**Lead-free Green**

# 74LVC1G97
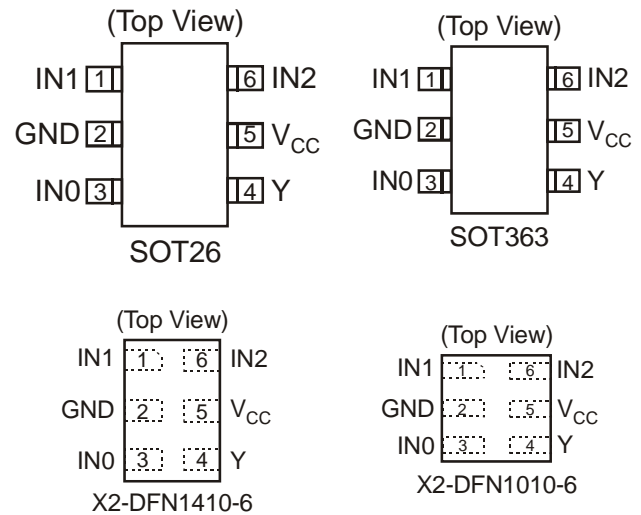
## CONFIGURABLE MULTIPLE-FUNCTION GATE

## Description

The DIODES™ 74LVC1G97 is a single three-input positive configurable multiple function gate with a standard push-pull output. The output state is determined by eight patterns of three-bit input. The user can chose the logic functions MUX, AND, OR, NAND, NOR, inverter or non-inverting buffer. All inputs can be connected to ground or Vcc as required. The device is designed for operation with a power supply range of 1.65V to 5.5V. The inputs are tolerant to 5.5V allowing this device to be used in a mixed voltage environment. The device is fully specified for partial power down applications using IOFF. The IOFF circuitry disables the output preventing damaging current backflow when the device is powered down. The user is reminded that the device can simulate several types of logic gates but may respond differently due to the Schmitt action at the inputs.

## Pin Assignments

(Top View)

| IN1 [1] | | [6] IN2 |
| GND [2] | | [5] $V_{CC}$ |
| IN0 [3] | | [4] Y |

SOT26

(Top View)

| IN1 [1] | | [6] IN2 |
| GND [2] | | [5] $V_{CC}$ |
| IN0 [3] | | [4] Y |

SOT363

(Top View)

| IN1 [1] | | [6] IN2 |
| GND [2] | | [5] $V_{CC}$ |
| IN0 [3] | | [4] Y |

X2-DFN1410-6

(Top View)

| IN1 [1] | | [6] IN2 |
| GND [2] | | [5] $V_{CC}$ |
| IN0 [3] | | [4] Y |

X2-DFN1010-6

## Features

- Wide Supply Voltage Range from 1.65V to 5.5V
- ± 24mA Output Drive at 3.3V
- CMOS Low Power Consumption
- IOFF Supports Partial-Power-Down Mode Operation
- Inputs Accept up to 5.5V
- ESD Protection Exceeds JESD 22
  - 200-V Machine Model (A115-A)
  - 2000-V Human Body Model (A114-A)
- Latch-Up Exceeds 100mA per JESD 78, Class II
- Range of Package Options
- SOT26, SOT363, X2-DFN1410-6, and X2-DFN1010-6: Available in "Green" Molding Compound (no Br, Sb)
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Applications

- Voltage Level Shifting
- General Purpose Logic
- Power Down Signal Isolation
- Wide Array of Products such as:
  - PCs, networking, notebooks, netbooks, PDAs
  - Computer peripherals, hard drives, CD/DVD ROM
  - TV, DVD, DVR, set top box
  - Cell Phones, Personal Navigation / GPS
  - MP3 players, Cameras, Video Recorders

Notes:    1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
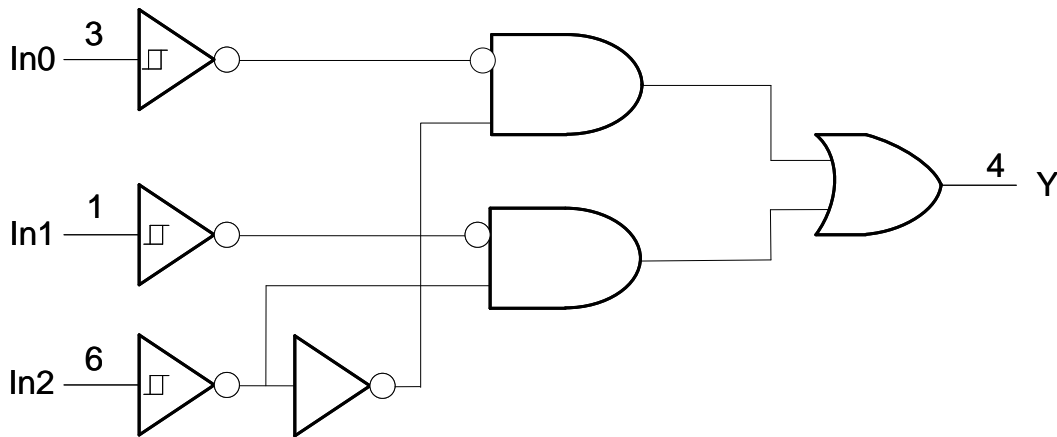
74LVC1G97
Document number: DS35127 Rev. 6 - 2

1 of 15
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## Pin Descriptions

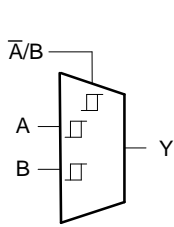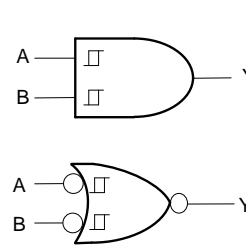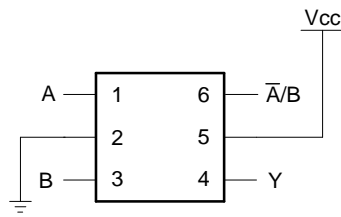| Pin Name | Description |
|----------|-------------|
| IN1 | Data Input |
| GND | Ground |
| IN0 | Data Input |
| Y | Data Output |
| $V_{CC}$ | Supply Voltage |
| IN2 | Data Input |

## Logic Diagram



## Function Table

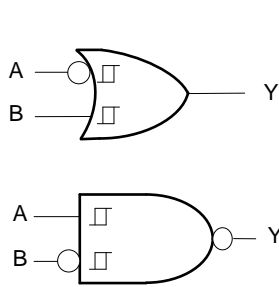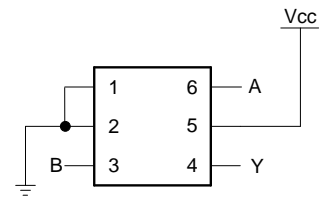| Inputs | | | Output |
|--------|--------|--------|--------|
| IN2 | IN1 | IN0 | Y |
| L | L | L | L |
| L | L | H | L |
| L | H | L | H |
| L | H | H | H |
| H | L | L | L |
| H | L | H | H |
| H | H | L | L |
| H | H | H | H |

74LVC1G97
Document number: DS35127 Rev. 6 - 2

2 of 15
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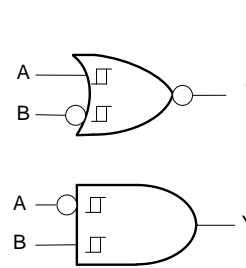
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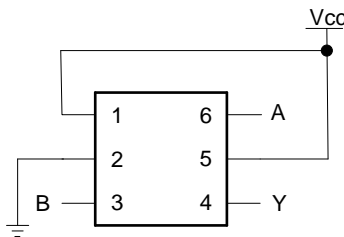
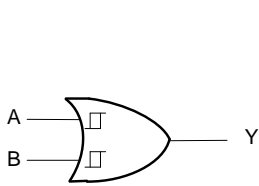## Logic Configurations
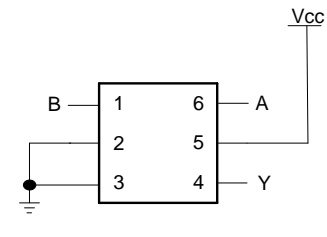


Configuration 1
2 to 1 Data Selector

Configuration 2
2-Input AND Gate
2-Input NOR Gate with Both Inputs Inverted

Configuration 3
2-Input NAND Gate with B Input Inverted
2-Input OR Gate with A Input Inverted

Configuration 4
2-Input NOR Gate with One Input Inverted
2-Input AND Gate with One Input Inverted

Configuration 5
2-Input OR Gate
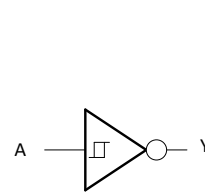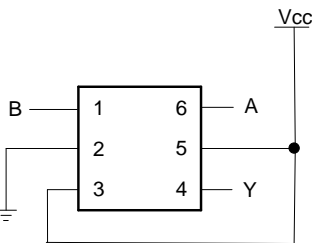
Configuration 6
Inverter
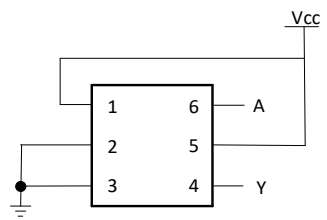
| Function Selection Table | |
| --- | --- |
| **Logic Function** | **Configuration** |
| 2-to-1 Data Selector | 1 |
| 2-input AND gate | 2 |
| 2-input AND with inverted input | 3, 4 |
| 2-input NOR with inverted input | 3, 4 |
| 2-input OR | 5 |
| 2-input NOR with both inputs inverted | 2 |
| 1-input Inverter | 6 |

74LVC1G97
Document number: DS35127 Rev. 6 - 2

3 of 15
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## Absolute Maximum Ratings (Note 4)

| Symbol | Description | Rating | Unit |
|---|---|---|---|
| ESD HBM | Human Body Model ESD Protection | 2 | kV |
| ESD MM | Machine Model ESD Protection | 200 | V |
| $V_{CC}$ | Supply Voltage Range | -0.5 to 6.5 | V |
| $V_I$ | Input Voltage Range | -0.5 to 6.5 | V |
| $V_O$ | Voltage applied to output in high impedance or $I_{OFF}$ state | -0.5 to 6.5 | V |
| $V_O$ | Voltage applied to output in high or low state | -0.3 to $V_{CC}$ +0.5 | V |
| $I_{IK}$ | Input Clamp Current $V_I$ < 0 | -50 | mA |
| $I_{OK}$ | Output Clamp Current | -50 | mA |
| $I_O$ | Continuous output current | ±50 | mA |
| | Continuous current through Vdd or GND | ±100 | mA |
| $T_J$ | Operating Junction Temperature | -40 to +150 | °C |
| $T_{STG}$ | Storage Temperature | -65 to +150 | °C |

Note:     4. Stresses beyond the absolute maximum may result in immediate failure or reduced reliability. These are stress values and device operation should be within recommend values.

## Recommended Operating Conditions (Note 5)

| Symbol | Parameter | | Min | Max | Unit |
|---|---|---|---|---|---|
| $V_{CC}$ | Operating Voltage | Operating | 1.65 | 5.5 | V |
| | | Data retention only | 1.5 | — | V |
| $V_I$ | Input Voltage | | 0 | 5.5 | V |
| $V_O$ | Output Voltage | | 0 | $V_{CC}$ | V |
| $I_{OH}$ | High-Level Output Current | $V_{CC}$ = 1.65V | — | -4 | mA |
| | | $V_{CC}$ = 2.3V | — | -8 | |
| | | $V_{CC}$ = 3V | — | -16 | |
| | | | — | -24 | |
| | | $V_{CC}$ = 4.5V | — | -32 | |
| $I_{OL}$ | Low-Level Output Current | $V_{CC}$ = 1.65V | — | 4 | mA |
| | | $V_{CC}$ = 2.3V | — | 8 | |
| | | $V_{CC}$ = 3V | — | 16 | |
| | | | — | 24 | |
| | | $V_{CC}$ = 4.5V | — | 32 | |
| $T_A$ | Operating Free-Air Temperature | — | -40 | +125 | °C |

Note:     5. Unused inputs should be held at $V_{CC}$ or Ground.

74LVC1G97
Document number: DS35127 Rev. 6 - 2

4 of 15
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## Electrical Characteristics (@T$_A$ = -40°C to +85°C. All typical values are at V$_{CC}$ = 3.3V, T$_A$ = +25°C)

| Symbol | Parameter | Test Conditions | V$_{CC}$ | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| V$_{T+}$ | Positive-going input threshold voltage | — | 1.65V | 0.70 | — | 1.20 | — |
| | | — | 2.3V | 1.11 | — | 1.60 | — |
| | | — | 3V | 1.50 | — | 2.00 | — |
| | | — | 4.5V | 2.16 | — | 2.74 | — |
| | | — | 5.5V | 2.61 | — | 3.33 | — |
| V$_{T-}$ | Negative-going input threshold voltage | — | 1.65V | 0.30 | — | 0.72 | — |
| | | — | 2.3V | 0.58 | — | 1.00 | — |
| | | — | 3V | 0.80 | — | 1.30 | — |
| | | — | 4.5V | 1.21 | — | 1.95 | — |
| | | — | 5.5V | 1.45 | — | 2.35 | — |
| ΔV$_T$ | Hysteresis (V$_{T+}$ - V$_{T-}$) | — | 1.65V | 0.30 | — | 0.62 | — |
| | | — | 2.3V | 0.40 | — | 0.80 | — |
| | | — | 3V | 0.35 | — | 1.00 | — |
| | | — | 4.5V | 0.55 | — | 1.10 | — |
| | | — | 5.5V | 0.60 | — | 1.20 | — |
| V$_{OH}$ | High Level Output Voltage | I$_{OH}$ = -100μA | 1.65V to 5.5V | V$_{CC}$ – 0.1 | — | | V |
| | | I$_{OH}$ = -4mA | 1.65V | 1.2 | — | | |
| | | I$_{OH}$ = -8mA | 2.3V | 1.9 | — | | |
| | | I$_{OH}$ = -16mA | 3V | 2.4 | — | | |
| | | I$_{OH}$ = -24mA | | 2.3 | — | | |
| | | I$_{OH}$ = -32mA | 4.5V | 3.8 | — | | |
| V$_{OL}$ | High-level Input Voltage | I$_{OL}$ = 100μA | 1.65V to 5.5V | — | — | 0.1 | V |
| | | I$_{OL}$ = 4mA | 1.65V | — | — | 0.45 | |
| | | I$_{OL}$ = 8mA | 2.3V | — | — | 0.3 | |
| | | I$_{OL}$ = 16mA | 3V | — | — | 0.4 | |
| | | I$_{OL}$ = 24mA | | — | — | 0.55 | |
| | | I$_{OL}$ = 32mA | 4.5V | — | — | 0.55 | |
| I$_I$ | Input Current | V$_I$ = 5.5V or GND | 0 to 5.5V | — | — | ± 1 | μA |
| I$_{OFF}$ | Power Down Leakage Current | V$_I$ or V$_O$ = 5.5V | 0 | — | — | ± 2 | μA |
| I$_{CC}$ | Supply Current | V$_I$ = 5.5V of GND I$_O$=0 | 1.65V to 5.5V | — | — | 4 | μA |
| ΔI$_{CC}$ | Additional Supply Current | One input at V$_{CC}$ –0.6V Other inputs at V$_{CC}$ or GND | 3V to 5.5V | — | — | 500 | μA |

74LVC1G97
Document number: DS35127 Rev. 6 - 2

5 of 15
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## Electrical Characteristics (Continued) (@T$_A$ = -40°C to +85°C. All typical values are at V$_{CC}$ = 3.3V, T$_A$ = +25°C)

| Symbol | Parameter | Test Conditions | V$_{CC}$ | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| V$_{T+}$ | Positive-going input threshold voltage | — | 1.65V | 0.70 | — | 1.20 | — |
| | | — | 2.3V | 1.11 | — | 1.60 | — |
| | | — | 3V | 1.50 | — | 2.00 | — |
| | | — | 4.5V | 2.16 | — | 2.74 | — |
| | | — | 5.5V | 2.61 | — | 3.33 | — |
| V$_{T-}$ | Negative-going input threshold voltage | — | 1.65V | 0.30 | — | 0.75 | — |
| | | — | 2.3V | 0.58 | — | 1.03 | — |
| | | — | 3V | 0.80 | — | 1.33 | — |
| | | — | 4.5V | 1.21 | — | 1.95 | — |
| | | — | 5.5V | 1.45 | — | 2.35 | — |
| ΔV$_T$ | Hysteresis (V$_{T+}$ - V$_{T-}$) | — | 1.65V | 0.30 | — | 0.62 | — |
| | | — | 2.3V | 0.37 | — | 0.80 | — |
| | | — | 3V | 0.32 | — | 1.00 | — |
| | | — | 4.5V | 0.50 | — | 1.20 | — |
| | | — | 5.5V | 0.55 | — | 1.40 | — |
| V$_{OH}$ | High Level Output Voltage | I$_{OH}$ = -100µA | 1.65V to 5.5V | V$_{CC}$ -0.1 | — | | V |
| | | I$_{OH}$ = -4mA | 1.65V | 0.95 | — | | |
| | | I$_{OH}$ = -8mA | 2.3V | 1.7 | — | | |
| | | I$_{OH}$ = -16mA | 3V | 1.9 | — | | |
| | | I$_{OH}$ = -24mA | | 2.0 | — | | |
| | | I$_{OH}$ = -32mA | 4.5V | 3.4 | — | | |
| V$_{OL}$ | High-level Input Voltage | I$_{OL}$ = 100µA | 1.65V to 5.5V | — | — | 0.1 | V |
| | | I$_{OL}$ = 4mA | 1.65V | — | — | 0.7 | |
| | | I$_{OL}$ = 8mA | 2.3V | — | — | 0.45 | |
| | | I$_{OL}$ = 16mA | 3V | — | — | 0.6 | |
| | | I$_{OL}$ = 24mA | | — | — | 0.8 | |
| | | I$_{OL}$ = 32mA | 4.5V | — | — | 0.8 | |
| I$_I$ | Input Current | V$_I$ = 5.5V or GND | 0 to 5.5V | — | — | ± 1 | µA |
| I$_{OFF}$ | Power Down Leakage Current | V$_I$ or V$_O$ = 5.5V | 0 | — | — | ± 2 | µA |
| I$_{CC}$ | Supply Current | V$_I$ = 5.5V of GND I$_O$=0 | 1.65V to 5.5V | — | — | 4 | µA |
| ΔI$_{CC}$ | Additional Supply Current | One input at V$_{CC}$ -0.6V Other inputs at V$_{CC}$ or GND | 3V to 5.5V | — | — | 500 | µA |

74LVC1G97
Document number: DS35127 Rev. 6 - 2

6 of 15
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## Package Characteristics (All typical values are at $V_{CC}$ = 3.3V, $T_A$ = +25°C)

| Symbol | Parameter | Test Conditions | $V_{CC}$ | Min | Typ | Max | Unit |
|--------|-----------|-----------------|----------|-----|-----|-----|------|
| $C_I$ | Input Capacitance | $V_I = V_{CC}$ – or GND | 3.3 | — | 3.5 | — | pF |
| $\theta_{JA}$ | Thermal Resistance Junction-to-Ambient | SOT26 | (Note 6) | — | 204 | — | °C/W |
| | | SOT363 | | — | 371 | — | |
| | | X2-DFN1410-6 | | — | 430 | — | |
| | | X2-DFN1010-6 | | — | 510 | — | |
| $\theta_{JC}$ | Thermal Resistance Junction-to-Case | SOT26 | (Note 6) | — | 52 | — | °C/W |
| | | SOT363 | | — | 143 | — | |
| | | X2-DFN1410-6 | | — | 190 | — | |
| | | X2-DFN1010-6 | | — | 250 | — | |

Note:    6. Test condition for SOT26, SOT363, X2-DFN1410-6 and X2-DFN1010-6 : Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

## Switching Characteristics

**$T_A$ = -40°C to +85°C**, $C_L$ = 30 or 50pF as noted (See Figure 1)

| Parameter | From (Input) | TO (OUTPUT) | $V_{CC}$ = 1.8V ± 0.15V | | $V_{CC}$ = 2.5V ± 0.2V | | $V_{CC}$ = 3.3V ± 0.3V | | $V_{CC}$ = 5V ± 0.5V | | Unit |
|-----------|--------------|-------------|------|------|------|------|------|------|------|------|------|
| | | | Min | Max | Min | Max | Min | Max | Min | Max | |
| $t_{pd}$ | Any | Y | 1.0 | 14.4 | 0.7 | 8.3 | 0.7 | 6.3 | 0.7 | 5.1 | ns |

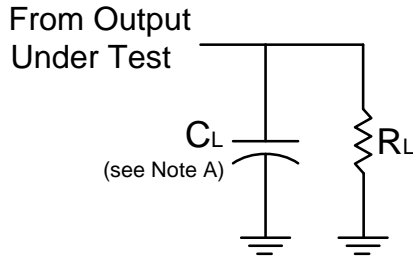**$T_A$ = -40°C to +125°C**, $C_L$ = 30 or 50pF as noted (See Figure 1)

| Parameter | From (Input) | TO (OUTPUT) | $V_{CC}$ = 1.8V ± 0.15V | | $V_{CC}$ = 2.5V ± 0.2V | | $V_{CC}$ = 3.3V ± 0.3V | | $V_{CC}$ = 5V ± 0.5V | | Unit |
|-----------|--------------|-------------|------|------|------|------|------|------|------|------|------|
| | | | Min | Max | Min | Max | Min | Max | Min | Max | |
| $t_{pd}$ | Any | Y | 1.0 | 18.0 | 0.7 | 10.4 | 0.7 | 7.9 | 0.7 | 6.4 | ns |

## Operating Characteristics

**$T_A$ = +25°C**

| Parameter | | Test Conditions | $V_{CC}$ = 1.8V Typ. | $V_{CC}$ = 2.5V Typ. | $V_{CC}$ = 3.3V Typ. | $V_{CC}$ = 5V Typ. | Unit |
|-----------|--|-----------------|---------------------|---------------------|---------------------|-------------------|------|
| $C_{pd}$ | Power dissipation capacitance | f = 10 MHz | 22 | 22 | 23 | 24 | pF |

74LVC1G97
Document number: DS35127 Rev. 6 - 2

7 of 15
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## Parameter Measurement Information



| V$_{CC}$ | Inputs | | V$_M$ | C$_L$ | R$_L$ |
|---|---|---|---|---|---|
| | V$_I$ | t$_r$/t$_f$ | | | |
| 1.8V±0.15V | V$_{CC}$ | ≤2ns | V$_{CC}$/2 | 30pF | 1KΩ |
| 2.5V±0.2V | V$_{CC}$ | ≤2ns | V$_{CC}$/2 | 30pF | 500Ω |
| 3.3V±0.3V | 3V | ≤2.5ns | 1.5V | 50pF | 500Ω |
| 5V±0.5V | V$_{CC}$ | ≤2.5ns | V$_{CC}$/2 | 50pF | 500Ω |



**Voltage Waveform
Pulse Duration**



**Voltage Waveform
Propagation Delay Times
Inverting and Non Inverting Outputs**

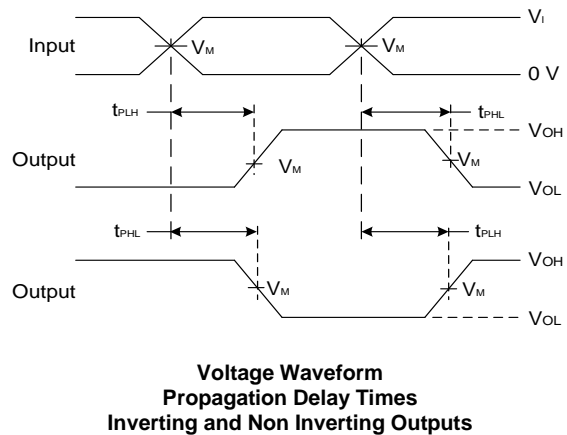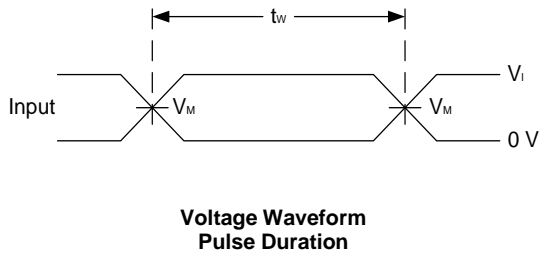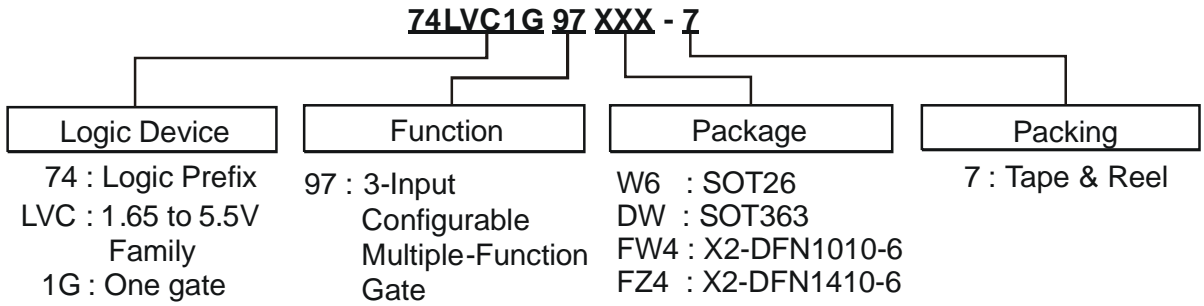**Figure 1 Load Circuit and Voltage Waveforms**

Notes:
A. Includes test lead and test apparatus capacitance.
B. All pulses are supplied at pulse repetition rate ≤ 10 MHz.
C. Inputs are measured separately one transition per measurement.
D. t$_{PLH}$ and t$_{PHL}$ are the same as t$_{PD}$.

74LVC1G97
Document number: DS35127 Rev. 6 - 2

8 of 15
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## Ordering Information (Note 7)

**74LVC1G 97 XXX - 7**

| Logic Device | Function | Package | Packing |
|---|---|---|---|
| 74 : Logic Prefix<br>LVC : 1.65 to 5.5V Family<br>1G : One gate | 97 : 3-Input Configurable Multiple-Function Gate | W6 : SOT26<br>DW : SOT363<br>FW4 : X2-DFN1010-6<br>FZ4 : X2-DFN1410-6 | 7 : Tape & Reel |

| Device | Package Code | Packaging | 7" Tape and Reel | |
|---|---|---|---|---|
| | | | Quantity | Part Number Suffix |
| 74LVC1G97W6-7 | W6 | SOT26 | 3,000/Tape & Reel | -7 |
| 74LVC1G97DW-7 | DW | SOT363 | 3,000/Tape & Reel | -7 |
| 74LVC1G97FW4-7 | FW4 | X2-DFN1010-6 | 5,000/Tape & Reel | -7 |
| 74LVC1G97FZ4-7 | FZ4 | X2-DFN1410-6 | 5,000/Tape & Reel | -7 |

Note: 7. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

74LVC1G97
Document number: DS35127 Rev. 6 - 2

9 of 15
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## Marking Information

### (1) SOT26, SOT363
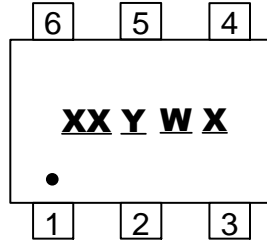


XX : Identification code
Y : Year 0~9
W : Week : A~Z : 1~26 week;
    a~z : 27~52 week; z represents
    52 and 53 week
X : A~Z :  Internal Code

| Part Number | Package | Identification Code |
|---|---|---|
| 74LVC1G97W6 | SOT26 | TY |
| 74LVC1G97DW | SOT363 | TY |

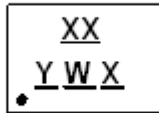### (2) X2-DFN1010-6, X2-DFN1410-6



(Top View)

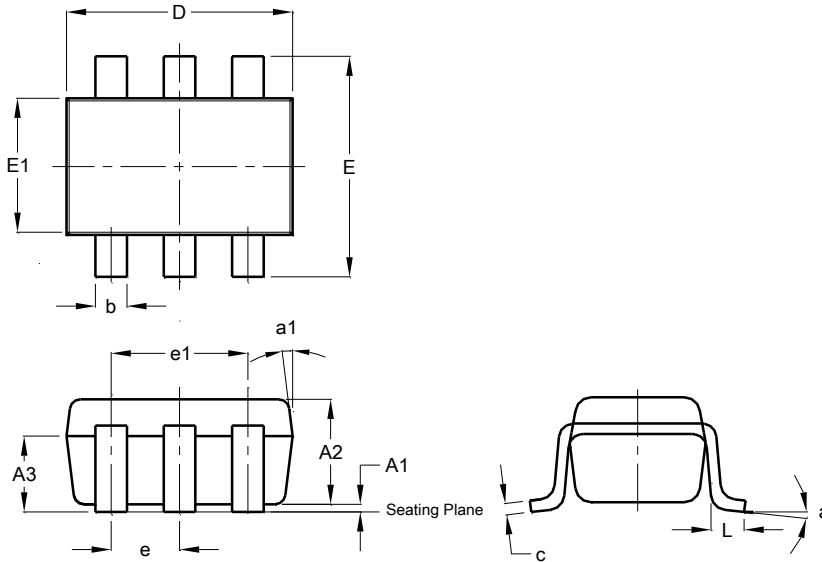XX : Identification Code
Y : Year : 0~9
W : Week : A~Z : 1~26 week;
    a~z : 27~52 week; z represents
    52 and 53 week
X : A~Z : Internal code

| Part Number | Package | Identification Code |
|---|---|---|
| 74LVC1G97FW4 | X2-DFN1010-6 | TY |
| 74LVC1G97FZ4 | X2-DFN1410-6 | TY |

74LVC1G97

Document number: DS35127 Rev. 6 - 2

10 of 15

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## Package Outline Dimensions

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**SOT26**



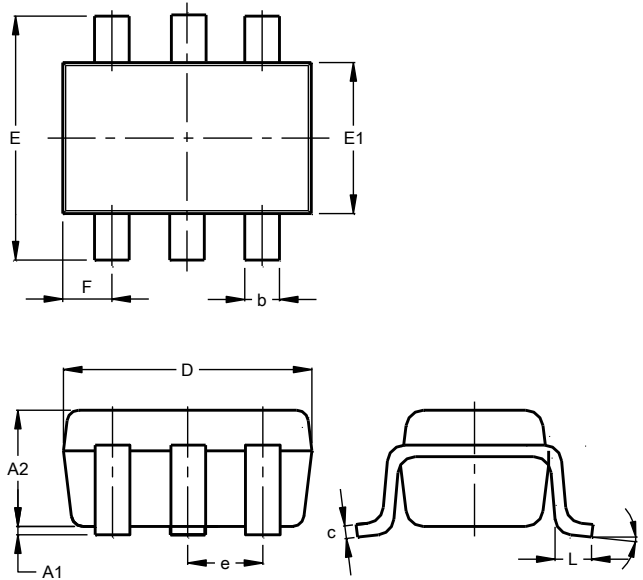| | SOT26 | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A1** | 0.013 | 0.10 | 0.05 |
| **A2** | 1.00 | 1.30 | 1.10 |
| **A3** | 0.70 | 0.80 | 0.75 |
| **b** | 0.35 | 0.50 | 0.38 |
| **c** | 0.10 | 0.20 | 0.15 |
| **D** | 2.90 | 3.10 | 3.00 |
| **e** | - | - | 0.95 |
| **e1** | - | - | 1.90 |
| **E** | 2.70 | 3.00 | 2.80 |
| **E1** | 1.50 | 1.70 | 1.60 |
| **L** | 0.35 | 0.55 | 0.40 |
| **a** | - | - | 8° |
| **a1** | - | - | 7° |
| **All Dimensions in mm** | | | |

## Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

**SOT26**
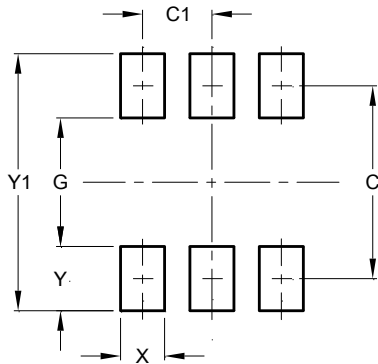


| **Dimensions** | **Value (in mm)** |
|---|---|
| **C** | 2.40 |
| **C1** | 0.95 |
| **G** | 1.60 |
| **X** | 0.55 |
| **Y** | 0.80 |
| **Y1** | 3.20 |

Note:     The suggested land pattern dimensions have been provided for reference only, as actual pad layouts may vary depending on application. These dimensions may be modified based on user equipment capability or fabrication criteria. A more robust pattern may be desired for wave soldering and is calculated by adding 0.2 mm to the 'Z' dimension. For further information, please reference document IPC-7351A, Naming Convention for Standard SMT Land Patterns, and for International grid details, please see document IEC, Publication 97.

74LVC1G97
Document number: DS35127 Rev. 6 - 2

**11 of 15**
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## Package Outline Dimensions

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**SOT363**

| | SOT363 | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A1** | 0.00 | 0.10 | 0.05 |
| **A2** | 0.90 | 1.00 | 0.95 |
| **b** | 0.10 | 0.30 | 0.25 |
| **c** | 0.10 | 0.22 | 0.11 |
| **D** | 1.80 | 2.20 | 2.15 |
| **E** | 2.00 | 2.20 | 2.10 |
| **E1** | 1.15 | 1.35 | 1.30 |
| **e** | 0.650 BSC | | |
| **F** | 0.40 | 0.45 | 0.425 |
| **L** | 0.25 | 0.40 | 0.30 |
| **a** | 0° | 8° | -- |
| **All Dimensions in mm** | | | |

## Suggested Pad Layout

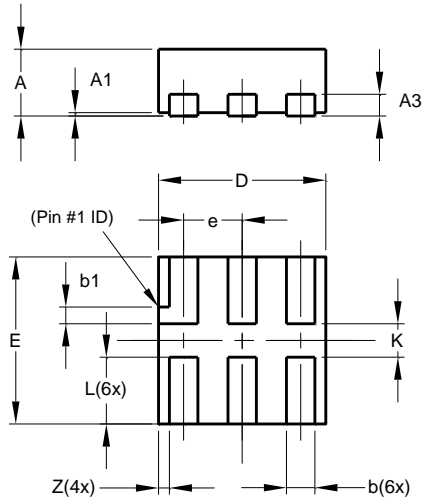Please see http://www.diodes.com/package-outlines.html for the latest version.

**SOT363**
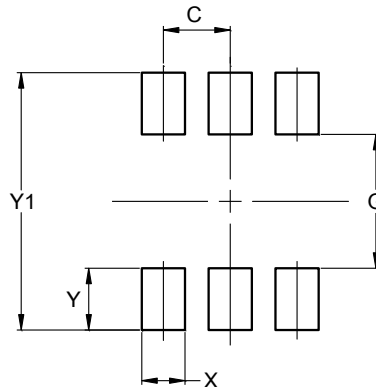
| Dimensions | Value (in mm) |
|---|---|
| **C** | 0.650 |
| **G** | 1.300 |
| **X** | 0.420 |
| **Y** | 0.600 |
| **Y1** | 2.500 |

Note: The suggested land pattern dimensions have been provided for reference only, as actual pad layouts may vary depending on application. These dimensions may be modified based on user equipment capability or fabrication criteria. A more robust pattern may be desired for wave soldering and is calculated by adding 0.2 mm to the 'Z' dimension. For further information, please reference document IPC-7351A, Naming Convention for Standard SMT Land Patterns, and for International grid details, please see document IEC, Publication 97.

74LVC1G97
Document number: DS35127 Rev. 6 - 2

12 of 15
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## Package Outline Dimensions

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**X2-DFN1010-6**



| X2-DFN1010-6 | | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A** | — | 0.40 | 0.39 |
| **A1** | 0.00 | 0.05 | 0.02 |
| **A3** | — | — | 0.13 |
| **b** | 0.14 | 0.20 | 0.17 |
| **b1** | 0.05 | 0.15 | 0.10 |
| **D** | 0.95 | 1.05 | 1.00 |
| **E** | 0.95 | 1.05 | 1.00 |
| **e** | — | — | 0.35 |
| **L** | 0.35 | 0.45 | 0.40 |
| **K** | 0.15 | — | — |
| **Z** | — | — | 0.065 |
| **All Dimensions in mm** | | | |

## Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

**X2-DFN1010-6**
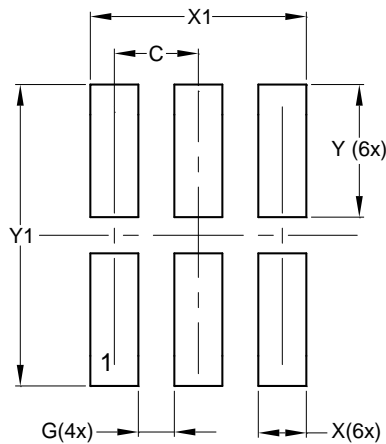


| Dimensions | Value (in mm) |
|---|---|
| **C** | 0.350 |
| **G** | 0.150 |
| **X** | 0.200 |
| **X1** | 0.900 |
| **Y** | 0.550 |
| **Y1** | 1.250 |

Note: The suggested land pattern dimensions have been provided for reference only, as actual pad layouts may vary depending on application. These dimensions may be modified based on user equipment capability or fabrication criteria. A more robust pattern may be desired for wave soldering and is calculated by adding 0.2 mm to the 'Z' dimension. For further information, please reference document IPC-7351A, Naming Convention for Standard SMT Land Patterns, and for International grid details, please see document IEC, Publication 97.

74LVC1G97
Document number: DS35127 Rev. 6 - 2

13 of 15
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September 2022
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## Package Outline Dimensions

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**X2-DFN1410-6**
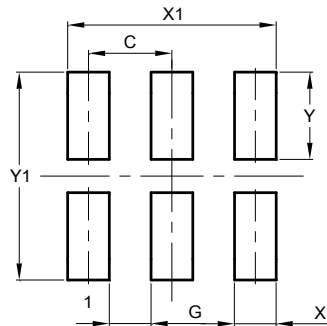


| X2-DFN1410-6 | | | |
|---|---|---|---|
| Dim | Min | Max | Typ |
| A | — | 0.40 | 0.39 |
| A1 | 0.00 | 0.05 | 0.02 |
| A3 | — | — | 0.13 |
| b | 0.15 | 0.25 | 0.20 |
| D | 1.35 | 1.45 | 1.40 |
| E | 0.95 | 1.05 | 1.00 |
| e | — | — | 0.50 |
| L | 0.25 | 0.35 | 0.30 |
| Z | — | — | 0.10 |
| Z1 | 0.045 | 0.105 | 0.075 |
| All Dimensions in mm | | | |

## Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

**X2-DFN1410-6**



| Dimensions | Value (in mm) |
|---|---|
| C | 0.500 |
| G | 0.250 |
| X | 0.250 |
| X1 | 1.250 |
| Y | 0.525 |
| Y1 | 1.250 |

Note:    The suggested land pattern dimensions have been provided for reference only, as actual pad layouts may vary depending on application. These dimensions may be modified based on user equipment capability or fabrication criteria. A more robust pattern may be desired for wave soldering and is calculated by adding 0.2 mm to the 'Z' dimension. For further information, please reference document IPC-7351A, Naming Convention for Standard SMT Land Patterns, and for International grid details, please see document IEC, Publication 97.

74LVC1G97
Document number: DS35127 Rev. 6 - 2

14 of 15
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74LVC1G97
Document number: DS35127 Rev. 6 - 2

15 of 15
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