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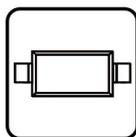
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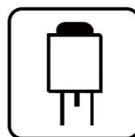
電源管理



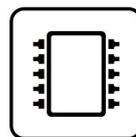
顯示驅動



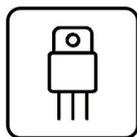
二三極管



LDO穩壓器



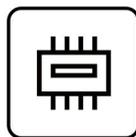
觸摸芯片



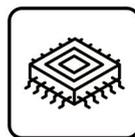
MOS管



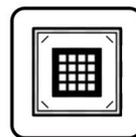
運算放大器



存儲芯片



MCU



串口通信

74LVC2G04DBVR-TD

產品規格說明書

74LVC2G04 Dual Inverter Gate

1. General Description

1.1 Description

This dual inverter inverter is designed for 1.65-V to 5.5-V VCC operation.

The 74LVC2G04 device performs the Boolean function $Y = \bar{A}$.

This device is fully specified for partial-power-down applications using I_{off} . The I_{off} circuitry disables the outputs, preventing damaging current backflow through the device when it is powered down.

1.2 Features

- Supports 5-V VCC Operation

- Inputs Accept Voltages to 5.5 V
- Low Power Consumption, 10- μ A Max ICC
- ± 24 -mA Output Drive at 3.3 V
- I_{off} Supports Partial-Power-Down Mode Operation

1.3 Device Information

| PART NUMBER | PACKAGE |
|-------------|-------------|
| 74LVC2G04 | SOT23-6(LT) |
| | SC70-6(CT) |
| | DSBGA(AG) |
| | SOT-5X3(DT) |

2. Connection Diagrams and Pin Description

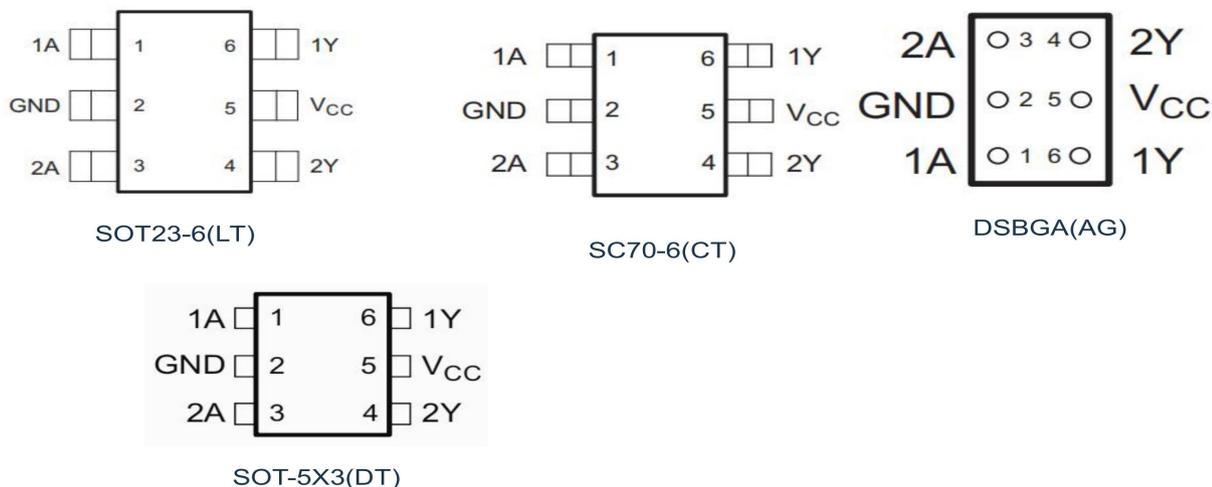


Figure 2.1 Top View

| PIN | | I/O | FUNCTION |
|------|-----|-----|------------------------|
| NAME | No. | | |
| 1A | 1 | I | Gate 1 logic signal |
| 1Y | 6 | O | Gate 1 inverted signal |
| 2A | 3 | I | Gate 2 logic signal |
| 2Y | 4 | O | Gate 2 inverted signal |
| GND | 2 | - | Ground |
| VCC | 5 | - | Supply Voltage |

3. System Diagram

3.1 Logic Diagram

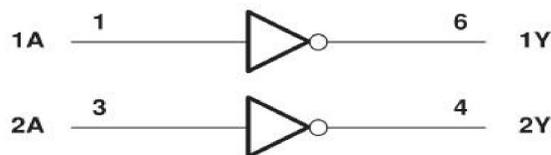


Figure 3.1: 74LVC2G04 Logic Diagram

3.2 Function Table

| Input | Output |
|-------|--------|
| A | Y |
| 1 | 0 |
| 0 | 1 |

1=High State, 0=Low State

4. Specifications

4.1 Absolute Maximum Ratings

| Symbol | Parameter | MIN | MAX | Unit |
|-----------------|--|------|-----------------------|------|
| V _{CC} | Supply Voltage | -0.5 | 6.5 | V |
| V _I | Input Voltage Range | -0.5 | 6.5 | V |
| V _O | Voltage Range(applied to any output in the high-impedance or power-off state) ⁽¹⁾ | -0.5 | 6.5 | V |
| | Voltage Range(applied to any output in the high or low state) | -0.5 | V _{CC} + 0.5 | V |
| I _O | Continuous Output Current | | ±50 | mA |
| T _J | Junction Temperature | | 125 | °C |
| T _{OP} | Operating Temperature | -40 | 85 | °C |

Absolute maximum ratings are those values beyond which the device could be permanently damaged, These are stress ratings only, which do not imply functional operation of the device at these or any other conditions beyond those indicated under normal operating conditions.

(1) The input and output negative-voltage ratings may be exceeded if the input and output current ratings are observed.

4.2 Recommended Operating Conditions

| Symbol | Parameter | | MIN | MAX | Unit |
|-----------------|---|------------------------------------|------------------------|------------------------|------|
| V _{CC} | Supply Voltage | | 1.65 | 5.5 | V |
| V _{IH} | High-level input voltage, control input | V _{CC} = 1.65 V to 1.95 V | V _{CC} × 0.65 | -- | V |
| | | V _{CC} = 2.3 V to 2.7 V | 1.7 | -- | |
| | | V _{CC} = 3 V to 3.6 V | V _{CC} × 0.7 | -- | |
| | | V _{CC} = 4.5 V to 5.5 V | V _{CC} × 0.7 | -- | |
| V _{IL} | Low-level input voltage, control input | V _{CC} = 1.65 V to 1.95 V | -- | V _{CC} × 0.35 | V |
| | | V _{CC} = 2.3 V to 2.7 V | -- | 0.7 | |
| | | V _{CC} = 3 V to 3.6 V | -- | 0.8 | |
| | | V _{CC} = 4.5 V to 5.5 V | -- | V _{CC} × 0.3 | |
| I _{OH} | High-level output current | V _{CC} = 1.65 V | -- | -4 | mA |
| | | V _{CC} = 2.3 V | -- | -8 | |
| | | V _{CC} = 3 V | -- | -16 | |
| | | V _{CC} = 4.5 V | -- | -32 | |
| I _{OL} | Low-level output current | V _{CC} = 1.65 V | -- | 4 | mA |
| | | V _{CC} = 2.3 V | -- | 8 | |
| | | V _{CC} = 3 V | -- | 16 | |
| | | V _{CC} = 4.5 V | -- | 32 | |

4.3 Electrical Characteristics

4.3.1 DC Specifications

($T_a=25^{\circ}\text{C}$, voltages are referenced to GND (ground=0V), unless otherwise specified)

| Symbol | Parameter | Test Condition | MIN | TYP | MAX | Unit |
|-----------------|---|---|--------------|------|----------|---------------|
| V_{OL} | Low Level Output Voltage | $V_{CC}=1.65\text{V to }4.5\text{V}, I_{OL}=100\mu\text{A}$ | -- | -- | 0.1 | V |
| | | $V_{CC}=1.65\text{V}, I_{OL}=4\text{mA}$ | -- | 0.09 | -- | V |
| | | $V_{CC}=2.3\text{V}, I_{OL}=8\text{mA}$ | -- | 0.1 | -- | V |
| | | $V_{CC}=3\text{V}, I_{OL}=16\text{mA}$ | -- | 0.15 | -- | V |
| | | $V_{CC}=3\text{V}, I_{OL}=24\text{mA}$ | -- | 0.25 | -- | V |
| | | $V_{CC}=4.5\text{V}, I_{OL}=32\text{mA}$ | -- | 0.25 | -- | V |
| V_{OH} | High Level Output Voltage | $V_{CC}=1.65\text{V to }4.5\text{V}, I_{OH}=100\mu\text{A}$ | $V_{CC}-0.1$ | -- | -- | V |
| | | $V_{CC}=1.65\text{V}, I_{OH}=4\text{mA}$ | -- | 1.47 | -- | V |
| | | $V_{CC}=2.3\text{V}, I_{OH}=8\text{mA}$ | -- | 2.15 | -- | V |
| | | $V_{CC}=3\text{V}, I_{OH}=16\text{mA}$ | -- | 2.8 | -- | V |
| | | $V_{CC}=3\text{V}, I_{OH}=24\text{mA}$ | -- | 2.7 | -- | V |
| | | $V_{CC}=4.5\text{V}, I_{OH}=32\text{mA}$ | -- | 4.2 | -- | V |
| I_I | A Inputs Leakage Current | $V_{CC}=0 \text{ to } 5.5\text{V}, V_I=5.5\text{V or GND}$ | -- | -- | ± 1 | μA |
| I_{off} | Power Off Leakage Current | $V_{CC}=0\text{V}, V_I \text{ or } V_O=5.5\text{V}$ | -- | -- | ± 10 | μA |
| I_{CC} | Quiescent Supply Current | $V_{CC}=1.65\text{V to }5.5\text{V}, V_I=5.5\text{V or GND}, I_O=0$ | -- | 0 | 10 | μA |
| ΔI_{CC} | Additional Quiescent Supply Current Per Input Pin | $V_{CC}=3\text{V to }5.5\text{V}, \text{one input at } V_{CC} - 0.6\text{V}, \text{Other inputs at } V_{CC} \text{ or GND}$ | -- | -- | 500 | μA |

5. Application Information

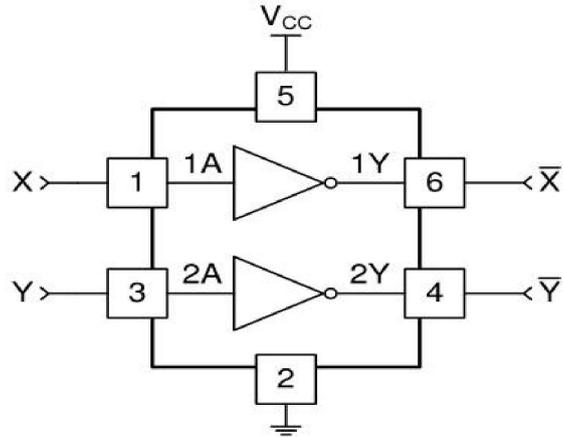


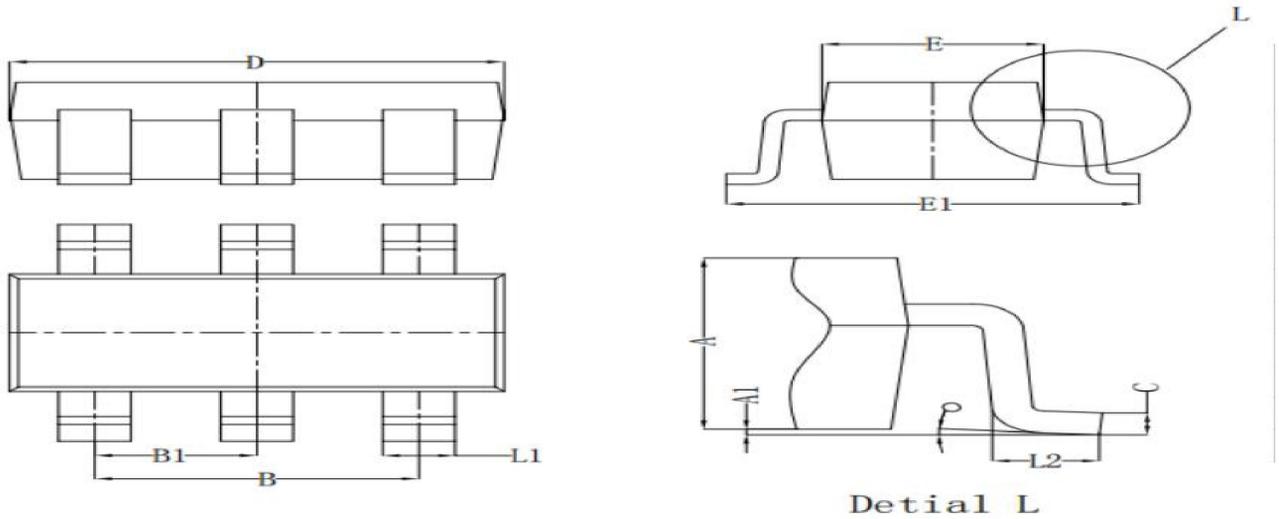
Figure 5.1: Application Schematic

6. Ordering Information

| Orderable Device | Package Type | Pins | Packing | Package Qty |
|-------------------|--------------|------|-------------|-------------|
| 74LVC2G04LT06ARCQ | SOT23 | 6 | Tape & Reel | 3000 |
| 74LVC2G04CT06ARCQ | SC70 | 6 | Tape & Reel | 3000 |
| 74LVC2G04AG06ARCQ | DSBGA | 6 | Tape & Reel | 3000 |
| 74LVC2G04DT06ARDQ | SOT-5X3 | 6 | Tape & Reel | 4000 |

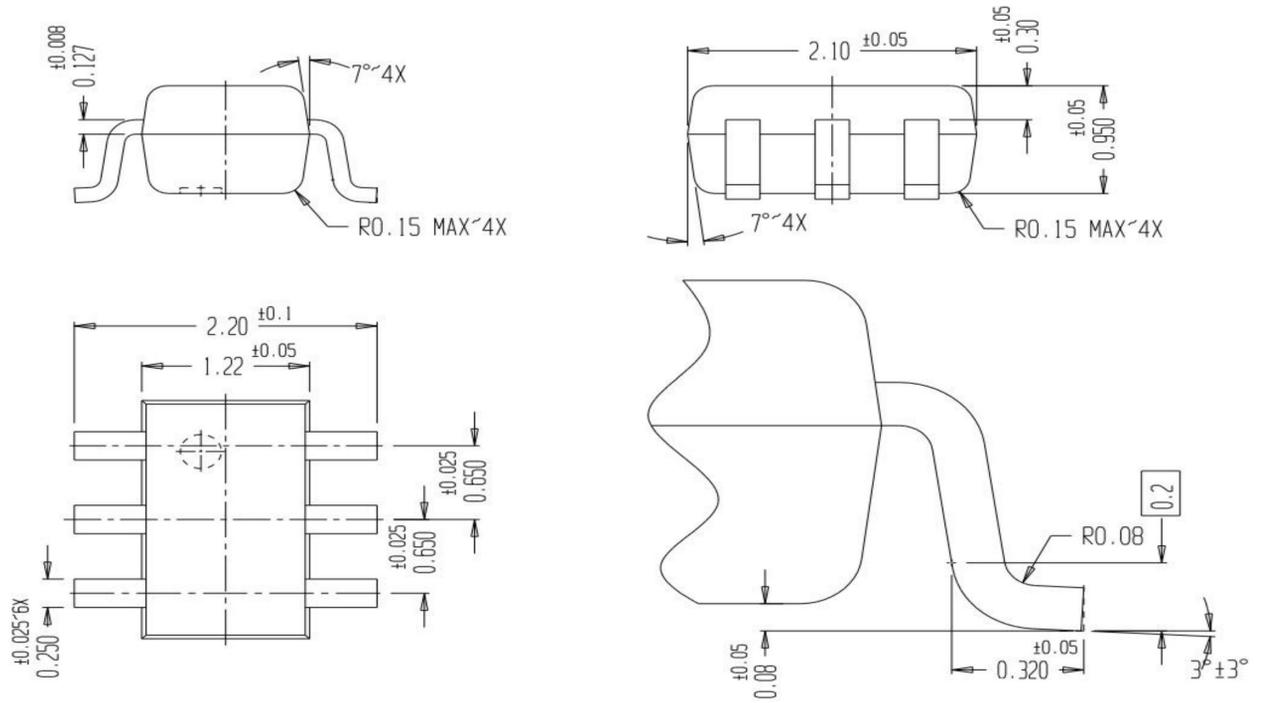
7. Package Information

7.1 SOT23-6

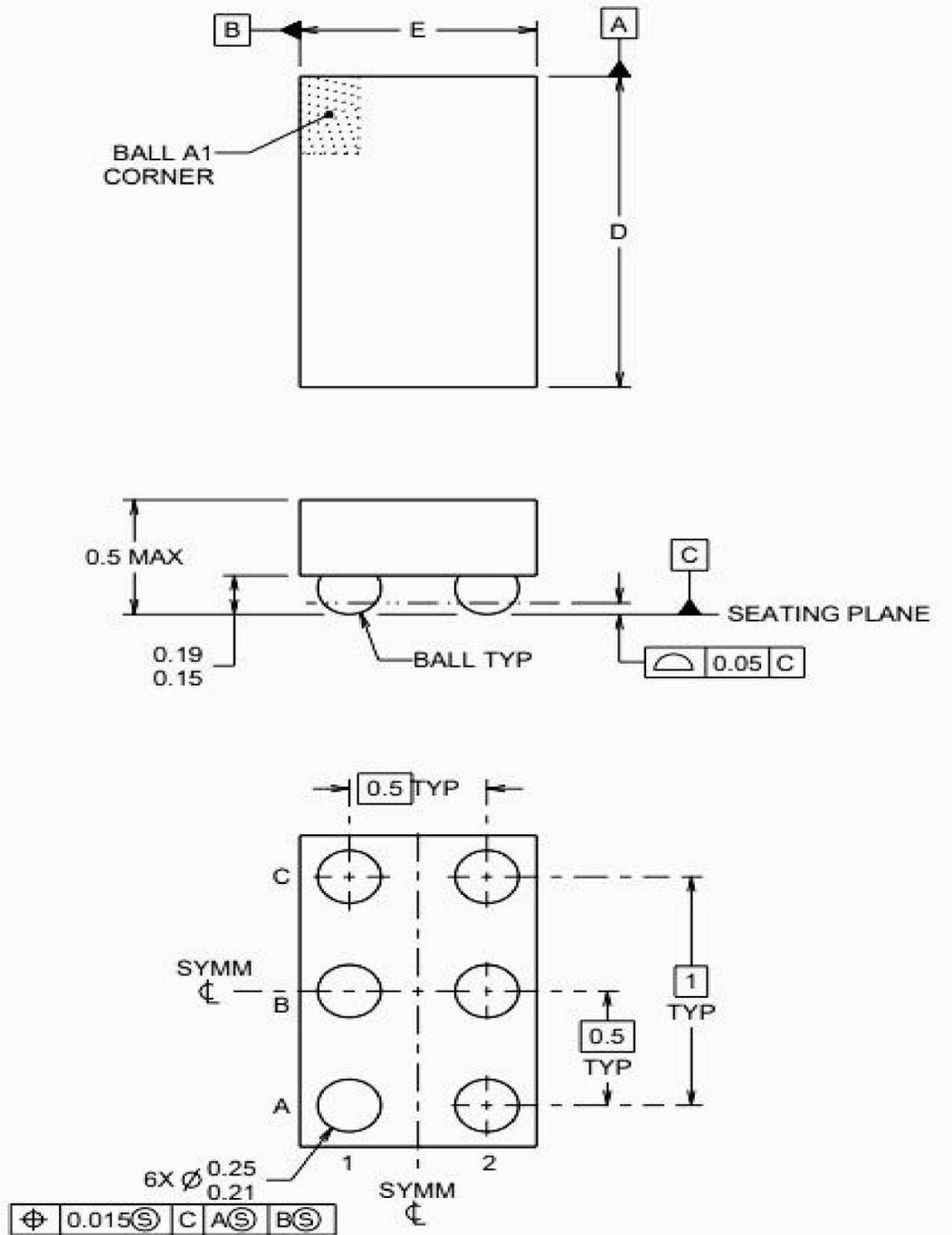


| Symbol | Dim in mm | | |
|--------|-----------|-------|-------|
| | Min | Nor | Max |
| A | 1.050 | 1.100 | 1.150 |
| A1 | 0.000 | 0.050 | 0.100 |
| L1 | 0.300 | 0.400 | 0.500 |
| C | 0.100 | 0.150 | 0.200 |
| D | 2.820 | 2.920 | 3.020 |
| E | 1.500 | 1.600 | 1.700 |
| E1 | 2.650 | 2.800 | 2.950 |
| B | 1.800 | 1.900 | 2.000 |
| B1 | 0.950 TYP | | |
| L2 | 0.300 | 0.450 | 0.600 |
| o | 0° | 4° | 8° |

7.2 SC70-6



7.3 DSBGA(AG)-6



7.4 SOT5X3-6

