74AUP2G32

Low-power dual 2-input OR gate Rev. 7 — 23 January 2013

Product data sheet

General description 1.

The 74AUP2G32 provides dual 2-input OR function.

Schmitt trigger action at all inputs makes the circuit tolerant to slower input rise and fall times across the entire V_{CC} range from 0.8 V to 3.6 V.

This device ensures a very low static and dynamic power consumption across the entire V_{CC} range from 0.8 V to 3.6 V.

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

2. **Features and benefits**

- Wide supply voltage range from 0.8 V to 3.6 V
- High noise immunity
- Complies with JEDEC standards:
 - ◆ JESD8-12 (0.8 V to 1.3 V)
 - ◆ JESD8-11 (0.9 V to 1.65 V)
 - JESD8-7 (1.2 V to 1.95 V)
 - ◆ JESD8-5 (1.8 V to 2.7 V)
 - ◆ JESD8-B (2.7 V to 3.6 V)
- ESD protection:
 - HBM JESD22-A114F Class 3A exceeds 5 000 V
 - MM JESD22-A115-A exceeds 200 V
 - CDM JESD22-C101E exceeds 1000 V
- Low static power consumption; I_{CC} = 0.9 μA (maximum)
- Latch-up performance exceeds 100 mA per JESD 78 Class II
- Inputs accept voltages up to 3.6 V
- Low noise overshoot and undershoot < 10 % of V_{CC}
- I_{OFF} circuitry provides partial Power-down mode operation
- Multiple package options
- Specified from -40 °C to +85 °C and -40 °C to +125 °C



3. Ordering information

Table 1. Ordering information

| Type number | Package | | | |
|-------------|-------------------|--------|---|----------|
| | Temperature range | Name | Description | Version |
| 74AUP2G32DC | –40 °C to +125 °C | VSSOP8 | plastic very thin shrink small outline package; 8 leads; body width 2.3 mm | SOT765-1 |
| 74AUP2G32GT | –40 °C to +125 °C | XSON8 | plastic extremely thin small outline package; no leads; 8 terminals; body 1 \times 1.95 \times 0.5 mm | SOT833-1 |
| 74AUP2G32GF | –40 °C to +125 °C | XSON8 | extremely thin small outline package; no leads; 8 terminals; body $1.35 \times 1 \times 0.5$ mm | SOT1089 |
| 74AUP2G32GD | –40 °C to +125 °C | XSON8 | plastic extremely thin small outline package; no leads; 8 terminals; body 3 \times 2 \times 0.5 mm | SOT996-2 |
| 74AUP2G32GM | –40 °C to +125 °C | XQFN8 | plastic, extremely thin quad flat package; no leads; 8 terminals; body 1.6 \times 1.6 \times 0.5 mm | SOT902-2 |
| 74AUP2G32GN | –40 °C to +125 °C | XSON8 | extremely thin small outline package; no leads; 8 terminals; body 1.2 \times 1.0 \times 0.35 mm | SOT1116 |
| 74AUP2G32GS | –40 °C to +125 °C | XSON8 | extremely thin small outline package; no leads; 8 terminals; body $1.35 \times 1.0 \times 0.35$ mm | SOT1203 |

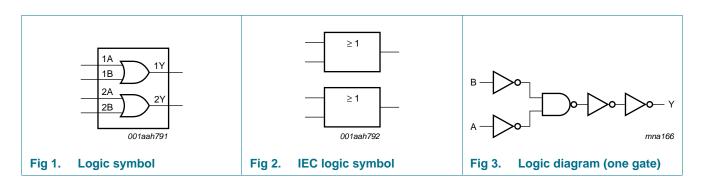
4. Marking

Table 2. Marking codes

| Type number | Marking code ^[1] |
|-------------|-----------------------------|
| 74AUP2G32DC | p32 |
| 74AUP2G32GT | p32 |
| 74AUP2G32GF | pG |
| 74AUP2G32GD | p32 |
| 74AUP2G32GM | p32 |
| 74AUP2G32GN | pG |
| 74AUP2G32GS | pG |

^[1] The pin 1 indicator is located on the lower left corner of the device, below the marking code.

5. Functional diagram

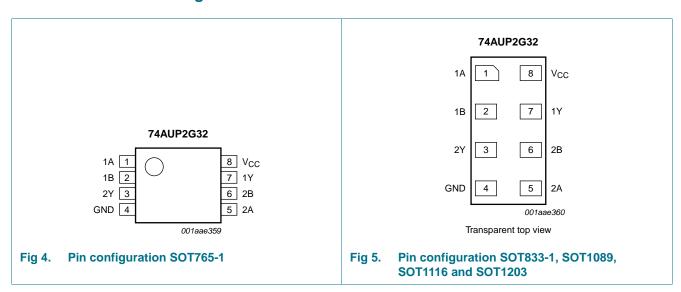


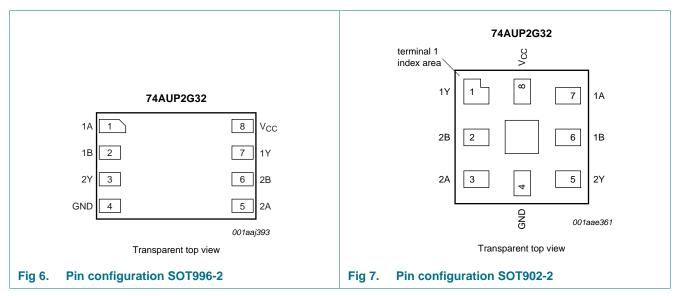
74AUP2G32

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6. Pinning information

6.1 Pinning





6.2 Pin description

Table 3. Pin description

| Symbol | Pin | Pin | | | | |
|----------|---|----------|----------------|--|--|--|
| | SOT765-1, SOT833-1, SOT1089, SOT996-2, SOT1116 and SOT1203 | SOT902-2 | | | | |
| 1A, 2A | 1, 5 | 7, 3 | data input | | | |
| 1B, 2B | 2, 6 | 6, 2 | data input | | | |
| GND | 4 | 4 | ground (0 V) | | | |
| 1Y, 2Y | 7, 3 | 1, 5 | data output | | | |
| V_{CC} | 8 | 8 | supply voltage | | | |

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7. Functional description

Table 4. Function table[1]

| Input | | Output |
|-------|----|--------|
| nA | nB | nY |
| L | L | L |
| L | Н | Н |
| Н | L | Н |
| Н | Н | Н |

^[1] H = HIGH voltage level; L = LOW voltage level.

8. Limiting values

Table 5. Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134). Voltages are referenced to GND (ground = 0 V).

| Symbol | Parameter | Conditions | Min | Max | Unit |
|------------------|-------------------------|--|-----------------|------|------|
| V_{CC} | supply voltage | | -0.5 | +4.6 | V |
| I _{IK} | input clamping current | V _I < 0 V | -50 | - | mA |
| V_{I} | input voltage | | <u>[1]</u> –0.5 | +4.6 | V |
| I _{OK} | output clamping current | V _O < 0 V | -50 | - | mA |
| V _O | output voltage | Active mode and Power-down mode | <u>[1]</u> –0.5 | +4.6 | V |
| Io | output current | $V_O = 0 V \text{ to } V_{CC}$ | - | ±20 | mA |
| I _{CC} | supply current | | - | +50 | mA |
| I_{GND} | ground current | | -50 | - | mA |
| T _{stg} | storage temperature | | -65 | +150 | °C |
| P _{tot} | total power dissipation | $T_{amb} = -40 ^{\circ}\text{C} \text{ to } +125 ^{\circ}\text{C}$ | [2] _ | 250 | mW |
| | | | | | |

^[1] The minimum input and output voltage ratings may be exceeded if the input and output current ratings are observed.

9. Recommended operating conditions

Table 6. Operating conditions

| Symbol | Parameter | Conditions | Min | Max | Unit |
|------------------|-------------------------------------|--|-----|----------|------|
| V_{CC} | supply voltage | | 8.0 | 3.6 | V |
| V _I | input voltage | | 0 | 3.6 | V |
| Vo | output voltage | Active mode | 0 | V_{CC} | V |
| | | Power-down mode; V _{CC} = 0 V | 0 | 3.6 | V |
| T _{amb} | ambient temperature | | -40 | +125 | °C |
| Δt/ΔV | input transition rise and fall rate | $V_{CC} = 0.8 \text{ V to } 3.6 \text{ V}$ | 0 | 200 | ns/V |

^[2] For VSSOP8 packages: above 110 °C the value of P_{tot} derates linearly with 8.0 mW/K.
For XSON8 and XQFN8 packages: above 118 °C the value of P_{tot} derates linearly with 7.8 mW/K.

10. Static characteristics

Table 7. Static characteristics

At recommended operating conditions; voltages are referenced to GND (ground = 0 V).

| $ \begin{array}{llllllllllllllllllllllllllllllllllll$ | | - - - 0.30 × V _{CC} 0.35 × V _{CC} | |
|--|-----------------------|---|-------------|
| $\begin{array}{c} V_{CC} = 0.9 \ V \ to \ 1.95 \ V \\ V_{CC} = 2.3 \ V \ to \ 2.7 \ V \\ V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ V_{CC} = 0.8 \ V \\ V_{CC} = 0.9 \ V \ to \ 1.95 \ V \\ V_{CC} = 2.3 \ V \ to \ 2.7 \ V \\ V_{CC} = 2.3 \ V \ to \ 2.7 \ V \\ V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ V_{CC} = 0.8 \ V \ to \ 3.6 \ V \\ V_{CC} = 0.8 \ V \ to \ 3.6 \ V \\ V_{CC} = 0.1 \ V_{CC} = 0.8 \ V \ to \ 3.6 \ V \\ V_{CC} = 0.1 \ V$ | | $0.35 \times V_{CC}$ | V V V |
| $V_{CC} = 2.3 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | - - - - - | $0.35 \times V_{CC}$ | V V V |
| $V_{CC} = 3.0 \ \forall \ to \ 3.6 \ \forall \qquad 2.0$ $V_{IL} V_{IL} V_{CC} = 0.8 \ \forall \qquad -$ $V_{CC} = 0.9 \ \forall \ to \ 1.95 \ \forall \qquad -$ $V_{CC} = 2.3 \ \forall \ to \ 2.7 \ \forall \qquad -$ $V_{CC} = 3.0 \ \forall \ to \ 3.6 \ \forall \qquad -$ $V_{CC} = 3.0 \ \forall \ to \ 3.6 \ \forall \qquad -$ $V_{CC} = 3.0 \ \forall \ to \ 3.6 \ \forall \qquad -$ $V_{CC} = 3.0 \ \forall \ to \ 3.6 \ \forall \qquad -$ $V_{CC} = 3.0 \ \forall \ to \ 3.6 \ \forall \qquad -$ $V_{CC} = 0.8 \ \forall \ to \ 3.6 \ \forall \qquad -$ $I_{O} = -2.0 \ \mu A; \ V_{CC} = 0.8 \ \forall \ to \ 3.6 \ \forall \qquad -$ $I_{O} = -1.1 \ mA; \ V_{CC} = 1.1 \ \forall \qquad 0.75 \times V_{CC}$ $I_{O} = -1.7 \ mA; \ V_{CC} = 1.4 \ \forall \qquad 1.11$ $I_{O} = -1.9 \ mA; \ V_{CC} = 1.65 \ \forall \qquad 1.32$ $I_{O} = -2.3 \ mA; \ V_{CC} = 2.3 \ \forall \qquad 1.9$ $I_{O} = -2.7 \ mA; \ V_{CC} = 2.3 \ \forall \qquad 1.9$ $I_{O} = -2.7 \ mA; \ V_{CC} = 3.0 \ \forall \qquad 2.72$ $I_{O} = -4.0 \ mA; \ V_{CC} = 3.0 \ \forall \qquad -$ $I_{O} = 1.1 \ mA; \ V_{CC} = 3.0 \ \forall \qquad -$ $I_{O} = 1.1 \ mA; \ V_{CC} = 1.1 \ \forall \qquad -$ $I_{O} = 1.1 \ mA; \ V_{CC} = 1.4 \ \forall \qquad -$ $I_{O} = 1.1 \ mA;$ | - - - - | $0.35 \times V_{CC}$ | V V |
| $\begin{array}{c} V_{IL} \\ V_{OC} = 0.8 \ V \\ V_{CC} = 0.9 \ V \ to \ 1.95 \ V \\ V_{CC} = 2.3 \ V \ to \ 2.7 \ V \\ V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ V_{CC} = 0.8 \ V \ to \ 3.6 \ V \\ V_{CC} = 0.8 \ V \ to \ 3.6 \ V \\ V_{CC} = 0.1 \\ \hline V_{OC} = 0.1 \ V_{OC} = 0.8 \ V \ to \ 3.6 \ V \\ \hline V_{CC} = 0.1 \ V_{CC} = 0.8 \ V \ to \ 3.6 \ V \\ \hline V_{CC} = 0.1 \ V_{$ | - - - - | $0.35 \times V_{CC}$ | V |
| $\begin{array}{c} V_{CC} = 0.9 \ V \ to \ 1.95 \ V \\ V_{CC} = 2.3 \ V \ to \ 2.7 \ V \\ V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ \end{array}$ | - - - | $0.35 \times V_{CC}$ | |
| $V_{CC} = 2.3 \ V \ to \ 2.7 \ V \\ V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ V_{CC} = 0.8 \ V \ to \ 3.6 \ V \\ V_{CC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.8 \ V \ to \ 3.6 \ V \\ V_{CC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_{DC} = 0.1 \ V_{DC} = 0.1 \ V_{DC} = 0.1 \\ V_$ | - | | |
| $V_{CC} = 3.0 \ V \ to \ 3.6 \ V \\ V_{OH} \\ V_{$ | - | 0.7 | V |
| $V_{OH} \text{HIGH-level output voltage} \begin{array}{l} V_{I} = V_{IH} \text{ or } V_{IL} \\ \hline I_{O} = -20 \ \mu \text{A; } V_{CC} = 0.8 \ \text{V to } 3.6 \ \text{V} & V_{CC} = 0.1 \\ \hline I_{O} = -1.1 \ \text{mA; } V_{CC} = 1.1 \ \text{V} & 0.75 \times V_{CC} \\ \hline I_{O} = -1.7 \ \text{mA; } V_{CC} = 1.4 \ \text{V} & 1.11 \\ \hline I_{O} = -1.9 \ \text{mA; } V_{CC} = 1.65 \ \text{V} & 1.32 \\ \hline I_{O} = -2.3 \ \text{mA; } V_{CC} = 2.3 \ \text{V} & 2.05 \\ \hline I_{O} = -3.1 \ \text{mA; } V_{CC} = 2.3 \ \text{V} & 1.9 \\ \hline I_{O} = -2.7 \ \text{mA; } V_{CC} = 3.0 \ \text{V} & 2.72 \\ \hline I_{O} = -4.0 \ \text{mA; } V_{CC} = 3.0 \ \text{V} & 2.6 \\ \hline V_{I} = V_{IH} \ \text{or } V_{IL} \\ \hline I_{O} = 20 \ \mu \text{A; } V_{CC} = 0.8 \ \text{V to } 3.6 \ \text{V} & -1.0 \\ \hline I_{O} = 1.1 \ \text{mA; } V_{CC} = 1.1 \ \text{V} & -1.0 \\ \hline I_{O} = 1.7 \ \text{mA; } V_{CC} = 1.4 \ \text{V} & -1.0 \\ \hline I_{O} = 1.9 \ \text{mA; } V_{CC} = 1.65 \ \text{V} & -1.0 \\ \hline I_{O} = 2.3 \ \text{mA; } V_{CC} = 2.3 \ \text{V} & -1.0 \\ \hline I_{O} = 2.3 \ \text{mA; } V_{CC} = 2.3 \ \text{V} & -1.0 \\ \hline I_{O} = 2.7 \ \text{mA; } V_{CC} = 2.3 \ \text{V} & -1.0 \\ \hline I_{O} = 2.7 \ \text{mA; } V_{CC} = 3.0 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 3.0 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 3.0 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 3.0 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 3.0 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 3.0 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 0 \ \text{V to } 3.6 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 0 \ \text{V to } 3.6 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 0 \ \text{V to } 3.6 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 0 \ \text{V to } 3.6 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 0 \ \text{V to } 3.6 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 0 \ \text{V to } 3.6 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 0 \ \text{V to } 3.6 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 0 \ \text{V to } 3.6 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 0 \ \text{V to } 3.6 \ \text{V} & -1.0 \\ \hline I_{O} = 4.0 \ \text{mA; } V_{CC} = 0 \ \text{V to } 3.6 \ \text{V} & -1.0 \\ \hline I_{O} = 1.0 \ \text{MA; } V_{CC} = 1.0 \ \text{V to } 3.6 \ \text{V} & -1.0 \\ \hline I_{O} = 1.0 \ \text{MA; } V_{CC} = 1.0$ | - | 0.7 | V |
| $I_{O} = -20 \; \mu A; \; V_{CC} = 0.8 \; V \; to \; 3.6 \; V \qquad V_{CC} - 0.1 \\ I_{O} = -1.1 \; mA; \; V_{CC} = 1.1 \; V \qquad 0.75 \times V_{CC} \\ I_{O} = -1.7 \; mA; \; V_{CC} = 1.4 \; V \qquad 1.11 \\ I_{O} = -1.9 \; mA; \; V_{CC} = 1.65 \; V \qquad 1.32 \\ I_{O} = -2.3 \; mA; \; V_{CC} = 2.3 \; V \qquad 2.05 \\ I_{O} = -3.1 \; mA; \; V_{CC} = 2.3 \; V \qquad 1.9 \\ I_{O} = -2.7 \; mA; \; V_{CC} = 3.0 \; V \qquad 2.72 \\ I_{O} = -4.0 \; mA; \; V_{CC} = 3.0 \; V \qquad 2.6 \\ V_{OL} \qquad \qquad V_{I} = V_{IH} \; or \; V_{IL} \\ I_{O} = 20 \; \mu A; \; V_{CC} = 0.8 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 1.1 \; mA; \; V_{CC} = 1.4 \; V \qquad - \\ I_{O} = 1.7 \; mA; \; V_{CC} = 1.4 \; V \qquad - \\ I_{O} = 1.9 \; mA; \; V_{CC} = 1.65 \; V \qquad - \\ I_{O} = 2.3 \; mA; \; V_{CC} = 2.3 \; V \qquad - \\ I_{O} = 3.1 \; mA; \; V_{CC} = 2.3 \; V \qquad - \\ I_{O} = 3.1 \; mA; \; V_{CC} = 3.0 \; V \qquad - \\ I_{O} = 3.1 \; mA; \; V_{CC} = 3.0 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 3.0 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 3.0 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 3.0 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 3.0 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\ I_{O} = 4.0 \; mA; \; V_{CC} = 0 \; V \; to \; 3.6 \; V \qquad - \\$ | | 0.9 | V |
| $\begin{array}{c} I_{O} = -1.1 \text{ mA; } V_{CC} = 1.1 \text{ V} & 0.75 \times V_{CC} \\ I_{O} = -1.7 \text{ mA; } V_{CC} = 1.4 \text{ V} & 1.11 \\ I_{O} = -1.9 \text{ mA; } V_{CC} = 1.65 \text{ V} & 1.32 \\ I_{O} = -2.3 \text{ mA; } V_{CC} = 2.3 \text{ V} & 2.05 \\ I_{O} = -3.1 \text{ mA; } V_{CC} = 2.3 \text{ V} & 1.9 \\ I_{O} = -3.1 \text{ mA; } V_{CC} = 3.0 \text{ V} & 2.72 \\ I_{O} = -4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & 2.6 \\ \end{array}$ $\begin{array}{c} V_{OL} & \text{LOW-level output voltage} & V_{I} = V_{IH} \text{ or } V_{IL} \\ I_{O} = 20 \mu\text{A; } V_{CC} = 0.8 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 1.1 \text{ mA; } V_{CC} = 1.1 \text{ V} & -100 \\ I_{O} = 1.7 \text{ mA; } V_{CC} = 1.4 \text{ V} & -100 \\ I_{O} = 1.9 \text{ mA; } V_{CC} = 1.65 \text{ V} & -100 \\ I_{O} = 2.3 \text{ mA; } V_{CC} = 2.3 \text{ V} & -100 \\ I_{O} = 3.1 \text{ mA; } V_{CC} = 2.3 \text{ V} & -100 \\ I_{O} = 2.7 \text{ mA; } V_{CC} = 3.0 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -100 \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -1$ | | | |
| $\begin{array}{c} I_{O} = -1.7 \text{ mA; } V_{CC} = 1.4 \text{ V} & 1.11 \\ \hline I_{O} = -1.9 \text{ mA; } V_{CC} = 1.65 \text{ V} & 1.32 \\ \hline I_{O} = -2.3 \text{ mA; } V_{CC} = 2.3 \text{ V} & 2.05 \\ \hline I_{O} = -3.1 \text{ mA; } V_{CC} = 2.3 \text{ V} & 1.9 \\ \hline I_{O} = -2.7 \text{ mA; } V_{CC} = 3.0 \text{ V} & 2.72 \\ \hline I_{O} = -4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & 2.6 \\ \hline \\ V_{OL} & \text{LOW-level output voltage} & V_{I} = V_{IH} \text{ or } V_{IL} \\ \hline I_{O} = 20 \mu\text{A; } V_{CC} = 0.8 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 1.1 \text{ mA; } V_{CC} = 1.1 \text{ V} & -10.0 \\ \hline I_{O} = 1.9 \text{ mA; } V_{CC} = 1.65 \text{ V} & -10.0 \\ \hline I_{O} = 1.9 \text{ mA; } V_{CC} = 1.65 \text{ V} & -10.0 \\ \hline I_{O} = 2.3 \text{ mA; } V_{CC} = 2.3 \text{ V} & -10.0 \\ \hline I_{O} = 2.7 \text{ mA; } V_{CC} = 3.0 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & -10.0 \\ \hline I_{O} = 4.0 \text{ mA; } V_{CC$ | - | - | V |
| $I_{O} = -1.9 \text{ mA}; V_{CC} = 1.65 \text{ V} \qquad 1.32$ $I_{O} = -2.3 \text{ mA}; V_{CC} = 2.3 \text{ V} \qquad 2.05$ $I_{O} = -3.1 \text{ mA}; V_{CC} = 2.3 \text{ V} \qquad 1.9$ $I_{O} = -2.7 \text{ mA}; V_{CC} = 3.0 \text{ V} \qquad 2.72$ $I_{O} = -4.0 \text{ mA}; V_{CC} = 3.0 \text{ V} \qquad 2.6$ $V_{OL} \qquad \qquad$ | - | - | V |
| $I_{O} = -2.3 \text{ mA; } V_{CC} = 2.3 \text{ V} \\ I_{O} = -3.1 \text{ mA; } V_{CC} = 2.3 \text{ V} \\ I_{O} = -2.7 \text{ mA; } V_{CC} = 3.0 \text{ V} \\ I_{O} = -4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} \\ 2.6 \\ V_{OL} $ LOW-level output voltage $V_{I} = V_{IH} \text{ or } V_{IL} \\ I_{O} = 20 \mu\text{A; } V_{CC} = 0.8 \text{ V to } 3.6 \text{ V} \\ I_{O} = 1.1 \text{ mA; } V_{CC} = 1.1 \text{ V} \\ I_{O} = 1.7 \text{ mA; } V_{CC} = 1.4 \text{ V} \\ I_{O} = 1.9 \text{ mA; } V_{CC} = 1.65 \text{ V} \\ I_{O} = 2.3 \text{ mA; } V_{CC} = 2.3 \text{ V} \\ I_{O} = 3.1 \text{ mA; } V_{CC} = 2.3 \text{ V} \\ I_{O} = 2.7 \text{ mA; } V_{CC} = 3.0 \text{ V} \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 0.0 \text{ V to } 3.6 \text{ V; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 0.0 \text{ V to } 3.6 \text{ V; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 0.0 \text{ V to } 3.6 \text{ V; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 0.0 \text{ V to } 0.0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 0.0 \text{ V to } 0.0 \text{ V to } 0.0 \text{ V to } 0.0 \text{ V} \\ I_{O} = 0.0 \text{ V to } 0.0 \text{ V} \\ I_{O} = 0.0 \text{ V to } 0.0 $ | - | - | V |
| $\begin{array}{c} I_O = -3.1 \text{ mA; } V_{CC} = 2.3 \text{ V} & 1.9 \\ I_O = -2.7 \text{ mA; } V_{CC} = 3.0 \text{ V} & 2.72 \\ I_O = -4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & 2.6 \\ \end{array}$ $\begin{array}{c} V_{OL} & \text{LOW-level output voltage} & V_I = V_{IH} \text{ or } V_{IL} \\ \hline I_O = 20 \mu\text{A; } V_{CC} = 0.8 \text{ V to } 3.6 \text{ V} & - \\ \hline I_O = 1.1 \text{ mA; } V_{CC} = 1.1 \text{ V} & - \\ \hline I_O = 1.7 \text{ mA; } V_{CC} = 1.4 \text{ V} & - \\ \hline I_O = 1.9 \text{ mA; } V_{CC} = 1.65 \text{ V} & - \\ \hline I_O = 2.3 \text{ mA; } V_{CC} = 2.3 \text{ V} & - \\ \hline I_O = 3.1 \text{ mA; } V_{CC} = 2.3 \text{ V} & - \\ \hline I_O = 2.7 \text{ mA; } V_{CC} = 3.0 \text{ V} & - \\ \hline I_O = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & - \\ \hline I_O = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & - \\ \hline \end{array}$ | - | - | V |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | - | - | V |
| $\begin{array}{c} I_O = -4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & 2.6 \\ \hline V_{OL} & LOW\text{-level output voltage} & V_I = V_{IH} \text{ or } V_{IL} \\ \hline I_O = 20 \mu\text{A; } V_{CC} = 0.8 \text{ V to } 3.6 \text{ V} & - \\ \hline I_O = 1.1 \text{ mA; } V_{CC} = 1.1 \text{ V} & - \\ \hline I_O = 1.7 \text{ mA; } V_{CC} = 1.4 \text{ V} & - \\ \hline I_O = 1.9 \text{ mA; } V_{CC} = 1.65 \text{ V} & - \\ \hline I_O = 2.3 \text{ mA; } V_{CC} = 2.3 \text{ V} & - \\ \hline I_O = 3.1 \text{ mA; } V_{CC} = 2.3 \text{ V} & - \\ \hline I_O = 2.7 \text{ mA; } V_{CC} = 3.0 \text{ V} & - \\ \hline I_O = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & - \\ \hline I_O = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & - \\ \hline I_O = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & - \\ \hline \end{array}$ | - | - | V |
| $\begin{array}{c} V_{OL} \\ V_{OL} \\ V_{OL} \\ \\ V_{I} = V_{IH} \text{ or } V_{IL} \\ \hline \\ I_{O} = 20 \ \mu\text{A}; \ V_{CC} = 0.8 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 1.1 \ \text{mA}; \ V_{CC} = 1.1 \ V \\ \hline \\ I_{O} = 1.7 \ \text{mA}; \ V_{CC} = 1.4 \ V \\ \hline \\ I_{O} = 1.9 \ \text{mA}; \ V_{CC} = 1.65 \ V \\ \hline \\ I_{O} = 2.3 \ \text{mA}; \ V_{CC} = 2.3 \ V \\ \hline \\ I_{O} = 3.1 \ \text{mA}; \ V_{CC} = 2.3 \ V \\ \hline \\ I_{O} = 2.7 \ \text{mA}; \ V_{CC} = 3.0 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 3.0 \ V \\ \hline \\ I_{O} = 3.0 \ \text{mA}; \ V_{CC} = 3.0 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 3.0 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline \\ I_{O} = 4.0 \ \text{mA}; \ V_{CC} = 0 \ V \text{ to } 3.6 \ V \\ \hline $ | - | - | V |
| $\begin{split} I_O &= 20~\mu\text{A}; \ V_{CC} = 0.8~V~to~3.6~V~-\\ I_O &= 1.1~\text{mA}; \ V_{CC} = 1.1~V~-\\ I_O &= 1.7~\text{mA}; \ V_{CC} = 1.4~V~-\\ I_O &= 1.9~\text{mA}; \ V_{CC} = 1.65~V~-\\ I_O &= 2.3~\text{mA}; \ V_{CC} = 2.3~V~-\\ I_O &= 3.1~\text{mA}; \ V_{CC} = 2.3~V~-\\ I_O &= 2.7~\text{mA}; \ V_{CC} = 3.0~V~-\\ I_O &= 4.0~\text{mA}; \ V_{CC} = 3.0~V~-\\ I_O &= 4.0~\text{mA}; \ V_{CC} = 0~V~to~3.6~V~-\\ \end{split}$ | - | - | V |
| $\begin{array}{c} I_O = 1.1 \text{ mA; } V_{CC} = 1.1 \text{ V} \\ \\ I_O = 1.7 \text{ mA; } V_{CC} = 1.4 \text{ V} \\ \\ I_O = 1.9 \text{ mA; } V_{CC} = 1.65 \text{ V} \\ \\ I_O = 2.3 \text{ mA; } V_{CC} = 2.3 \text{ V} \\ \\ I_O = 3.1 \text{ mA; } V_{CC} = 2.3 \text{ V} \\ \\ I_O = 2.7 \text{ mA; } V_{CC} = 3.0 \text{ V} \\ \\ \\ I_O = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} \\ \\ \\ \\ I_O = 4.0 \text{ mA; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ \\ \end{array}$ | | | |
| $\begin{array}{c} I_O = 1.7 \text{ mA; } V_{CC} = 1.4 \text{ V} \\ \\ I_O = 1.9 \text{ mA; } V_{CC} = 1.65 \text{ V} \\ \\ I_O = 2.3 \text{ mA; } V_{CC} = 2.3 \text{ V} \\ \\ \\ I_O = 3.1 \text{ mA; } V_{CC} = 2.3 \text{ V} \\ \\ \\ I_O = 2.7 \text{ mA; } V_{CC} = 3.0 \text{ V} \\ \\ \\ \\ I_O = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $ | - | 0.1 | V |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | - | $0.3 \times V_{CC}$ | V |
| $\begin{split} I_O = 2.3 \text{ mA; } V_{CC} = 2.3 \text{ V} & - \\ I_O = 3.1 \text{ mA; } V_{CC} = 2.3 \text{ V} & - \\ I_O = 2.7 \text{ mA; } V_{CC} = 3.0 \text{ V} & - \\ I_O = 4.0 \text{ mA; } V_{CC} = 3.0 \text{ V} & - \\ V_I = \text{GND to } 3.6 \text{ V; } V_{CC} = 0 \text{ V to } 3.6 \text{ V} & - \\ \end{split}$ | - | 0.31 | V |
| $I_{O} = 3.1 \text{ mA}; \ V_{CC} = 2.3 \text{ V} \\ I_{O} = 2.7 \text{ mA}; \ V_{CC} = 3.0 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 3.0 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_{O} = 4.0 \text{ mA}; \ V_{CC} = 4.0 \text{ MA}; \ V_{$ | - | 0.31 | V |
| $I_O = 2.7 \text{ mA}; \ V_{CC} = 3.0 \text{ V} \\ I_O = 4.0 \text{ mA}; \ V_{CC} = 3.0 \text{ V} \\ I_I \text{ input leakage current} \\ V_I = \text{GND to } 3.6 \text{ V}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \\ I_I \text{ or } I_I $ | - | 0.31 | V |
| $I_{O} = 4.0 \text{ mA}; \ V_{CC} = 3.0 \text{ V} \qquad \qquad -$ input leakage current $V_{I} = \text{GND to } 3.6 \text{ V}; \ V_{CC} = 0 \text{ V to } 3.6 \text{ V} \qquad -$ | - | 0.44 | V |
| input leakage current $V_I = GND \text{ to } 3.6 \text{ V}; V_{CC} = 0 \text{ V to } 3.6 \text{ V}$ | - | 0.31 | V |
| | - | 0.44 | V |
| oper power-off leakage current V_I or $V_O = 0$ V to 3.6 V; $V_{CC} = 0$ V | - | ±0.1 | μΑ |
| | - | ±0.2 | μΑ |
| $ \begin{array}{lll} \Delta I_{OFF} & \text{additional power-off} & V_I \text{ or } V_O = 0 \text{ V to } 3.6 \text{ V}; & - \\ & \text{leakage current} & V_{CC} = 0 \text{ V to } 0.2 \text{ V} \end{array} $ | - | ±0.2 | μΑ |
| supply current $V_I = GND \text{ or } V_{CC}; I_O = 0 \text{ A}; - V_{CC} = 0.8 \text{ V to } 3.6 \text{ V}$ | - | 0.5 | μΑ |
| additional supply current $V_I = V_{CC} - 0.6 \text{ V}; I_O = 0 \text{ A};$ $V_{CC} = 3.3 \text{ V}$ | - | 40 | μΑ |
| $V_{CC} = 0 \text{ V to } 3.6 \text{ V; } V_{I} = \text{GND or } V_{CC}$ | 0.6 | - | pF |
| $V_O = SND; V_{CC} = 0 V$ | 1.3 | | pF |

 Table 7.
 Static characteristics ...continued

At recommended operating conditions; voltages are referenced to GND (ground = 0 V).

| Symbol | Parameter | Conditions | Min | Тур | Max | Unit |
|----------------------|---|--|------------------------|-----|----------------------|------|
| T _{amb} = - | 40 °C to +85 °C | | | | | |
| V _{IH} | HIGH-level input voltage | V _{CC} = 0.8 V | $0.70 \times V_{CC}$ | - | - | ٧ |
| | | V _{CC} = 0.9 V to 1.95 V | $0.65 \times V_{CC}$ | - | - | V |
| | | $V_{CC} = 2.3 \text{ V to } 2.7 \text{ V}$ | 1.6 | - | - | V |
| | | $V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$ | 2.0 | - | - | V |
| V _{IL} | LOW-level input voltage | V _{CC} = 0.8 V | - | - | $0.30 \times V_{CC}$ | V |
| | | V _{CC} = 0.9 V to 1.95 V | - | - | $0.35 \times V_{CC}$ | ٧ |
| | | $V_{CC} = 2.3 \text{ V to } 2.7 \text{ V}$ | - | - | 0.7 | V |
| | | V _{CC} = 3.0 V to 3.6 V | - | - | 0.9 | V |
| V _{OH} | HIGH-level output voltage | $V_I = V_{IH}$ or V_{IL} | | | | |
| | | $I_{O} = -20 \mu A$; $V_{CC} = 0.8 \text{ V to } 3.6 \text{ V}$ | V _{CC} - 0.1 | - | - | V |
| | | $I_{O} = -1.1 \text{ mA}; V_{CC} = 1.1 \text{ V}$ | $0.7 \times V_{CC}$ | - | - | ٧ |
| | | $I_O = -1.7 \text{ mA}$; $V_{CC} = 1.4 \text{ V}$ | 1.03 | - | - | ٧ |
| | | $I_O = -1.9 \text{ mA}; V_{CC} = 1.65 \text{ V}$ | 1.30 | - | - | V |
| | | $I_{O} = -2.3 \text{ mA}; V_{CC} = 2.3 \text{ V}$ | 1.97 | - | - | ٧ |
| | | $I_{O} = -3.1 \text{ mA}; V_{CC} = 2.3 \text{ V}$ | 1.85 | - | - | ٧ |
| | | $I_{O} = -2.7 \text{ mA}; V_{CC} = 3.0 \text{ V}$ | 2.67 | - | - | V |
| | | $I_{O} = -4.0 \text{ mA}; V_{CC} = 3.0 \text{ V}$ | 2.55 | - | - | V |
| V_{OL} | LOW-level output voltage | $V_I = V_{IH}$ or V_{IL} | | | | |
| | | $I_O = 20 \mu A$; $V_{CC} = 0.8 \text{ V to } 3.6 \text{ V}$ | - | - | 0.1 | V |
| | | I _O = 1.1 mA; V _{CC} = 1.1 V | - | - | $0.3 \times V_{CC}$ | V |
| | | I _O = 1.7 mA; V _{CC} = 1.4 V | - | - | 0.37 | V |
| | | $I_O = 1.9 \text{ mA}; V_{CC} = 1.65 \text{ V}$ | - | - | 0.35 | V |
| | | $I_O = 2.3 \text{ mA}; V_{CC} = 2.3 \text{ V}$ | - | - | 0.33 | V |
| | | $I_O = 3.1 \text{ mA}; V_{CC} = 2.3 \text{ V}$ | - | - | 0.45 | V |
| | | $I_O = 2.7 \text{ mA}; V_{CC} = 3.0 \text{ V}$ | - | - | 0.33 | V |
| | | $I_O = 4.0 \text{ mA}; V_{CC} = 3.0 \text{ V}$ | - | - | 0.45 | ٧ |
| l _l | input leakage current | $V_{I} = GND \text{ to } 3.6 \text{ V}; V_{CC} = 0 \text{ V to } 3.6 \text{ V}$ | - | - | ±0.5 | μΑ |
| l _{OFF} | power-off leakage current | V_{I} or $V_{O} = 0 \text{ V}$ to 3.6 V; $V_{CC} = 0 \text{ V}$ | - | - | ±0.5 | μΑ |
| Δl _{OFF} | additional power-off leakage current | V_1 or $V_0 = 0 \text{ V to } 3.6 \text{ V};$ $V_{CC} = 0 \text{ V to } 0.2 \text{ V}$ | - | - | ±0.6 | μΑ |
| Icc | supply current | $V_{I} = GND \text{ or } V_{CC}; I_{O} = 0 \text{ A};$ $V_{CC} = 0.8 \text{ V to } 3.6 \text{ V}$ | - | - | 0.9 | μΑ |
| Δl _{CC} | additional supply current | $V_I = V_{CC} - 0.6 \text{ V}; I_O = 0 \text{ A};$ $V_{CC} = 3.3 \text{ V}$ | [1] - | - | 50 | μΑ |
| T _{amb} = - | 40 °C to +125 °C | | | | | |
| V _{IH} | HIGH-level input voltage | V _{CC} = 0.8 V | 0.75 × V _{CC} | - | - | V |
| | - | V _{CC} = 0.9 V to 1.95 V | 0.70 × V _{CC} | | - | V |
| | | V _{CC} = 2.3 V to 2.7 V | 1.6 | - | - | ٧ |
| | | V _{CC} = 3.0 V to 3.6 V | 2.0 | | | V |

 Table 7.
 Static characteristics ...continued

At recommended operating conditions; voltages are referenced to GND (ground = 0 V).

| Symbol | Parameter | Conditions | Min | Тур | Max | Uni |
|-------------------|--------------------------------------|--|------------------------|-----|----------------------|-----|
| V _{IL} | LOW-level input voltage | V _{CC} = 0.8 V | - | - | $0.25 \times V_{CC}$ | V |
| | | V _{CC} = 0.9 V to 1.95 V | - | - | $0.30 \times V_{CC}$ | V |
| | | V _{CC} = 2.3 V to 2.7 V | - | - | 0.7 | V |
| | | V_{CC} = 3.0 V to 3.6 V | - | - | 0.9 | V |
| V _{OH} | HIGH-level output voltage | $V_I = V_{IH}$ or V_{IL} | | | | |
| | | $I_O = -20 \mu A$; $V_{CC} = 0.8 \text{ V}$ to 3.6 V | V _{CC} - 0.11 | - | - | V |
| | | $I_{O} = -1.1 \text{ mA}; V_{CC} = 1.1 \text{ V}$ | $0.6 \times V_{CC}$ | - | - | V |
| | | $I_{O} = -1.7 \text{ mA}; V_{CC} = 1.4 \text{ V}$ | 0.93 | - | - | V |
| | | $I_{O} = -1.9 \text{ mA}; V_{CC} = 1.65 \text{ V}$ | 1.17 | - | - | V |
| | | $I_{O} = -2.3 \text{ mA}; V_{CC} = 2.3 \text{ V}$ | 1.77 | - | - | V |
| | | $I_{O} = -3.1 \text{ mA}; V_{CC} = 2.3 \text{ V}$ | 1.67 | - | - | V |
| | | $I_{O} = -2.7 \text{ mA}; V_{CC} = 3.0 \text{ V}$ | 2.40 | - | - | V |
| | | $I_{O} = -4.0 \text{ mA}; V_{CC} = 3.0 \text{ V}$ | 2.30 | - | - | V |
| V_{OL} | LOW-level output voltage | $V_I = V_{IH}$ or V_{IL} | | | | |
| | | I_O = 20 μ A; V_{CC} = 0.8 V to 3.6 V | - | - | 0.11 | V |
| | | $I_{O} = 1.1 \text{ mA}; V_{CC} = 1.1 \text{ V}$ | - | - | $0.33 \times V_{CC}$ | V |
| | | $I_O = 1.7 \text{ mA}; V_{CC} = 1.4 \text{ V}$ | - | - | 0.41 | V |
| | | $I_{O} = 1.9 \text{ mA}; V_{CC} = 1.65 \text{ V}$ | - | - | 0.39 | V |
| | | $I_{O} = 2.3 \text{ mA}; V_{CC} = 2.3 \text{ V}$ | - | - | 0.36 | V |
| | | $I_O = 3.1 \text{ mA}; V_{CC} = 2.3 \text{ V}$ | - | - | 0.50 | V |
| | | $I_{O} = 2.7 \text{ mA}; V_{CC} = 3.0 \text{ V}$ | - | - | 0.36 | V |
| | | $I_O = 4.0 \text{ mA}; V_{CC} = 3.0 \text{ V}$ | - | - | 0.50 | V |
| I | input leakage current | $V_I = GND$ to 3.6 V; $V_{CC} = 0$ V to 3.6 V | - | - | ±0.75 | μΑ |
| OFF | power-off leakage current | V_I or $V_O = 0$ V to 3.6 V; $V_{CC} = 0$ V | - | - | ±0.75 | μΑ |
| Δl _{OFF} | additional power-off leakage current | V_1 or $V_0 = 0$ V to 3.6 V; $V_{CC} = 0$ V to 0.2 V | - | - | ±0.75 | μΑ |
| CC | supply current | V_I = GND or V_{CC} ; I_O = 0 A; V_{CC} = 0.8 V to 3.6 V | - | - | 1.4 | μΑ |
| Δl _{CC} | additional supply current | $V_I = V_{CC} - 0.6 \text{ V}; I_O = 0 \text{ A};$ $V_{CC} = 3.3 \text{ V}$ | [1] - | - | 75 | μΑ |

^[1] One input at V_{CC} – 0.6 V, other input at V_{CC} or GND.

11. Dynamic characteristics

Table 8. Dynamic characteristics

Voltages are referenced to GND (ground = 0 V); for test circuit see Figure 9.

| Symbol | Parameter | Conditions | | | 25 °C | | -40 °C to +125 °C | | | Unit | |
|---------------------|-------------------|--|-----|-----|--------|------|-------------------|----------------|-----------------|------|--|
| | | | | Min | Typ[1] | Max | Min | Max (85 °C) | Max (125 °C) | | |
| $C_L = 5 p$ | F | | | | ' | ' | ' | | | | |
| t_{pd} | propagation delay | nA or nB to nY; see Figure 8 | [2] | | | | | | | | |
| | | $V_{CC} = 0.8 \text{ V}$ | | - | 16.8 | - | - | - | - | ns | |
| | | $V_{CC} = 1.1 \text{ V to } 1.3 \text{ V}$ | | 2.4 | 5.1 | 10.9 | 2.1 | 11.9 | 13.2 | ns | |
| | | $V_{CC} = 1.4 \text{ V to } 1.6 \text{ V}$ | | 1.6 | 3.6 | 6.6 | 1.4 | 7.5 | 8.3 | ns | |
| | | $V_{CC} = 1.65 \text{ V to } 1.95 \text{ V}$ | | 1.4 | 3.0 | 5.2 | 1.2 | 6.0 | 6.6 | ns | |
| | | $V_{CC} = 2.3 \text{ V to } 2.7 \text{ V}$ | | 1.1 | 2.4 | 3.9 | 1.0 | 4.6 | 5.1 | ns | |
| | | $V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$ | | 1.0 | 2.1 | 3.5 | 0.9 | 4.1 | 4.6 | ns | |
| C _L = 10 | pF | | | | | | | | | | |
| t_{pd} | propagation delay | nA or nB to nY; see Figure 8 | [2] | | | | | | | | |
| | | $V_{CC} = 0.8 \text{ V}$ | | - | 20.3 | - | - | - | - | ns | |
| | | $V_{CC} = 1.1 \text{ V to } 1.3 \text{ V}$ | | 2.3 | 5.9 | 12.7 | 2.1 | 13.8 | 15.2 | ns | |
| | | $V_{CC} = 1.4 \text{ V to } 1.6 \text{ V}$ | | 1.9 | 4.2 | 7.7 | 1.7 | 8.7 | 9.6 | ns | |
| | | $V_{CC} = 1.65 \text{ V to } 1.95 \text{ V}$ | | 1.7 | 3.5 | 6.0 | 1.5 | 6.9 | 7.7 | ns | |
| | | $V_{CC} = 2.3 \text{ V to } 2.7 \text{ V}$ | | 1.4 | 2.9 | 4.6 | 1.3 | 5.5 | 6.1 | ns | |
| | | $V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$ | | 1.3 | 2.7 | 4.3 | 1.2 | 5.0 | 5.5 | ns | |
| C _L = 15 | pF | | | | | | | | | | |
| t _{pd} | propagation delay | nA or nB to nY; see Figure 8 | [2] | | | | | | | | |
| | | $V_{CC} = 0.8 \text{ V}$ | | - | 23.8 | - | - | - | - | ns | |
| | | $V_{CC} = 1.1 \text{ V to } 1.3 \text{ V}$ | | 3.3 | 6.7 | 14.3 | 3.0 | 15.6 | 17.2 | ns | |
| | | $V_{CC} = 1.4 \text{ V to } 1.6 \text{ V}$ | | 2.3 | 4.8 | 8.6 | 2.0 | 9.8 | 10.8 | ns | |
| | | $V_{CC} = 1.65 \text{ V to } 1.95 \text{ V}$ | | 2.0 | 4.0 | 6.7 | 1.8 | 7.9 | 8.7 | ns | |
| | | $V_{CC} = 2.3 \text{ V to } 2.7 \text{ V}$ | | 1.7 | 3.3 | 5.3 | 1.6 | 6.3 | 6.9 | ns | |
| | | $V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$ | | 1.5 | 3.1 | 4.9 | 1.5 | 5.8 | 6.4 | ns | |
| C _L = 30 | pF | | | | | | | | | | |
| t _{pd} | propagation delay | nA or nB to nY; see Figure 8 | [2] | | | | | | | | |
| | | $V_{CC} = 0.8 \text{ V}$ | | - | 34.1 | - | - | - | - | ns | |
| | | $V_{CC} = 1.1 \text{ V to } 1.3 \text{ V}$ | | 4.5 | 9.0 | 19.1 | 4.0 | 21.5 | 23.7 | ns | |
| | | $V_{CC} = 1.4 \text{ V to } 1.6 \text{ V}$ | | 3.4 | 6.3 | 11.3 | 2.9 | 13.3 | 14.7 | ns | |
| | | $V_{CC} = 1.65 \text{ V to } 1.95 \text{ V}$ | | 2.6 | 5.3 | 8.9 | 2.4 | 10.7 | 11.8 | ns | |
| | | $V_{CC} = 2.3 \text{ V to } 2.7 \text{ V}$ | | 2.3 | 4.4 | 7.0 | 2.2 | 8.4 | 9.3 | ns | |
| | | $V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$ | | 2.2 | 4.2 | 6.4 | 2.1 | 7.7 | 8.5 | ns | |

 Table 8.
 Dynamic characteristics ...continued

Voltages are referenced to GND (ground = 0 V); for test circuit see Figure 9.

| Symbol | Parameter | rameter Conditions | | 25 °C | | -40 |) °C to +′ | 125 °C | Unit | |
|-----------------|-------------------------------|--|-----|-------|--------|-----|------------|----------------|-----------------|----|
| | | | | Min | Typ[1] | Max | Min | Max (85 °C) | Max (125 °C) | |
| $C_L = 5 pl$ | F, 10 pF, 15 pF and | 30 pF | | | | | | | | |
| C _{PD} | power dissipation capacitance | $f_i = 1 \text{ MHz}; V_I = \text{GND to } V_{CC}$ | [3] | | | | | | | |
| | | $V_{CC} = 0.8 \text{ V}$ | | - | 2.6 | - | - | - | - | pF |
| | | $V_{CC} = 1.1 \text{ V to } 1.3 \text{ V}$ | | - | 2.7 | - | - | - | - | pF |
| | | $V_{CC} = 1.4 \text{ V to } 1.6 \text{ V}$ | | - | 2.7 | - | - | - | - | pF |
| | | $V_{CC} = 1.65 \text{ V to } 1.95 \text{ V}$ | | - | 2.9 | - | - | - | - | pF |
| | | $V_{CC} = 2.3 \text{ V to } 2.7 \text{ V}$ | | - | 3.3 | - | - | - | - | pF |
| | | $V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$ | | - | 3.7 | - | - | - | - | pF |

- [1] All typical values are measured at nominal V_{CC}.
- [2] t_{pd} is the same as t_{PLH} and t_{PHL} .
- [3] C_{PD} is used to determine the dynamic power dissipation (P_D in μW).

 $P_D = C_{PD} \times V_{CC}^2 \times f_i \times N + \Sigma (C_L \times V_{CC}^2 \times f_o) \text{ where:}$

f_i = input frequency in MHz;

f_o = output frequency in MHz;

C_L = output load capacitance in pF;

V_{CC} = supply voltage in V;

N = number of inputs switching;

 $\Sigma(C_L \times V_{CC}^2 \times f_o)$ = sum of the outputs.

12. Waveforms

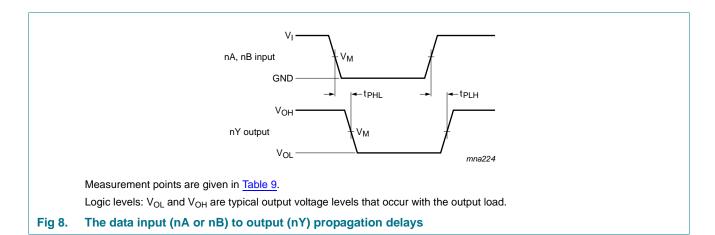
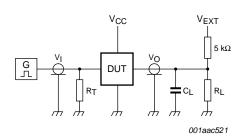


Table 9. Measurement points

| Supply voltage | Output | Input | | |
|-----------------|---------------------|---------------------|-----------------|-------------|
| V _{CC} | V _M | V _M | V _I | $t_r = t_f$ |
| 0.8 V to 3.6 V | $0.5 \times V_{CC}$ | $0.5 \times V_{CC}$ | V _{CC} | ≤ 3.0 ns |

Low-power dual 2-input OR gate



Test data is given in Table 10.

Definitions for test circuit:

R_L = Load resistance.

 C_L = Load capacitance including jig and probe capacitance.

 R_T = Termination resistance should be equal to the output impedance Z_0 of the pulse generator.

 V_{EXT} = External voltage for measuring switching times.

Fig 9. Test circuit for measuring switching times

Table 10. Test data

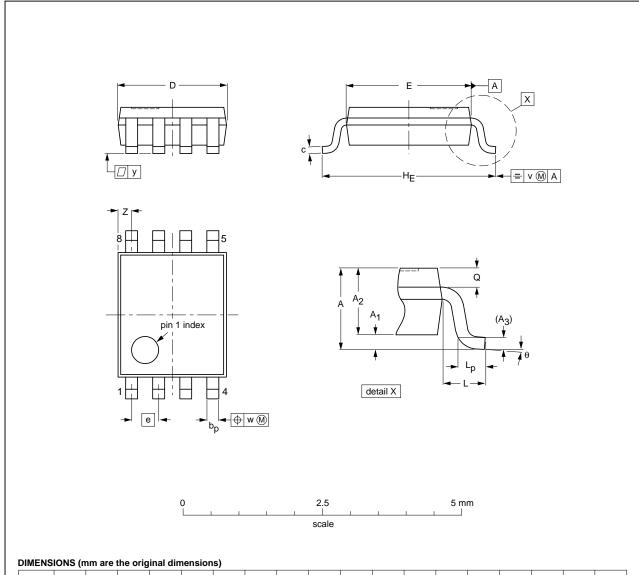
| Supply voltage | Load | | V _{EXT} | | | | |
|-----------------|------------------------------|------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--|--|
| V _{CC} | C _L | R _L [1] | t _{PLH} , t _{PHL} | t _{PZH} , t _{PHZ} | t _{PZL} , t _{PLZ} | | |
| 0.8 V to 3.6 V | 5 pF, 10 pF, 15 pF and 30 pF | 5 k Ω or 1 M Ω | open | GND | $2 \times V_{CC}$ | | |

[1] For measuring enable and disable times R_L = 5 k Ω , for measuring propagation delays, set-up and hold times and pulse width R_L = 1 M Ω .

13. Package outline

VSSOP8: plastic very thin shrink small outline package; 8 leads; body width 2.3 mm

SOT765-1



| UNIT | A max. | A ₁ | A ₂ | А3 | bp | С | D ⁽¹⁾ | E ⁽²⁾ | е | HE | L | Lp | Q | v | w | у | Z ⁽¹⁾ | θ |
|------|-----------|----------------|----------------|------|--------------|--------------|------------------|------------------|-----|------------|-----|--------------|--------------|-----|------|-----|------------------|----------|
| mm | 1 | 0.15 0.00 | 0.85 0.60 | 0.12 | 0.27 0.17 | 0.23 0.08 | 2.1 1.9 | 2.4 2.2 | 0.5 | 3.2 3.0 | 0.4 | 0.40 0.15 | 0.21 0.19 | 0.2 | 0.13 | 0.1 | 0.4 0.1 | 8° 0° |

Notes

- 1. Plastic or metal protrusions of 0.15 mm maximum per side are not included.
- 2. Plastic or metal protrusions of 0.25 mm maximum per side are not included.

| OUTLINE | | REFER | EUROPEAN | ISSUE DATE | | |
|----------|-----|-------------|----------|------------|------------|------------|
| VERSION | IEC | JEDEC JEITA | | | PROJECTION | ISSUE DATE |
| SOT765-1 | | MO-187 | | | | 02-06-07 |

Fig 10. Package outline SOT765-1 (VSSOP8)

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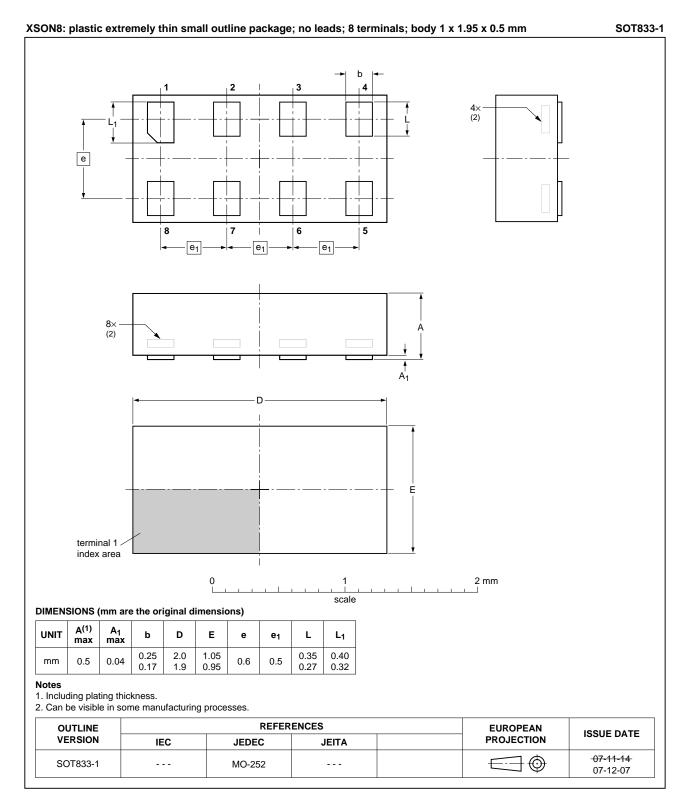


Fig 11. Package outline SOT833-1 (XSON8)

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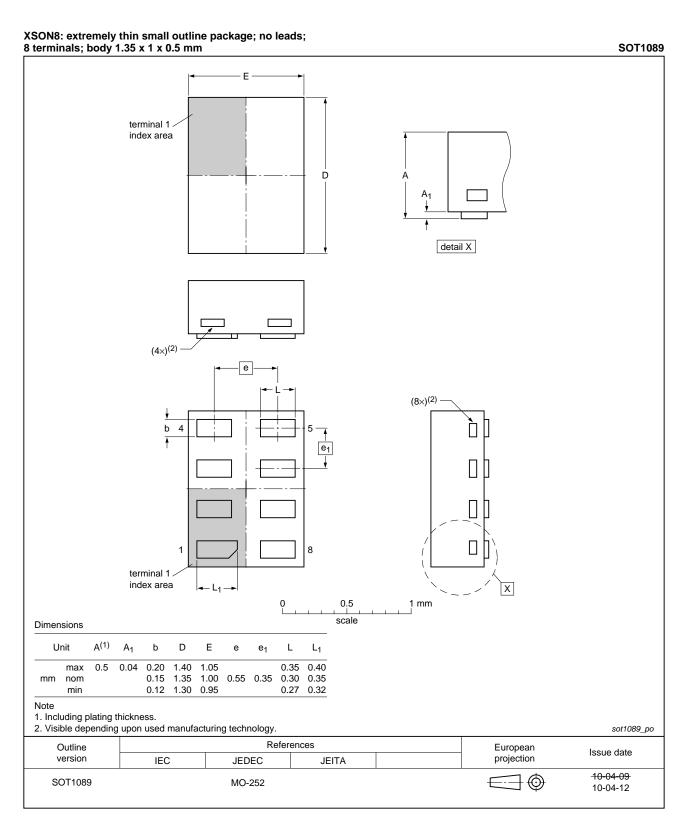


Fig 12. Package outline SOT1089 (XSON8)

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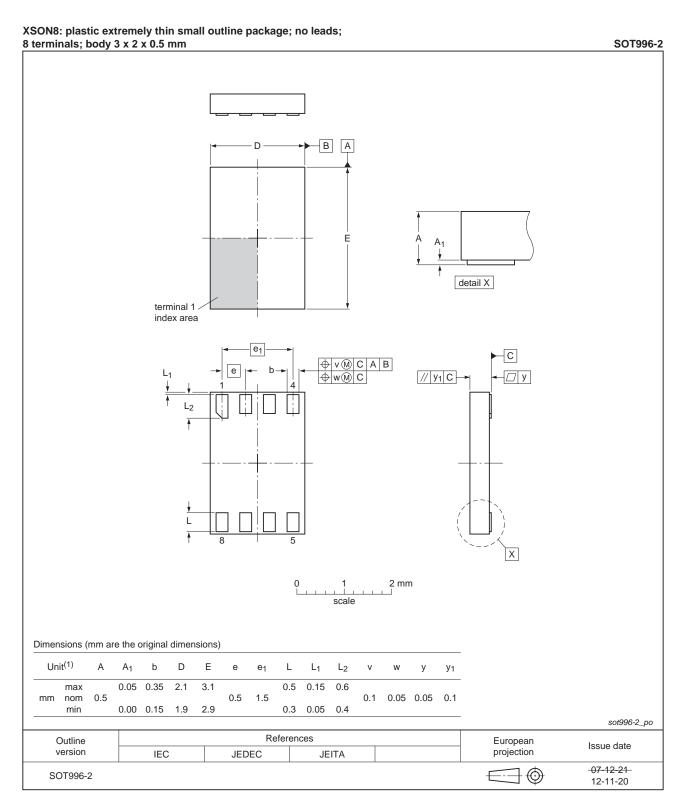


Fig 13. Package outline SOT996-2 (XSON8)

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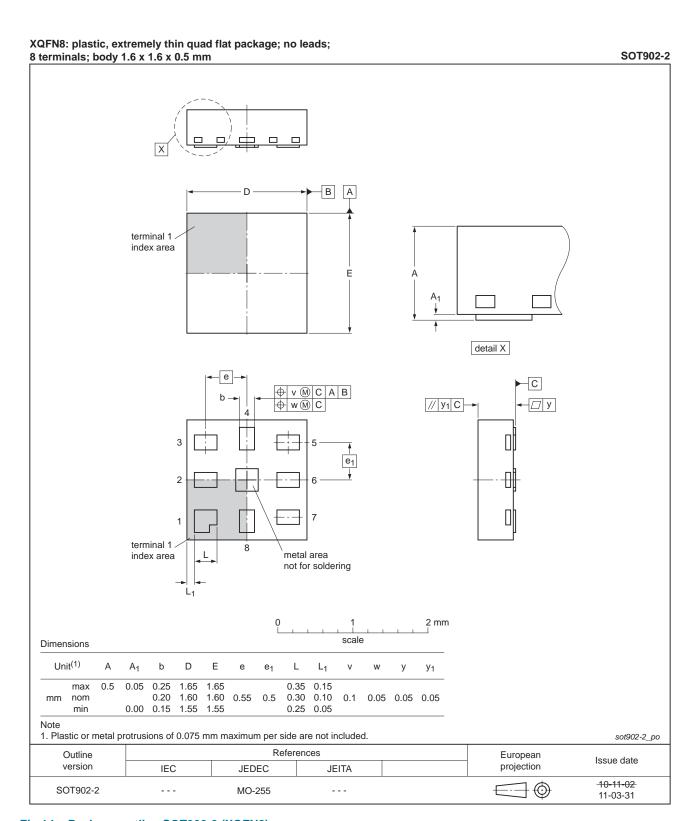


Fig 14. Package outline SOT902-2 (XQFN8)

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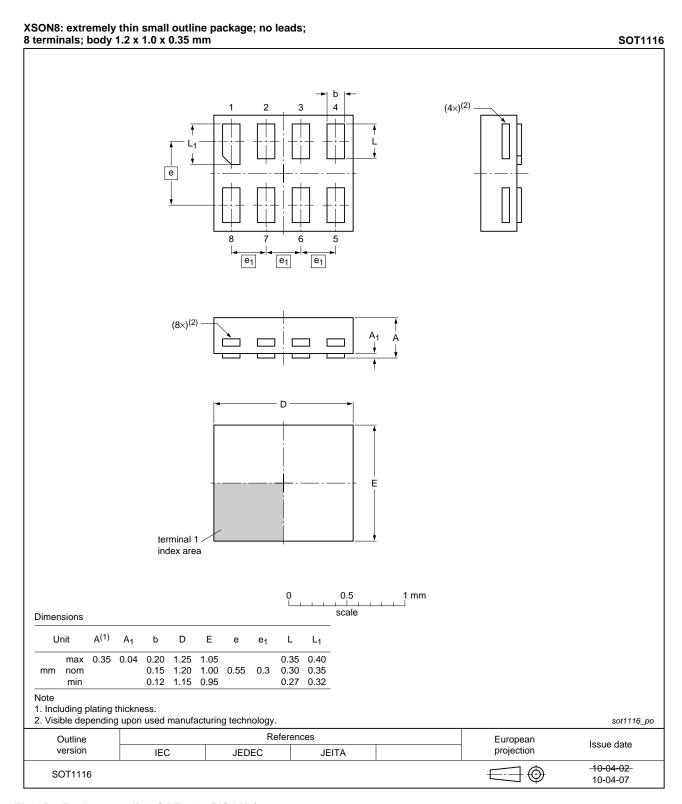


Fig 15. Package outline SOT1116 (XSON8)

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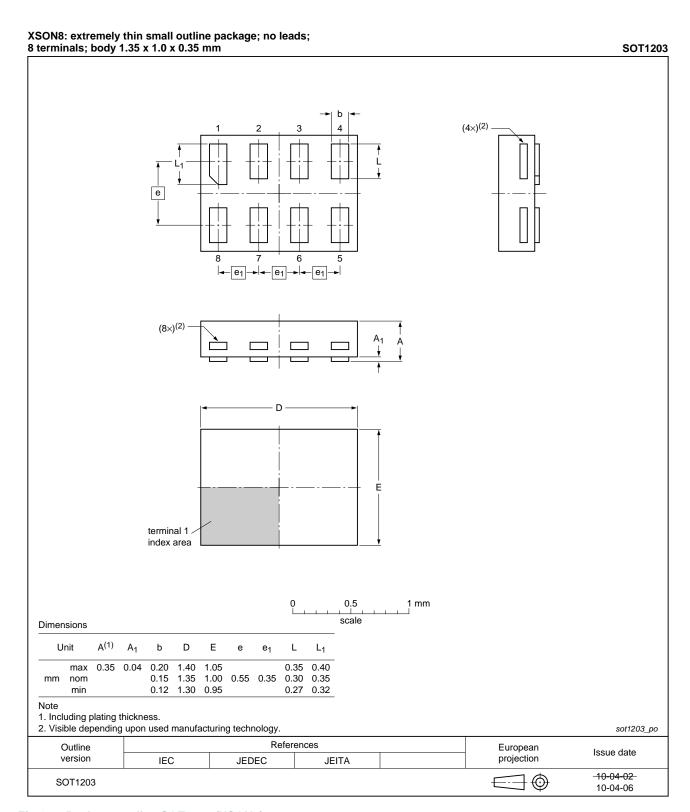


Fig 16. Package outline SOT1203 (XSON8)

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14. Abbreviations

Table 11. Abbreviations

| Acronym | Description |
|---------|-------------------------|
| CDM | Charged Device Model |
| DUT | Device Under Test |
| ESD | ElectroStatic Discharge |
| НВМ | Human Body Model |
| MM | Machine Model |

15. Revision history

Table 12. Revision history

| | - | | | |
|----------------|---------------------------------|----------------------|------------------------|---------------|
| Document ID | Release date | Data sheet status | Change notice | Supersedes |
| 74AUP2G32 v.7 | 20130123 | Product data sheet | - | 74AUP2G32 v.6 |
| Modifications: | For type nu | mber 74AUP2G32GD XS0 | ON8U has changed to XS | SON8. |
| 74AUP2G32 v.6 | 20120605 | Product data sheet | - | 74AUP2G32 v.5 |
| 74AUP2G32 v.5 | 20111206 | Product data sheet | - | 74AUP2G32 v.4 |
| 74AUP2G32 v.4 | 20101021 | Product data sheet | - | 74AUP2G32 v.3 |
| 74AUP2G32 v.3 | 20090108 | Product data sheet | - | 74AUP2G32 v.2 |
| 74AUP2G32 v.2 | 20080228 | Product data sheet | - | 74AUP2G32 v.1 |
| 74AUP2G32 v.1 | 20061006 | Product data sheet | - | - |
| | | | | |

16. Legal information

16.1 Data sheet status

| Document status[1][2] | Product status[3] | Definition |
|--------------------------------|-------------------|---|
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| Product [short] data sheet | Production | This document contains the product specification. |

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