14 PINS | | | | | | |
| R _{θJA} | Junction-to-ambient thermal resistance ⁽²⁾ | 92.7 | 105.0 | 127.6 | 89.6 | 119.8 | °C/W |
| R _{θJC(top)} | Junction-to-case (top) thermal resistance | 54.1 | 57.5 | 50.7 | 47.2 | 48.6 | |
| R _{θJB} | Junction-to-board thermal resistance | 47.0 | 52.3 | 60.5 | 48.4 | 61.5 | |
| ψ _{JT} | Junction-to-top characterization parameter | 18.9 | 19.1 | 6.1 | 14.0 | 5.7 | |
| ψ _{JB} | Junction-to-board characterization parameter | 46.7 | 51.8 | 59.8 | 48.1 | 61.0 | |

(1) For more information about traditional and new thermal metrics, see the *IC Package Thermal Metrics* application report, [SPRA953](#).

(2) The package thermal impedance is calculated in accordance with JESD 51-7.

5.5 Electrical Characteristics

over recommended operating free-air temperature range (unless otherwise noted)

| PARAMETER | TEST CONDITIONS | V _{CC} | MIN | TYP | MAX | UNIT |
|------------------|---|-----------------|-----------------------|-----|------|------|
| V _{OH} | I _{OH} = - 50μA | 2 to 5.5V | V _{CC} - 0.1 | | | V |
| | I _{OH} = - 2mA | 2.3V | 2 | | | |
| | I _{OH} = - 8mA | 3V | 2.48 | | | |
| | I _{OH} = - 16mA | 4.5V | 3.8 | | | |
| V _{OL} | I _{OL} = 50μA | 2 to 5.5V | | | 0.1 | V |
| | I _{OL} = 2mA | 2.3V | | | 0.4 | |
| | I _{OL} = 8mA | 3V | | | 0.44 | |
| | I _{OL} = 16mA | 4.5V | | | 0.55 | |
| I _I | V _I = 5.5V or GND | 0 to 5.5V | | | ±1 | μA |
| I _{OZ} | V _O = V _{CC} or GND | 5.5V | | | ±5 | μA |
| I _{CC} | V _I = V _{CC} or GND, I _O = 0 | 5.5V | | | 20 | μA |
| I _{off} | V _I or V _O = 0 to 5.5V | 0V | | | ±5 | μA |
| C _i | V _I = V _{CC} or GND | 3.3V | | 1.6 | | pF |

5.6 Switching Characteristics, $V_{CC} = 2.5V \pm 0.2V$

over recommended operating free-air temperature range (unless otherwise noted) (see 图 6-1)

| PARAMETER | FROM (INPUT) | TO (OUTPUT) | LOAD CAPACITANCE | $T_A = 25^\circ\text{C}$ | | | MIN | MAX | UNIT |
|-------------|--------------|-------------|---------------------|--------------------------|-----|------|-----|------|------|
| | | | | MIN | TYP | MAX | | | |
| t_{pd} | A | Y | $C_L = 15\text{pF}$ | | 7.1 | 13 | 1 | 15.5 | ns |
| t_{en} | OE | | | | 7.4 | 13 | 1 | 15.5 | |
| t_{dis} | OE | | | | 5.7 | 14.7 | 1 | 17 | |
| t_{pd} | A | Y | $C_L = 50\text{pF}$ | | 9.2 | 16.5 | 1 | 18.5 | ns |
| t_{en} | OE | | | | 9.5 | 16.5 | 1 | 18.5 | |
| t_{dis} | OE | | | | 8.1 | 18.2 | 15 | 20.5 | |
| $t_{sk(o)}$ | | | | | | | 2 | 2 | |

5.7 Switching Characteristics, $V_{CC} = 3.3V \pm 0.3V$

over recommended operating free-air temperature range (unless otherwise noted) (see 图 6-1)

| PARAMETER | FROM (INPUT) | TO (OUTPUT) | LOAD CAPACITANCE | $T_A = 25^\circ\text{C}$ | | | MIN | MAX | UNIT |
|-------------|--------------|-------------|---------------------|--------------------------|-----|------|-----|------|------|
| | | | | MIN | TYP | MAX | | | |
| t_{pd} | A | Y | $C_L = 15\text{pF}$ | | 5 | 8 | 1 | 9.5 | ns |
| t_{en} | OE | | | | 5.1 | 8 | 1 | 9.5 | |
| t_{dis} | OE | | | | 4.4 | 9.7 | 1 | 11.5 | |
| t_{pd} | A | Y | $C_L = 50\text{pF}$ | | 6.4 | 11.5 | 1 | 13 | ns |
| t_{en} | OE | | | | 6.6 | 11.5 | 1 | 13 | |
| t_{dis} | OE | | | | 6.1 | 13.2 | 1 | 15 | |
| $t_{sk(o)}$ | | | | | | | 1.5 | 1.5 | |

5.8 Switching Characteristics, $V_{CC} = 5V \pm 0.5V$

over recommended operating free-air temperature range (unless otherwise noted) (see 图 6-1)

| PARAMETER | FROM (INPUT) | TO (OUTPUT) | LOAD CAPACITANCE | $T_A = 25^\circ\text{C}$ | | | MIN | MAX | UNIT |
|-------------|--------------|-------------|---------------------|--------------------------|-----|-----|-----|-----|------|
| | | | | MIN | TYP | MAX | | | |
| t_{pd} | A | Y | $C_L = 15\text{pF}$ | | 3.5 | 5.5 | 1 | 6.5 | ns |
| t_{en} | OE | | | | 3.6 | 5.1 | 1 | 6 | |
| t_{dis} | OE | | | | 3.3 | 6.8 | 1 | 8 | |
| t_{pd} | A | Y | $C_L = 50\text{pF}$ | | 4.6 | 7.5 | 1 | 8.5 | ns |
| t_{en} | OE | | | | 4.6 | 7.1 | 1 | 8 | |
| t_{dis} | OE | | | | 4.3 | 8.8 | 1 | 10 | |
| $t_{sk(o)}$ | | | | | | | 1 | 1 | |

5.9 Noise Characteristics

$V_{CC} = 3.3V$, $C_L = 50pF$, $T_A = 25^\circ C$ (see (1))

| PARAMETER | | MIN | TYP | MAX | UNIT |
|-------------|--|------|------|------|------|
| $V_{OL(P)}$ | Quiet output, maximum dynamic V_{OL} | | 0.3 | 0.8 | V |
| $V_{OL(V)}$ | Quiet output, minimum dynamic V_{OL} | | -0.2 | -0.8 | |
| $V_{OH(V)}$ | Quiet output, minimum dynamic V_{OH} | | 3.1 | | |
| $V_{IH(D)}$ | High-level dynamic input voltage | 2.31 | | | |
| $V_{IL(D)}$ | Low-level dynamic input voltage | | | 0.97 | |

(1) Characteristics are for surface-mount packages only.

5.10 Operating Characteristics

$T_A = 25^\circ C$

| PARAMETER | TEST CONDITIONS | V_{CC} | TYP | UNIT | |
|-----------|-------------------------------|--|------|------|----|
| C_{pd} | Power dissipation capacitance | Outputs enable; $C_L = 50pF$, $f = 10MHz$ | 3.3V | 14.4 | pF |
| | | | 5V | 15.9 | |

5.11 Typical Characteristics

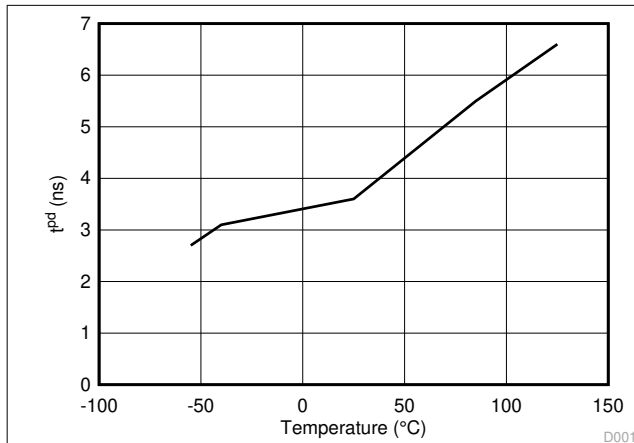


图 5-1. SN74LV126A t_{PD} vs Temperature at 5V

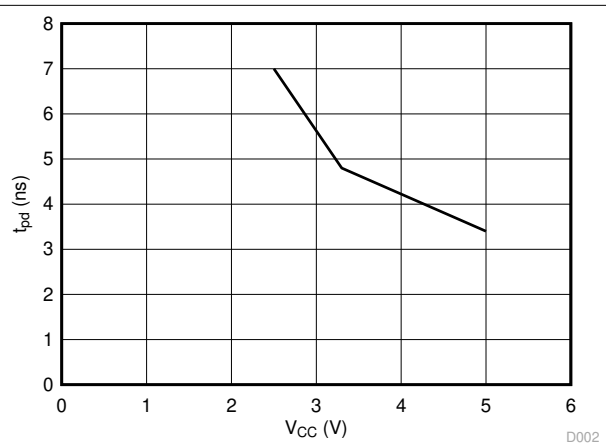
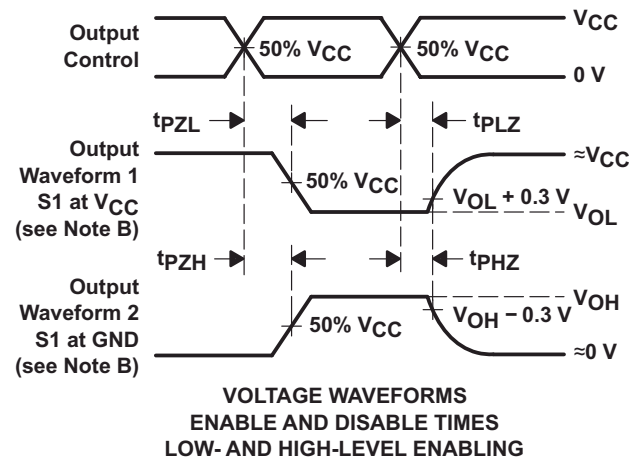
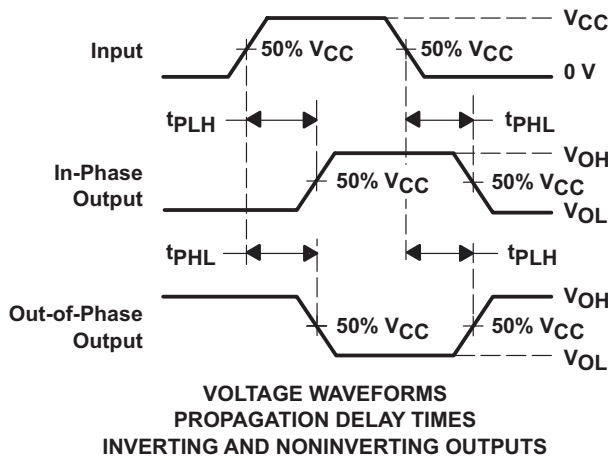
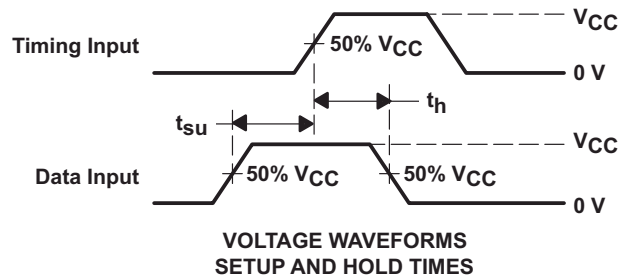
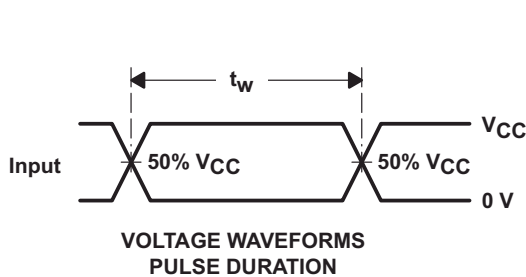
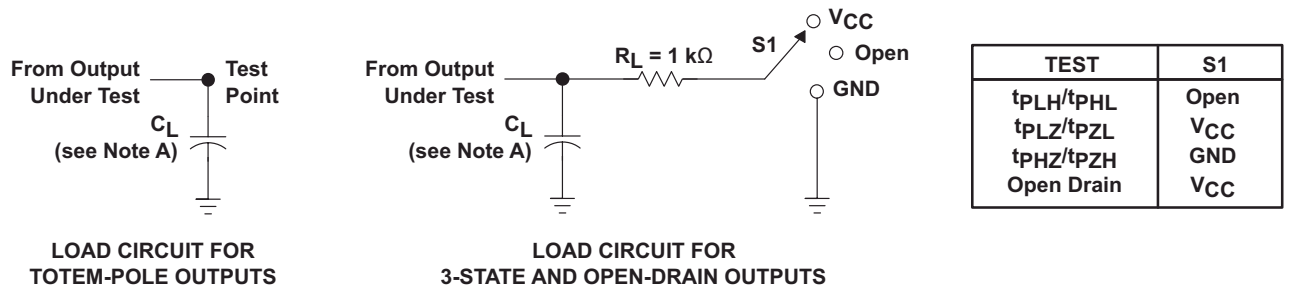


图 5-2. SN74LV126A t_{PD} vs V_{CC} at 25°C

6 Parameter Measurement Information



- A. C_L includes probe and jig capacitance.
- B. Waveform 1 is for an output with internal conditions such that the output is low, except when disabled by the output control. Waveform 2 is for an output with internal conditions such that the output is high, except when disabled by the output control.
- C. All input pulses are supplied by generators having the following characteristics: $PRR \leq 1\text{MHz}$, $Z_O = 50\ \Omega$, $t_r \leq 3\text{ns}$, $t_f \leq 3\text{ns}$.
- D. The outputs are measured one at a time, with one input transition per measurement.
- E. t_{PLZ} and t_{PHZ} are the same as t_{dis} .
- F. t_{PZL} and t_{PZH} are the same as t_{en} .
- G. t_{PHL} and t_{PLH} are the same as t_{pd} .
- H. All parameters and waveforms are not applicable to all devices.

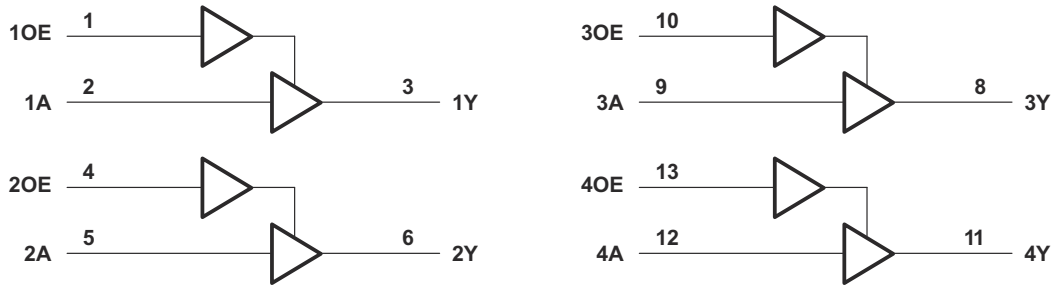
图 6-1. Load Circuit and Voltage Waveforms

7 Detailed Description

7.1 Overview

The SN74LV126A devices are quadruple bus buffer gates featuring independent line drivers with 3-state outputs. Each output is disabled when the associated output-enable (OE) input is low. When OE is high, the respective gate passes the data from the A input to its Y output. To put the device in the high-impedance state during power up or power down, tie OE to GND through a pulldown resistor; the current-sourcing capability of the driver determines the minimum value of the resistor.

7.2 Functional Block Diagram



A. Pin numbers shown are for the D, DB, DGV, J, N, NS, PW, and W packages.

图 7-1. Logic Diagram (Positive Logic)

7.3 Feature Description

- Wide operating voltage range, operates from 2 to 5.5V
- Allows down voltage translation, inputs accept voltages to 5.5V
- Ioff supports live insertion, partial power down mode, and back drive protection

7.4 Device Functional Modes

表 7-1. Function Table
(Each Buffer)

| INPUTS | | OUTPUT Y |
|--------|---|-------------|
| OE | A | |
| H | H | H |
| H | L | L |
| L | X | Z |

8 Application and Implementation

备注

以下应用部分中的信息不属于 TI 器件规格的范围，TI 不担保其准确性和完整性。TI 的客户应负责确定器件是否适用于其应用。客户应验证并测试其设计，以确保系统功能。

8.1 Application Information

The SN74LV126A is a low-drive CMOS device that can be used for a multitude of bus interface type applications where output ringing is a concern. The low drive and slow edge rates minimize overshoot and undershoot on the outputs. The inputs are 5.5V tolerant at any valid V_{CC} making this device an excellent choice for translating down to V_{CC} .

8.2 Typical Application

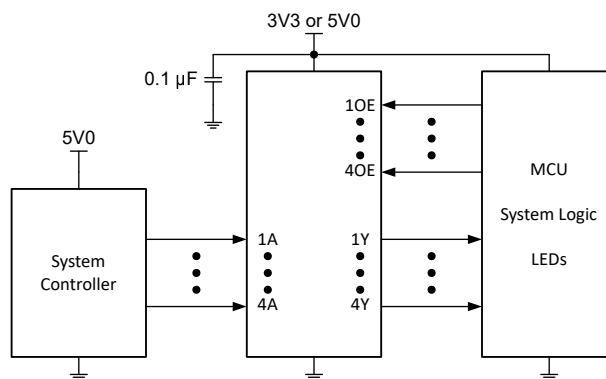


图 8-1. Typical Application Schematic

8.2.1 Design Requirements

This device uses CMOS technology and has balanced output drive. Take care to avoid bus contention because it can drive currents that would exceed maximum limits. The high drive will also create fast edges into light loads so routing and load conditions should be considered to prevent ringing.

8.2.2 Detailed Design Procedure

- Recommended input conditions
 - Rise time and fall time specifications, see $(\Delta t / \Delta V)$ in [Recommended Operating Conditions](#).
 - Specified High and low levels. See $(V_{IH}$ and $V_{IL})$ in [Recommended Operating Conditions](#).
- Recommend output conditions
 - Load currents should not exceed 35mA per output and 70mA total for the part
 - Outputs should not be pulled above V_{CC}

8.2.3 Application Curve

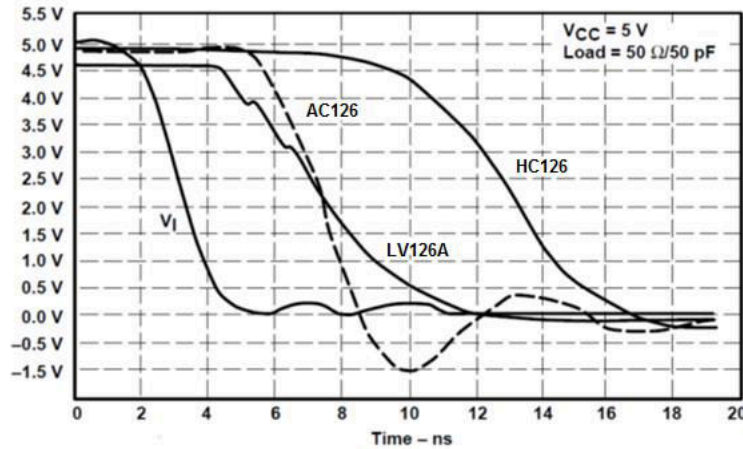


图 8-2. Switching Characteristics Comparison

8.3 Power Supply Recommendations

The power supply can be any voltage between the Min and Max supply voltage rating located in [Recommended Operating Conditions](#). Each V_{CC} terminal should have a good bypass capacitor to prevent power disturbance. For devices with a single supply, $0.1\ \mu\text{F}$ is recommended and if there are multiple V_{CC} terminals then $.01$ or $.022\ \mu\text{F}$ is recommended for each power terminal. It is okay to parallel multiple bypass capacitors to reject different frequencies of noise. A 0.1 and $1\ \mu\text{F}$ are commonly used in parallel. The bypass capacitor should be installed as close to the power terminal as possible for best results.

8.4 Layout

8.4.1 Layout Guidelines

When using multiple bit logic devices inputs should not ever float. In many cases, functions or parts of functions of digital logic devices are unused, for example, when only two inputs of a triple-input AND gate are used or only 3 of the 4 buffer gates are used. Such input pins should not be left unconnected because the undefined voltages at the outside connections result in undefined operational states. Specified below are the rules that must be observed under all circumstances. All unused inputs of digital logic devices must be connected to a high or low bias to prevent them from floating. The logic level that should be applied to any particular unused input depends on the function of the device. Generally they will be tied to GND or V_{CC} whichever makes more sense or is more convenient. It is generally okay to float outputs unless the part is a transceiver. If the transceiver has an output enable pin, then it will disable the outputs section of the part when asserted. This will not disable the input section of the IOs so they also cannot float when disabled.

8.4.2 Layout Example

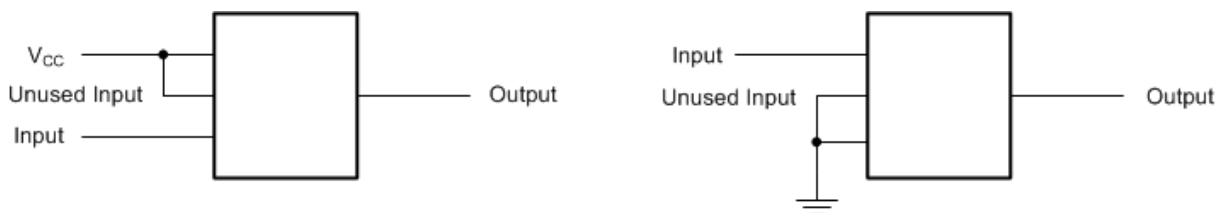


图 8-3. Layout Recommendation

9 Device and Documentation Support

9.1 Documentation Support

9.1.1 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 [通知](#) 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。

9.2 支持资源

[TI E2E™ 中文支持论坛](#) 是工程师的重要参考资料，可直接从专家处获得快速、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，获得所需的快速设计帮助。

链接的内容由各个贡献者“按原样”提供。这些内容并不构成 TI 技术规范，并且不一定反映 TI 的观点；请参阅 TI 的 [使用条款](#)。

9.3 Trademarks

TI E2E™ is a trademark of Texas Instruments.

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9.4 静电放电警告



静电放电 (ESD) 会损坏这个集成电路。德州仪器 (TI) 建议通过适当的预防措施处理所有集成电路。如果不遵守正确的处理和安装程序，可能会损坏集成电路。

ESD 的损坏小至导致微小的性能降级，大至整个器件故障。精密的集成电路可能更容易受到损坏，这是因为非常细微的参数更改都可能会导致器件与其发布的规格不相符。

9.5 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。

10 Revision History

注：以前版本的页码可能与当前版本的页码不同

| Changes from Revision I (February 2015) to Revision J (April 2024) | Page |
|---|------|
| • 删除了数据表中的 <i>SN54LV126A</i> 器件..... | 1 |
| • 更新了整个文档中的表格、图和交叉参考的编号格式..... | 1 |
| • Changed the 125 function table with the correct 126 function table..... | 9 |

| Changes from Revision H (April 2005) to Revision I (February 2015) | Page |
|--|------|
| • 添加了 <i>ESD</i> 等级表、特性说明部分、器件功能模式、应用和实施部分、电源相关建议部分、布局部分、器件和文档支持部分以及机械、封装和可订购信息部分..... | 1 |
| • Updated operating free-air temperature maximum from 85°C to 125°C for SN74LV126A | 4 |

11 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.

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 |
|------------------|---------------|--------------|-----------------|------|-------------|-----------------|--------------------------------------|----------------------|--------------|-------------------------|---------|
| SN74LV126AD | OBSOLETE | SOIC | D | 14 | | TBD | Call TI | Call TI | -40 to 125 | LV126A | |
| SN74LV126ADBR | ACTIVE | SSOP | DB | 14 | 2000 | RoHS & Green | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | LV126A | Samples |
| SN74LV126ADGVR | ACTIVE | TVSOP | DGV | 14 | 2000 | RoHS & Green | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | LV126A | Samples |
| SN74LV126ADR | ACTIVE | SOIC | D | 14 | 2500 | RoHS & Green | NIPDAU SN | Level-1-260C-UNLIM | -40 to 125 | LV126A | Samples |
| SN74LV126ANSR | ACTIVE | SOP | NS | 14 | 2000 | RoHS & Green | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | 74LV126A | Samples |
| SN74LV126APW | OBSOLETE | TSSOP | PW | 14 | | TBD | Call TI | Call TI | -40 to 125 | LV126A | |
| SN74LV126APWR | ACTIVE | TSSOP | PW | 14 | 2000 | RoHS & Green | NIPDAU SN | Level-1-260C-UNLIM | -40 to 125 | LV126A | Samples |
| SN74LV126APWRG4 | ACTIVE | TSSOP | PW | 14 | 2000 | RoHS & Green | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | LV126A | Samples |
| SN74LV126APWT | OBSOLETE | TSSOP | PW | 14 | | TBD | Call TI | Call TI | -40 to 125 | LV126A | |

(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.

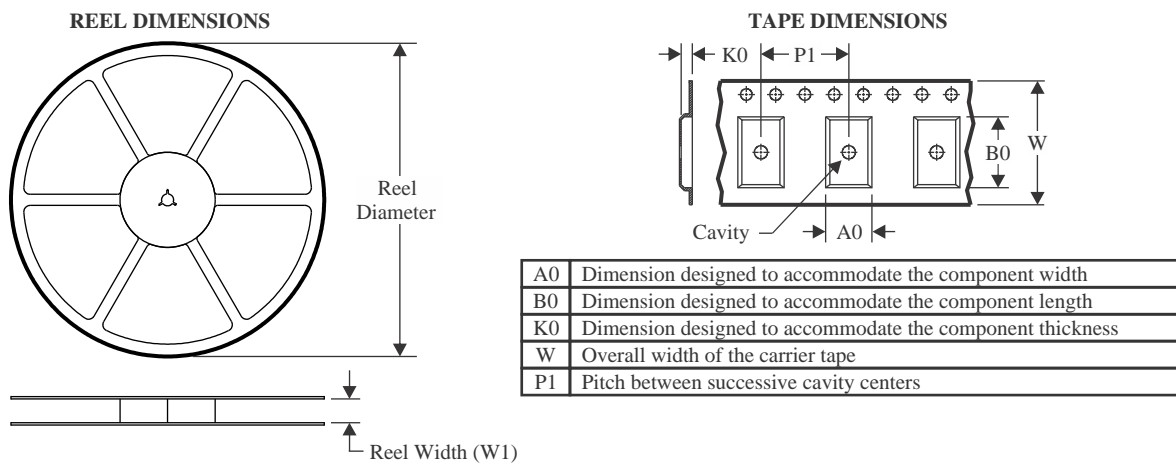
(4) There may be additional marking, which relates to the logo, the lot trace code information, or the environmental category on the device.

(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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TAPE AND REEL INFORMATION

QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE


*All dimensions are nominal

| Device | Package Type | Package Drawing | Pins | SPQ | Reel Diameter (mm) | Reel Width W1 (mm) | A0 (mm) | B0 (mm) | K0 (mm) | P1 (mm) | W (mm) | Pin1 Quadrant |
|----------------|--------------|-----------------|------|------|--------------------|--------------------|---------|---------|---------|---------|--------|---------------|
| SN74LV126ADBR | SSOP | DB | 14 | 2000 | 330.0 | 16.4 | 8.35 | 6.6 | 2.4 | 12.0 | 16.0 | Q1 |
| SN74LV126ADGVR | TVSOP | DGV | 14 | 2000 | 330.0 | 12.4 | 6.8 | 4.0 | 1.6 | 8.0 | 12.0 | Q1 |
| SN74LV126ADR | SOIC | D | 14 | 2500 | 330.0 | 16.4 | 6.5 | 9.0 | 2.1 | 8.0 | 16.0 | Q1 |
| SN74LV126ADR | SOIC | D | 14 | 2500 | 330.0 | 16.4 | 6.5 | 9.0 | 2.1 | 8.0 | 16.0 | Q1 |
| SN74LV126ANSR | SOP | NS | 14 | 2000 | 330.0 | 16.4 | 8.2 | 10.5 | 2.5 | 12.0 | 16.0 | Q1 |
| SN74LV126APWR | TSSOP | PW | 14 | 2000 | 330.0 | 12.4 | 6.9 | 5.6 | 1.6 | 8.0 | 12.0 | Q1 |
| SN74LV126APWR | TSSOP | PW | 14 | 2000 | 330.0 | 12.4 | 6.9 | 5.6 | 1.6 | 8.0 | 12.0 | Q1 |

TAPE AND REEL BOX DIMENSIONS


*All dimensions are nominal

| Device | Package Type | Package Drawing | Pins | SPQ | Length (mm) | Width (mm) | Height (mm) |
|----------------|--------------|-----------------|------|------|-------------|------------|-------------|
| SN74LV126ADBR | SSOP | DB | 14 | 2000 | 356.0 | 356.0 | 35.0 |
| SN74LV126ADGVR | TVSOP | DGV | 14 | 2000 | 356.0 | 356.0 | 35.0 |
| SN74LV126ADR | SOIC | D | 14 | 2500 | 356.0 | 356.0 | 35.0 |
| SN74LV126ADR | SOIC | D | 14 | 2500 | 356.0 | 356.0 | 35.0 |
| SN74LV126ANSR | SOP | NS | 14 | 2000 | 356.0 | 356.0 | 35.0 |
| SN74LV126APWR | TSSOP | PW | 14 | 2000 | 356.0 | 356.0 | 35.0 |
| SN74LV126APWR | TSSOP | PW | 14 | 2000 | 353.0 | 353.0 | 32.0 |

D0014A



PACKAGE OUTLINE

SOIC - 1.75 mm max height

SMALL OUTLINE INTEGRATED CIRCUIT



NOTES:

1. All linear dimensions are in millimeters. Dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. This dimension does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.15 mm, per side.
4. This dimension does not include interlead flash. Interlead flash shall not exceed 0.43 mm, per side.
5. Reference JEDEC registration MS-012, variation AB.

EXAMPLE BOARD LAYOUT

D0014A

SOIC - 1.75 mm max height

SMALL OUTLINE INTEGRATED CIRCUIT



LAND PATTERN EXAMPLE
SCALE:8X



SOLDER MASK DETAILS

4220718/A 09/2016

NOTES: (continued)

- 6. Publication IPC-7351 may have alternate designs.
- 7. Solder mask tolerances between and around signal pads can vary based on board fabrication site.

MECHANICAL DATA

NS (R-PDSO-G**)

PLASTIC SMALL-OUTLINE PACKAGE

14-PINS SHOWN



- NOTES:
- A. All linear dimensions are in millimeters.
 - B. This drawing is subject to change without notice.
 - C. Body dimensions do not include mold flash or protrusion, not to exceed 0,15.

DGV (R-PDSO-G**)

PLASTIC SMALL-OUTLINE

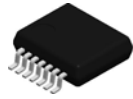
24 PINS SHOWN



4073251/E 08/00

- NOTES: A. All linear dimensions are in millimeters.
 B. This drawing is subject to change without notice.
 C. Body dimensions do not include mold flash or protrusion, not to exceed 0,15 per side.
 D. Falls within JEDEC: 24/48 Pins – MO-153
 14/16/20/56 Pins – MO-194

DB0014A



PACKAGE OUTLINE

SSOP - 2 mm max height

SMALL OUTLINE PACKAGE



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. This dimension does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.15 mm per side.
4. Reference JEDEC registration MO-150.

EXAMPLE BOARD LAYOUT

DB0014A

SSOP - 2 mm max height

SMALL OUTLINE PACKAGE



LAND PATTERN EXAMPLE
EXPOSED METAL SHOWN
SCALE: 10X



4220762/A 05/2024

NOTES: (continued)

5. Publication IPC-7351 may have alternate designs.
6. Solder mask tolerances between and around signal pads can vary based on board fabrication site.

EXAMPLE STENCIL DESIGN

DB0014A

SSOP - 2 mm max height

SMALL OUTLINE PACKAGE



SOLDER PASTE EXAMPLE
BASED ON 0.125 mm THICK STENCIL
SCALE: 10X

4220762/A 05/2024

NOTES: (continued)

7. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.
8. Board assembly site may have different recommendations for stencil design.

EXAMPLE BOARD LAYOUT

PW0014A

TSSOP - 1.2 mm max height

SMALL OUTLINE PACKAGE



LAND PATTERN EXAMPLE
EXPOSED METAL SHOWN
SCALE: 10X



4220202/B 12/2023

NOTES: (continued)

- 6. Publication IPC-7351 may have alternate designs.
- 7. Solder mask tolerances between and around signal pads can vary based on board fabrication site.

EXAMPLE STENCIL DESIGN

PW0014A

TSSOP - 1.2 mm max height

SMALL OUTLINE PACKAGE



SOLDER PASTE EXAMPLE
BASED ON 0.125 mm THICK STENCIL
SCALE: 10X

4220202/B 12/2023

NOTES: (continued)

8. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.
9. Board assembly site may have different recommendations for stencil design.

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