Low-power dual 2-input NAND gate Rev. 8 — 5 February 2013

Product data sheet

General description 1.

The 74AUP2G00 provides dual 2-input NAND 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 IOFF. The IOFF 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 5000 V
 - MM JESD22-A115-A exceeds 200 V
 - CDM JESD22-C101E exceeds 1 000 V
- Low static power consumption; $I_{CC} = 0.9 \mu A$ (maximum)
- Latch-up performance exceeds 100 mA per JESD78 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



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3. Ordering information

	g information			
Type number	Package			
	Temperature range	Name	Description	Version
74AUP2G00DC	–40 °C to +125 °C	VSSOP8	plastic very thin shrink small outline package; 8 leads; body width 2.3 mm	SOT765-1
74AUP2G00GT	–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
74AUP2G00GF	–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
74AUP2G00GD	–40 °C to +125 °C	XSON8	plastic extremely thin small outline package; no leads; 8 terminals; body $3\times 2\times 0.5~\text{mm}$	SOT996-2
74AUP2G00GM	–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
74AUP2G00GN	–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
74AUP2G00GS	–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

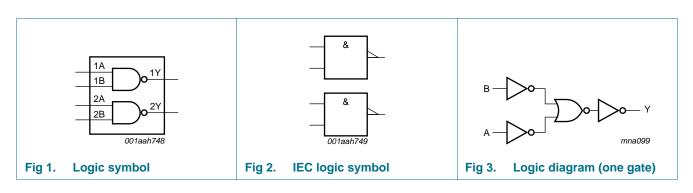
4. Marking

Table 2.Marking codes

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Type number	Marking code ^[1]
74AUP2G00DC	p00
74AUP2G00GT	p00
74AUP2G00GF	pA
74AUP2G00GD	p00
74AUP2G00GM	p00
74AUP2G00GN	pA
74AUP2G00GS	рА

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

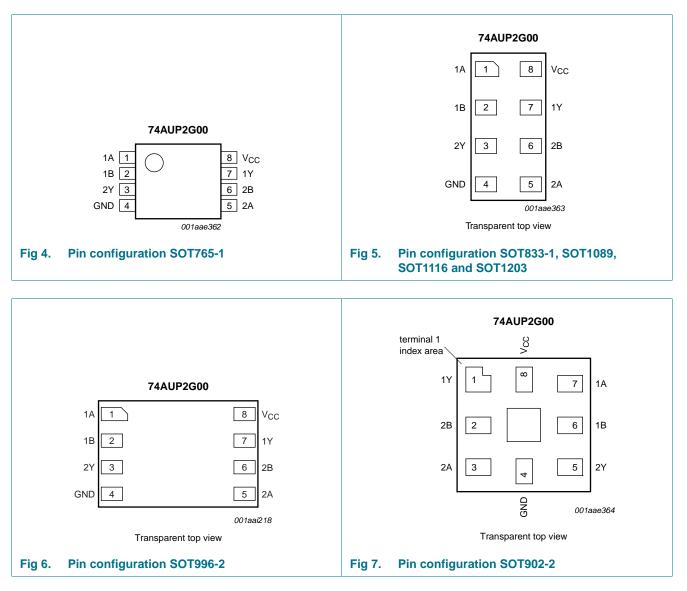
5. Functional diagram



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6. Pinning information

6.1 Pinning



6.2 Pin description

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Symbol	Pin		Description
SOT765-1, SOT833-1, SOT1089 SOT996-2, SOT1116 and SOT12		SOT902-2	
1A, 2A	1, 5	7, 3	data input
1B, 2B	2, 6	6, 2 data ir	data input
GND	4	4	ground (0 V)
1Y, 2Y	7, 3	1, 5	data output
V _{CC}	8	8	supply voltage
74AUP2G00	All information provided	in this document is subject to legal dis	sclaimers. © NXP B.V. 2013. All rights reserv
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7. Functional description

Table 4.	Function table ^[1]		
Input			Output
nA		nB	nY
L		L	Н
L		Н	Н
Н		L	Н
Н		Н	L

[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
VI	input voltage		<u>[1]</u> –0.5	+4.6	V
I _{OK}	output clamping current	V _O < 0 V	-50	-	mA
Vo	output voltage	Active mode and Power-down mode	<u>[1]</u> –0.5	+4.6	V
Ι _Ο	output current	$V_{O} = 0 V$ 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	$T_{amb} = -40 \ ^{\circ}C \ to +125 \ ^{\circ}C$	[2] _	250	mW

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

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

9. Recommended operating conditions

Table 6.	Operating conditions				
Symbol	Parameter	Conditions	Min	Max	Unit
V _{CC}	supply voltage		0.8	3.6	V
VI	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
$\Delta t / \Delta V$	input transition rise and fall rate	V_{CC} = 0.8 V to 3.6 V	-	200	ns/V

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10. Static characteristics

Table 7. Static characteristics

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

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
T _{amb} = 2	5 °C					
VIH	HIGH-level input voltage	$V_{CC} = 0.8 V$	$0.70\times V_{CC}$	-	-	V
		$V_{CC} = 0.9 V$ to 1.95 V	$0.65 \times V_{CC}$	-	-	V
		V_{CC} = 2.3 V to 2.7 V	1.6	-	-	V
		V_{CC} = 3.0 V to 3.6 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	-	-	$0.35 \times V_{CC}$	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	$V_{I} = V_{IH} \text{ or } V_{IL}$				
		I_{O} = –20 $\mu A;$ V_{CC} = 0.8 V to 3.6 V	$V_{CC}-0.1$	-	-	V
		$I_0 = -1.1 \text{ mA}; V_{CC} = 1.1 \text{ V}$	$0.75 \times V_{CC}$	-	-	V
		$I_0 = -1.7 \text{ mA}; V_{CC} = 1.4 \text{ V}$	1.11	-	-	V
		$I_{O} = -1.9 \text{ mA}; V_{CC} = 1.65 \text{ V}$	1.32	-	-	V
		I_{O} = -2.3 mA; V_{CC} = 2.3 V	2.05	-	-	V
		$I_{O} = -3.1 \text{ mA}; V_{CC} = 2.3 \text{ V}$	1.9	-	-	V
		$I_{O} = -2.7 \text{ mA}; V_{CC} = 3.0 \text{ V}$	2.72	-	-	V
		$I_{O} = -4.0 \text{ mA}; V_{CC} = 3.0 \text{ V}$	2.6	-	-	V
V _{OL}	LOW-level output voltage	$V_{I} = V_{IH} \text{ or } V_{IL}$				
		I_{O} = 20 $\mu A;$ V_{CC} = 0.8 V to 3.6 V	-	-	0.1	V
		$I_0 = 1.1 \text{ mA}; V_{CC} = 1.1 \text{ V}$	-	-	$0.3\times V_{CC}$	V
		$I_{O} = 1.7 \text{ mA}; V_{CC} = 1.4 \text{ V}$	-	-	0.31	V
		I_{O} = 1.9 mA; V_{CC} = 1.65 V	-	-	0.31	V
		I_{O} = 2.3 mA; V_{CC} = 2.3 V	-	-	0.31	V
		$I_{O} = 3.1 \text{ mA}; V_{CC} = 2.3 \text{ V}$	-	-	0.44	V
		I_{O} = 2.7 mA; V_{CC} = 3.0 V	-	-	0.31	V
		$I_{O} = 4.0 \text{ mA}; V_{CC} = 3.0 \text{ V}$	-	-	0.44	V
I	input leakage current	V_{I} = GND to 3.6 V; V_{CC} = 0 V to 3.6 V	-	-	±0.1	μΑ
OFF	power-off leakage current	V_{I} or V_{O} = 0 V to 3.6 V; V_{CC} = 0 V	-	-	±0.2	μΑ
∆l _{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	-	-	±0.2	μΑ
СС	supply current	$\label{eq:VI} \begin{array}{l} V_{I} = GND \text{ or } V_{CC}; I_{O} = 0 \; A; \\ V_{CC} = 0.8 \; V \; to \; 3.6 \; V \end{array}$	-	-	0.5	μA
Δl _{CC}	additional supply current		<u>[1]</u> -	-	40	μΑ
CI	input capacitance	V_{CC} = 0 V to 3.6 V; V _I = GND or V _{CC}	-	0.8	-	pF
Co	output capacitance	$V_{O} = GND; V_{CC} = 0 V$	-	1.7	-	pF

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At recom	mended operating conditions	; voltages are referenced to GND (grour	d = 0 V).			
Symbol	Parameter	Conditions	Min	Тур	Max	Unit
T _{amb} = -	40 °C to +85 °C					
VIH	HIGH-level input voltage	$V_{CC} = 0.8 V$	$0.70\times V_{CC}$		-	V
		$V_{CC} = 0.9 V$ to 1.95 V	$0.65 \times V_{CC}$	-	-	V
		V_{CC} = 2.3 V to 2.7 V	1.6	-	-	V
		$V_{CC} = 3.0 V \text{ to } 3.6 V$	2.0	-	-	V
V _{IL}	LOW-level input voltage	$V_{CC} = 0.8 V$	-	-	$0.30 \times V_{CC}$	
		$V_{CC} = 0.9 V$ to 1.95 V	-	-	$0.35 \times V_{CC}$	V
		V_{CC} = 2.3 V to 2.7 V	-	-	0.7	V
		$V_{CC} = 3.0 V \text{ to } 3.6 V$	-	-	0.9	V
V _{OH}	HIGH-level output voltage	$V_{I} = V_{IH} \text{ or } V_{IL}$				
		I_O = –20 $\mu A; \ V_{CC}$ = 0.8 V to 3.6 V	$V_{CC}-0.1$	-	-	V
		$I_{O} = -1.1 \text{ mA}; V_{CC} = 1.1 \text{ V}$	$0.7\times V_{CC}$	-	-	V
		$I_0 = -1.7 \text{ mA}; V_{CC} = 1.4 \text{ V}$	1.03	-	-	V
		$I_{O} = -1.9 \text{ mA}; V_{CC} = 1.65 \text{ V}$	1.30	-	-	V
		$I_{O} = -2.3 \text{ mA}; V_{CC} = 2.3 \text{ V}$	1.97	-	-	V
		$I_{O} = -3.1 \text{ mA}; V_{CC} = 2.3 \text{ V}$	1.85	-	-	V
		$I_0 = -2.7 \text{ mA}; V_{CC} = 3.0 \text{ V}$	2.67	-	-	V
		$I_{O} = -4.0 \text{ mA}; V_{CC} = 3.0 \text{ V}$	2.55	-	-	V
V _{OL}	LOW-level output voltage	$V_{I} = V_{IH} \text{ or } V_{IL}$				
		I_O = 20 $\mu A;V_{CC}$ = 0.8 V to 3.6 V	-	-	0.1	V
		$I_{O} = 1.1 \text{ mA}; V_{CC} = 1.1 \text{ V}$	-	-	$0.3\times V_{CC}$	V
		$I_{O} = 1.7 \text{ mA}; V_{CC} = 1.4 \text{ V}$	-	-	0.37	V
		I_{O} = 1.9 mA; V_{CC} = 1.65 V	-	-	0.35	V
		I_{O} = 2.3 mA; V_{CC} = 2.3 V	-	-	0.33	V
		$I_{O} = 3.1 \text{ mA}; V_{CC} = 2.3 \text{ V}$	-	-	0.45	V
		$I_0 = 2.7$ mA; $V_{CC} = 3.0$ V	-	-	0.33	V
		I_{O} = 4.0 mA; V_{CC} = 3.0 V	-	-	0.45	V
l _l	input leakage current	V_{I} = GND to 3.6 V; V_{CC} = 0 V to 3.6 V	-	-	±0.5	μΑ
I _{OFF}	power-off leakage current	V_{I} or V_{O} = 0 V to 3.6 V; V_{CC} = 0 V	-	-	±0.5	μΑ
ΔI_{OFF}	additional power-off leakage current	$V_1 \text{ or } V_0 = 0 \text{ V to } 3.6 \text{ V};$ $V_{CC} = 0 \text{ V to } 0.2 \text{ V}$	-	-	±0.6	μA
I _{CC}	supply current	$\label{eq:VI} \begin{array}{l} V_{I} = GND \text{ or } V_{CC}; I_{O} = 0 \; A; \\ V_{CC} = 0.8 \; V \; to \; 3.6 \; V \end{array}$	-	-	0.9	μA
ΔI_{CC}	additional supply current		<u>[1]</u> -	-	50	μΑ

Table 7. Static characteristics ... continued

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Symbol	Parameter	Conditions	Min	Тур	Max	Unit
T _{amb} = –4	40 °C to +125 °C					
VIH	HIGH-level input voltage	$V_{CC} = 0.8 V$	$0.75\times V_{CC}$	-	-	V
		$V_{CC} = 0.9 V$ to 1.95 V	$0.70\times V_{CC}$	-	-	V
		V_{CC} = 2.3 V to 2.7 V	1.6	-	-	V
		$V_{CC} = 3.0 \text{ V} \text{ to } 3.6 \text{ V}$	2.0	-	-	V
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
		$V_{CC} = 3.0 \text{ V} \text{ to } 3.6 \text{ V}$	-	-	0.9	V
V _{OH}	HIGH-level output voltage	$V_{I} = V_{IH} \text{ or } V_{IL}$				
		I_{O} = –20 $\mu\text{A};V_{CC}$ = 0.8 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	$V_{I} = V_{IH} \text{ or } V_{IL}$				
		I_O = 20 $\mu\text{A};V_{CC}$ = 0.8 V to 3.6 V	-	-	0.11	V
		I_{O} = 1.1 mA; V_{CC} = 1.1 V	-	-	$0.33 \times V_{CC}$	V
		I_{O} = 1.7 mA; V_{CC} = 1.4 V	-	-	0.41	V
		I_{O} = 1.9 mA; V_{CC} = 1.65 V	-	-	0.39	V
		I_{O} = 2.3 mA; V_{CC} = 2.3 V	-	-	0.36	V
		I_{O} = 3.1 mA; V_{CC} = 2.3 V	-	-	0.50	V
		I_{O} = 2.7 mA; V_{CC} = 3.0 V	-	-	0.36	V
		I_{O} = 4.0 mA; V_{CC} = 3.0 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
∆I _{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	μA
СС	supply current	$\label{eq:VI} \begin{array}{l} V_{I} = GND \text{ or } V_{CC}; I_{O} = 0 \; A; \\ V_{CC} = 0.8 \; V \; to \; 3.6 \; V \end{array}$	-	-	1.4	μA
∆l _{CC}	additional supply current	$V_{I} = V_{CC} - 0.6 \text{ V}; I_{O} = 0 \text{ A};$ $V_{CC} = 3.3 \text{ V}$	<u>[1]</u> -	-	75	μΑ

Table 7. Static characteristics ... continued

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

11. Dynamic characteristics

Dynamic characteristics Table 8.

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

Symbol	Parameter	Conditions		Ta	_{mb} = 25	°C	T _{amb} = -40 °C to +125 °C			Uni
				Min	Typ <mark>[1]</mark>	Мах	Min	Max (85 °C)	Max (125 °C)	
C _L = 5 p	F									
t _{pd}	propagation delay	nA, nB to nY; see Figure 8	[2]							
		$V_{CC} = 0.8 V$		-	17.5	-	-	-	-	ns
		V_{CC} = 1.1 V to 1.3 V		2.5	5.3	11.0	2.1	12.2	13.5	ns
		V_{CC} = 1.4 V to 1.6 V		2.0	3.8	6.8	1.8	7.8	8.6	ns
		V _{CC} = 1.65 V to 1.95 V		1.6	3.1	5.3	1.4	6.2	6.9	ns
		V_{CC} = 2.3 V to 2.7 V		1.3	2.5	4.0	1.1	4.7	5.2	ns
		V_{CC} = 3.0 V to 3.6 V		1.0	2.2	3.6	1.0	4.2	4.7	ns
C _L = 10	pF									
t _{pd}	propagation delay	nA, nB to nY; see Figure 8	[2]							
		$V_{CC} = 0.8 V$		-	21.0	-	-	-	-	ns
		V_{CC} = 1.1 V to 1.3 V		2.4	6.1	13.0	2.2	14.4	15.9	ns
		V_{CC} = 1.4 V to 1.6 V		2.4	4.4	7.9	2.2	9.2	10.2	ns
		V _{CC} = 1.65 V to 1.95 V		2.0	3.7	6.2	1.9	7.3	8.1	ns
		V_{CC} = 2.3 V to 2.7 V		1.4	3.0	4.7	1.3	5.6	6.2	ns
		V_{CC} = 3.0 V to 3.6 V		1.3	2.8	4.3	1.2	4.9	5.4	ns
C _L = 15	pF									
t _{pd}	propagation delay	nA, nB to nY; see Figure 8	[2]							
		$V_{CC} = 0.8 V$		-	24.5	-	-	-	-	ns
		V_{CC} = 1.1 V to 1.3 V		3.4	6.9	14.8	3.1	16.5	18.2	ns
		V_{CC} = 1.4 V to 1.6 V		2.8	5.0	8.9	2.5	10.5	11.6	ns
		V _{CC} = 1.65 V to 1.95 V		2.0	4.1	7.0	2.0	8.3	9.2	ns
		V_{CC} = 2.3 V to 2.7 V		1.7	3.5	5.3	1.5	6.4	7.1	ns
		V_{CC} = 3.0 V to 3.6 V		1.6	3.2	4.9	1.4	5.7	6.3	ns
C _L = 30	pF									
t _{pd}	propagation delay	nA, nB to nY; see Figure 8	[2]							
		$V_{CC} = 0.8 V$		-	34.8	-	-	-	-	ns
		$V_{CC} = 1.1 \text{ V to } 1.3 \text{ V}$		4.6	9.2	20.1	4.1	22.6	24.9	ns
		$V_{CC} = 1.4 \text{ V}$ to 1.6 V		3.0	6.5	11.8	2.9	14.0	15.4	ns
		V_{CC} = 1.65 V to 1.95 V		2.6	5.4	9.3	2.3	11.1	12.3	ns
		V_{CC} = 2.3 V to 2.7 V		2.4	4.6	7.1	2.1	8.5	9.4	ns
		$V_{CC} = 3.0 \text{ V} \text{ to } 3.6 \text{ V}$		2.3	4.3	6.5	2.1	7.6	8.4	ns

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Table 8. Dynamic characteristics ... continued

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

Symbol	Parameter	Conditions		T _{amb} = 25 °C		T _{amb} =	: –40 °C to	+125 °C	Unit	
				Min	Typ <mark>[1]</mark>	Мах	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 = GND to V _{CC}	<u>[3]</u>							
		$V_{CC} = 0.8 V$		-	2.8	-	-	-	-	pF
		V_{CC} = 1.1 V to 1.3 V		-	2.9	-	-	-	-	pF
		V_{CC} = 1.4 V to 1.6 V		-	3.0	-	-	-	-	pF
		V_{CC} = 1.65 V to 1.95 V		-	3.0	-	-	-	-	pF
		V_{CC} = 2.3 V to 2.7 V		-	3.4	-	-	-	-	pF
		$V_{CC} = 3.0 \text{ V} \text{ to } 3.6 \text{ V}$		-	3.9	-	-	-	-	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 μ W).

 $\mathsf{P}_{\mathsf{D}} = \mathsf{C}_{\mathsf{P}\mathsf{D}} \times \mathsf{V}_{\mathsf{C}\mathsf{C}}^2 \times \mathsf{f}_i \times \mathsf{N} + \Sigma(\mathsf{C}_{\mathsf{L}} \times \mathsf{V}_{\mathsf{C}\mathsf{C}}^2 \times \mathsf{f}_o) \text{ where:}$

 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

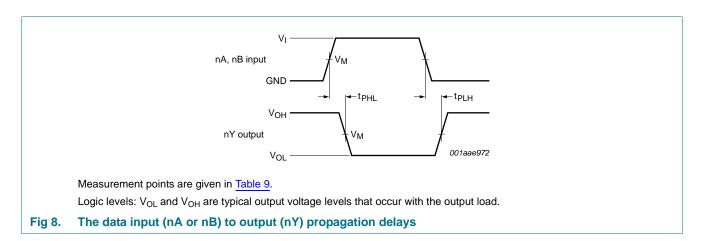


Table 9. Measurement points

Supply voltage	Output	Input						
V _{cc}	V _M	V _M	VI	$t_r = t_f$				
0.8 V to 3.6 V	$0.5 imes V_{CC}$	$0.5 imes V_{CC}$	V _{CC}	≤ 3.0 ns				

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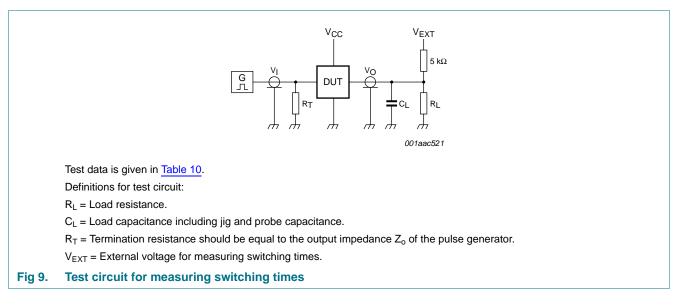


Table 10. Test data

Supply voltage	Load		V _{EXT}		
V _{cc}	CL	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 $R_L = 5 k\Omega$.

For measuring propagation delays, setup and hold times and pulse width RL = 1 M Ω .

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13. Package outline

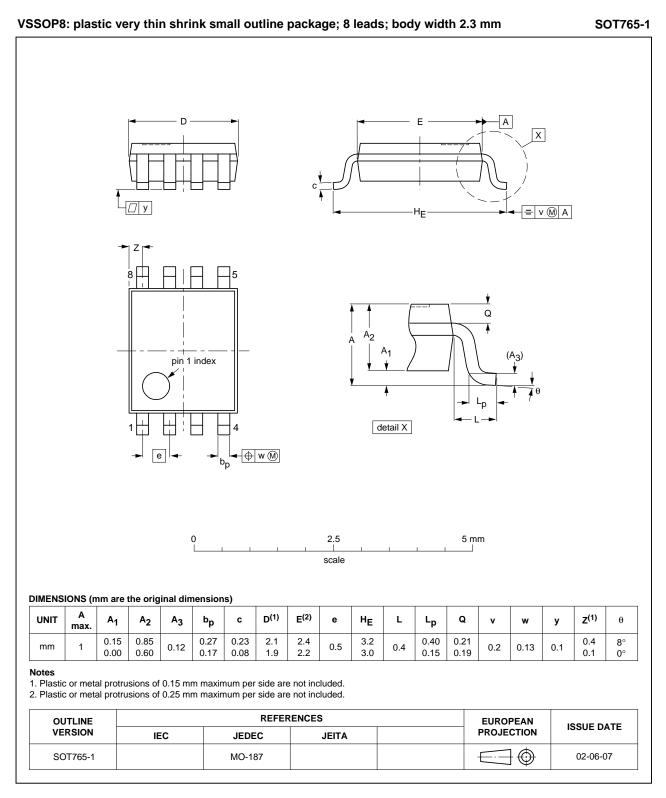


Fig 10. Package outline SOT765-1 (VSSOP8)

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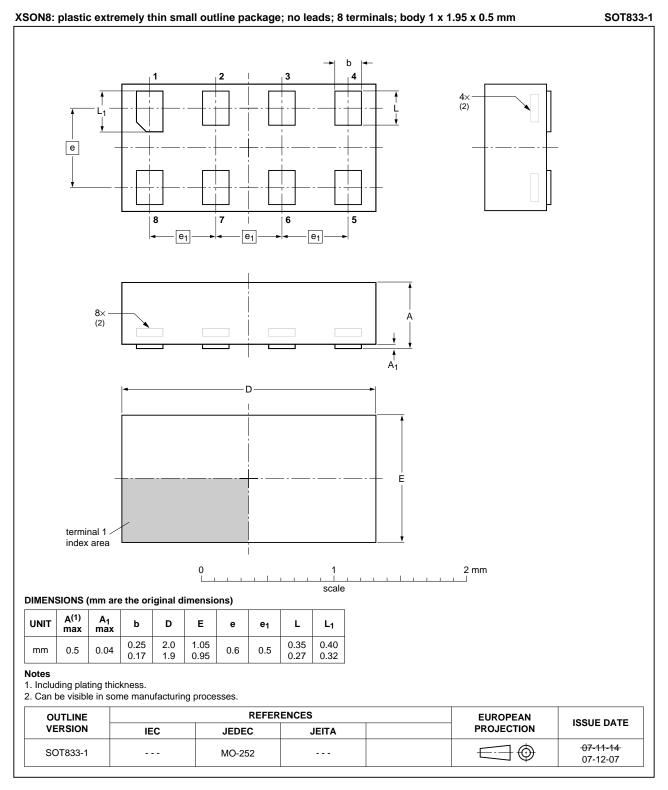
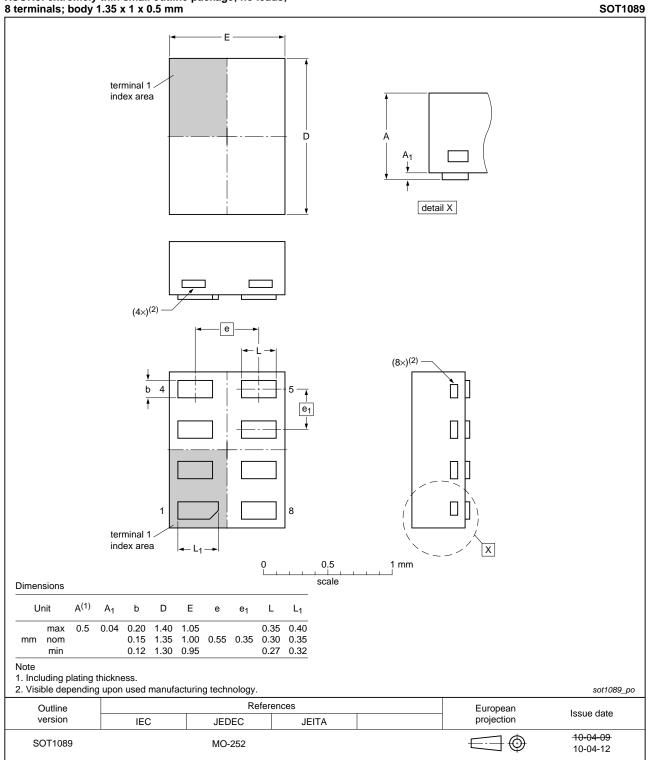


Fig 11. Package outline SOT833-1 (XSON8)

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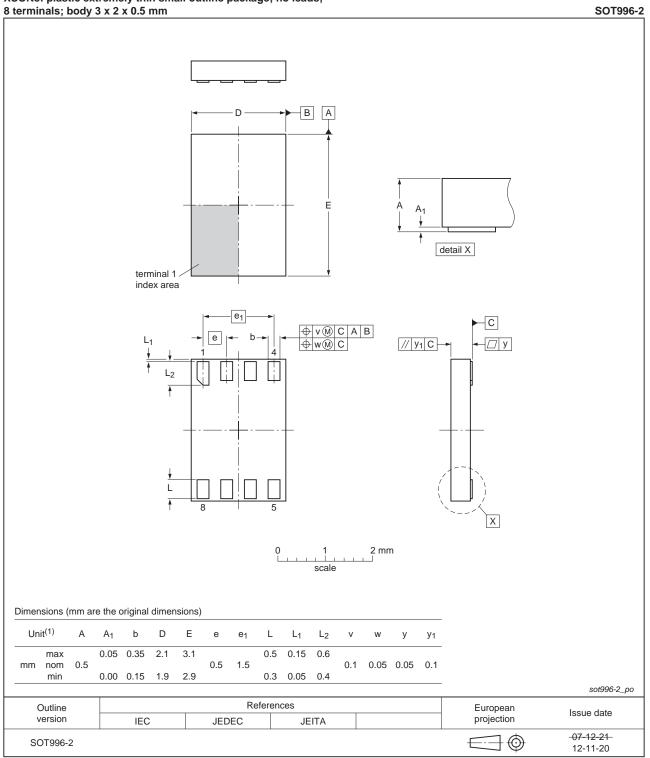


XSON8: extremely thin small outline package; no leads; 8 terminals; body 1.35 x 1 x 0.5 mm

Fig 12. Package outline SOT1089 (XSON8)

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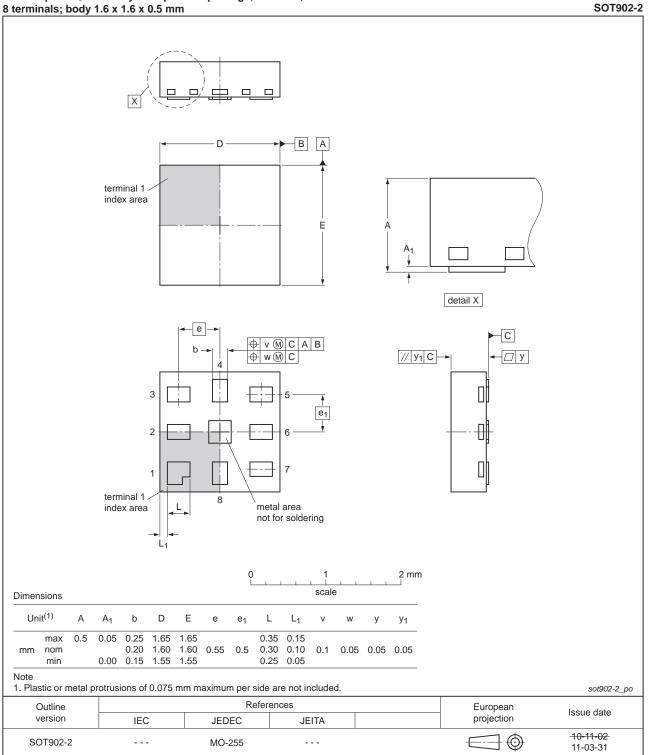


XSON8: plastic extremely thin small outline package; no leads;

Fig 13. Package outline SOT996-2 (XSON8)

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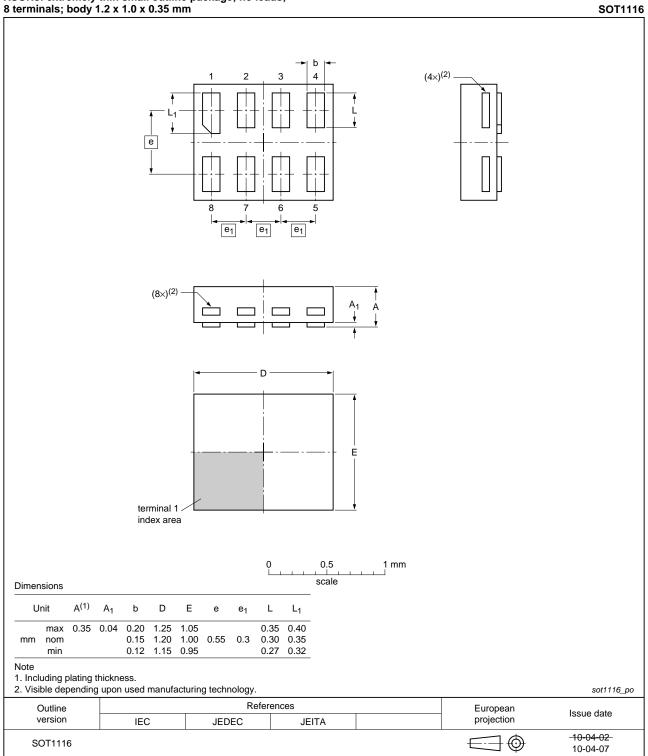


XQFN8: plastic, extremely thin quad flat package; no leads;

Fig 14. Package outline SOT902-2 (XQFN8)

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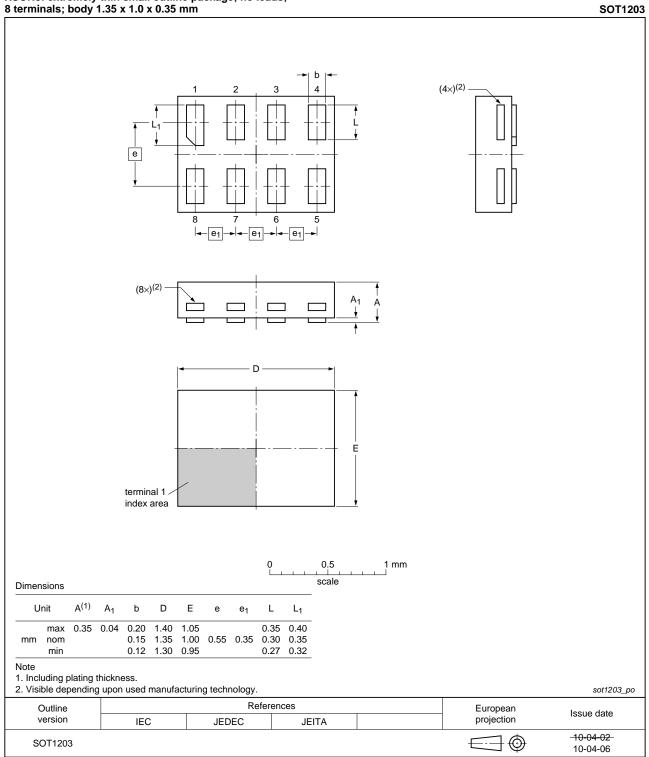


XSON8: extremely thin small outline package; no leads; 8 terminals; body 1.2 x 1.0 x 0.35 mm

Fig 15. Package outline SOT1116 (XSON8)

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XSON8: extremely thin small outline package; no leads; 8 terminals; body 1.35 x 1.0 x 0.35 mm

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	
HBM	Human Body Model	
MM	Machine Model	

15. Revision history

history			
Release date	Data sheet status	Change notice	Supersedes
20130205	Product data sheet	-	74AUP2G00 v.7
 For type number 	er 74AUP2G00GD XSON8U has	changed to XSON8.	
20120608	Product data sheet	-	74AUP2G00 v.6
20111201	Product data sheet	-	74AUP2G00 v.5
20101021	Product data sheet	-	74AUP2G00 v.4
20080605	Product data sheet	-	74AUP2G00 v.3
20080403	Product data sheet	-	74AUP2G00 v.2
20070515	Product data sheet	-	74AUP2G00 v.1
20060825	Product data sheet	-	-
	Release date 20130205 • For type number 20120608 20111201 20101021 20080605 20080403 20070515	Release dateData sheet status20130205Product data sheet• For type number 74AUP2G00GD XSON8U has20120608Product data sheet20111201Product data sheet20101021Product data sheet20080605Product data sheet20080403Product data sheet20070515Product data sheet	Release dateData sheet statusChange notice20130205Product data sheet-• For type number 74AUP2G00GD XSON8U has changed to XSON8.20120608Product data sheet-20111201Product data sheet-20101021Product data sheet-20080605Product data sheet-20080403Product data sheet-20070515Product data sheet-

16. Legal information

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Document status[1][2]	Product status ^[3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

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