74AUP2G14

Low-power dual Schmitt trigger inverter

Rev. 02 — 3 July 2009   **Product data sheet**

1. General description

The 74AUP2G14 provides two inverting buffers with Schmitt trigger action which accept standard input signals. They are capable of transforming slowly changing input signals into sharply defined, jitter-free output signals.

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 the damaging backflow current through the device when it is powered down.

The inputs switch at different points for positive and negative-going signals. The difference between the positive voltage V_{T+} and the negative voltage V_{T-} is defined as the input hysteresis voltage V_H.

2. Features

■ Wide supply voltage range from 0.8 V to 3.6 V
■ High noise immunity
■ ESD protection:
    ◆ HBM JESD22-A114E Class 3A exceeds 5000 V
    ◆ MM JESD22-A115-A exceeds 200 V
    ◆ CDM JESD22-C101C 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. Applications

■ Wave and pulse shaper
■ Astable multivibrator
■ Monostable multivibrator

NXP founded by Philips

4. Ordering information

Table 1.   Ordering information

Type number	Package			
	Temperature range	**Name**	**Description**	**Version**
74AUP2G14GW	−40 °C to +125 °C	SC-88	plastic surface-mounted package; 6 leads	SOT363
74AUP2G14GM	−40 °C to +125 °C	XSON6	plastic extremely thin small outline package; no leads; 6 terminals; body $1 \times 1.45 \times 0.5$ mm	SOT886
74AUP2G14GF	−40 °C to +125 °C	XSON6	plastic extremely thin small outline package; no leads; 6 terminals; body $1 \times 1 \times 0.5$ mm	SOT891

5. Marking

Table 2.   Marking

Type number	Marking code[1]
74AUP2G14GW	pK
74AUP2G14GM	pK
74AUP2G14GF	pK

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

6. Functional diagram
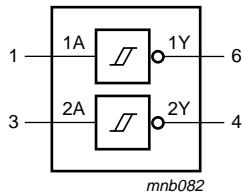
Fig 1.   Logic symbol
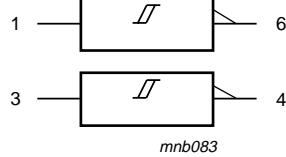
**Fig 2.   IEC logic symbol**

Fig 3.   Logic diagram

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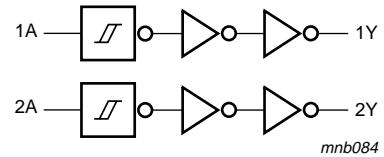
7. Pinning information

7.1 Pinning
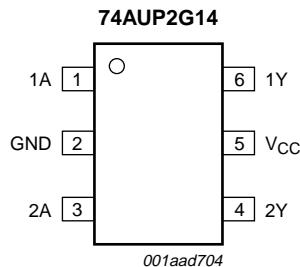
Fig 4. Pin configuration SOT363 (SC-88)
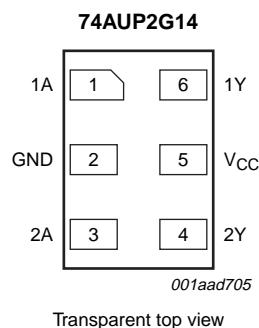
Fig 5. Pin configuration SOT886 (XSON6)
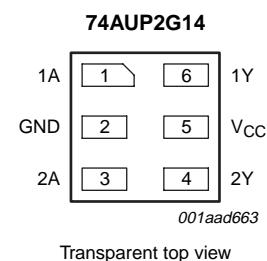
Fig 6. Pin configuration SOT891 (XSON6)

7.2 Pin description

Table 3. Pin description

Symbol	Pin	Description
1A	1	data input
GND	2	ground (0 V)
2A	3	data input
2Y	4	data output
V_{CC}	5	supply voltage
1Y	6	data output

8. Functional description

Table 4. Function table[1]

Input	Output
nA	**nY**
L	H
H	L

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

9. 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		[1] −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	[1] −0.5	+4.6	V
I_O	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	$T_{amb} = -40$ °C to +125 °C	[2] -	250	mW

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

[2] For SC-88 packages: above 87.5 °C the value of P_{tot} derates linearly with 4.0 mW/K.
For XSON6 packages: above 118 °C the value of P_{tot} derates linearly with 7.8 mW/K.

10. Recommended operating conditions

Table 6.   Recommended operating conditions

Symbol	Parameter	Conditions	Min	Max	Unit
V_{CC}	supply voltage		0.8	3.6	V
V_I	input voltage		0	3.6	V
V_O	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

11. Static characteristics

Table 7.   Static characteristics

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$T_{amb} = 25$ °C						
V_{OH}	HIGH-level output voltage	$V_I = V_{T+}$ or V_{T-}				
		$I_O = -20$ µA; $V_{CC} = 0.8$ V to 3.6 V	$V_{CC} - 0.1$	-	-	V
		$I_O = -1.1$ mA; $V_{CC} = 1.1$ V	$0.75 \times V_{CC}$	-	-	V
		$I_O = -1.7$ mA; $V_{CC} = 1.4$ V	1.11	-	-	V
		$I_O = -1.9$ mA; $V_{CC} = 1.65$ V	1.32	-	-	V
		$I_O = -2.3$ mA; $V_{CC} = 2.3$ V	2.05	-	-	V
		$I_O = -3.1$ mA; $V_{CC} = 2.3$ V	1.9	-	-	V
		$I_O = -2.7$ mA; $V_{CC} = 3.0$ V	2.72	-	-	V
		$I_O = -4.0$ mA; $V_{CC} = 3.0$ V	2.6	-	-	V

Table 7. **Static characteristics** …continued

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{OL}	LOW-level output voltage	$V_I = V_{T+}$ or V_{T-}	-	-		
		$I_O = 20$ μA; $V_{CC} = 0.8$ V to 3.6 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	-	-	0.31	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
		$I_O = 3.1$ mA; $V_{CC} = 2.3$ V	-	-	0.44	V
		$I_O = 2.7$ mA; $V_{CC} = 3.0$ V	-	-	0.31	V
		$I_O = 4.0$ mA; $V_{CC} = 3.0$ V	-	-	0.44	V
I_I	input leakage current	$V_I = $ GND to 3.6 V; $V_{CC} = 0$ V to 3.6 V	-	-	±0.1	μA
I_{OFF}	power-off leakage current	V_I or $V_O = 0$ V to 3.6 V; $V_{CC} = 0$ V	-	-	±0.2	μA
ΔI_{OFF}	additional power-off leakage current	V_I or $V_O = 0$ V to 3.6 V; $V_{CC} = 0$ V to 0.2 V	-	-	±0.2	μA
I_{CC}	supply current	$V_I = $ GND or V_{CC}; $I_O = 0$ A; $V_{CC} = 0.8$ V to 3.6 V	-	-	0.5	μA
ΔI_{CC}	additional supply current	$V_I = V_{CC} - 0.6$ V; $I_O = 0$ A; $V_{CC} = 3.3$ V	-	-	40	μA
C_I	input capacitance	$V_I = $ GND or V_{CC}; $V_{CC} = 0$ V to 3.6 V	-	1.1	-	pF
C_O	output capacitance	$V_O = $ GND; $V_{CC} = 0$ V	-	1.7	-	pF
$T_{amb} = -40$ °C to +85 °C						
V_{OH}	HIGH-level output voltage	$V_I = V_{T+}$ or V_{T-}		-	-	V
		$I_O = -20$ μA; $V_{CC} = 0.8$ V to 3.6 V	$V_{CC} - 0.1$	-	-	V
		$I_O = -1.1$ mA; $V_{CC} = 1.1$ V	$0.7 \times V_{CC}$	-	-	V
		$I_O = -1.7$ mA; $V_{CC} = 1.4$ V	1.03	-	-	V
		$I_O = -1.9$ mA; $V_{CC} = 1.65$ V	1.30	-	-	V
		$I_O = -2.3$ mA; $V_{CC} = 2.3$ V	1.97	-	-	V
		$I_O = -3.1$ mA; $V_{CC} = 2.3$ V	1.85	-	-	V
		$I_O = -2.7$ mA; $V_{CC} = 3.0$ V	2.67	-	-	V
		$I_O = -4.0$ mA; $V_{CC} = 3.0$ V	2.55	-	-	V
V_{OL}	LOW-level output voltage	$V_I = V_{T+}$ or V_{T-}				
		$I_O = 20$ μA; $V_{CC} = 0.8$ V to 3.6 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
		$I_O = 1.9$ mA; $V_{CC} = 1.65$ V	-	-	0.35	V
		$I_O = 2.3$ mA; $V_{CC} = 2.3$ V	-	-	0.33	V
		$I_O = 3.1$ mA; $V_{CC} = 2.3$ V	-	-	0.45	V
		$I_O = 2.7$ mA; $V_{CC} = 3.0$ V	-	-	0.33	V
		$I_O = 4.0$ mA; $V_{CC} = 3.0$ V	-	-	0.45	V
I_I	input leakage current	$V_I = $ GND to 3.6 V; $V_{CC} = 0$ V to 3.6 V	-	-	±0.5	μA
I_{OFF}	power-off leakage current	V_I or $V_O = 0$ V to 3.6 V; $V_{CC} = 0$ V	-	-	±0.5	μA

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Table 7.   Static characteristics *…continued*
At recommended operating conditions; voltages are referenced to GND (ground = 0 V).

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
ΔI_{OFF}	additional power-off leakage current	V_I or V_O = 0 V to 3.6 V; V_{CC} = 0 V to 0.2 V	-	-	±0.6	µA
I_{CC}	supply current	V_I = GND or V_{CC}; I_O = 0 A; V_{CC} = 0.8 V to 3.6 V	-	-	0.9	µA
ΔI_{CC}	additional supply current	V_I = V_{CC} − 0.6 V; I_O = 0 A; V_{CC} = 3.3 V	-	-	50	µA
T_{amb} = −40 °C to +125 °C						
V_{OH}	HIGH-level output voltage	V_I = V_{T+} or V_{T-}				
		I_O = −20 µA; V_{CC} = 0.8 V to 3.6 V	V_{CC} − 0.11	-	-	V
		I_O = −1.1 mA; V_{CC} = 1.1 V	$0.6 \times V_{CC}$	-	-	V
		I_O = −1.7 mA; V_{CC} = 1.4 V	0.93	-	-	V
		I_O = −1.9 mA; V_{CC} = 1.65 V	1.17	-	-	V
		I_O = −2.3 mA; V_{CC} = 2.3 V	1.77	-	-	V
		I_O = −3.1 mA; V_{CC} = 2.3 V	1.67	-	-	V
		I_O = −2.7 mA; V_{CC} = 3.0 V	2.40	-	-	V
		I_O = −4.0 mA; V_{CC} = 3.0 V	2.30	-	-	V
V_{OL}	LOW-level output voltage	V_I = V_{T+} or V_{T-}				
		I_O = 20 µA; 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_I	input leakage current	V_I = GND to 3.6 V; V_{CC} = 0 V to 3.6 V	-	-	±0.75	µA
I_{OFF}	power-off leakage current	V_I or V_O = 0 V to 3.6 V; V_{CC} = 0 V	-	-	±0.75	µA
ΔI_{OFF}	additional power-off leakage current	V_I or V_O = 0 V to 3.6 V; V_{CC} = 0 V to 0.2 V	-	-	±0.75	µA
I_{CC}	supply current	V_I = GND or V_{CC}; I_O = 0 A; V_{CC} = 0.8 V to 3.6 V	-	-	1.4	µA
ΔI_{CC}	additional supply current	V_I = V_{CC} − 0.6 V; I_O = 0 A; V_{CC} = 3.3 V	-	-	75	µA

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12. Dynamic characteristics

Table 8.   Dynamic characteristics

Voltages are referenced to GND (ground = 0 V); for test circuit see Figure 8.

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 pF										
t_{pd}	propagation delay	nA to nY; see Figure 7	[2]							
		V_{CC} = 0.8 V		-	19.9	-	-	-	-	ns
		V_{CC} = 1.1 V to 1.3 V		2.7	5.9	11.0	2.4	11.1	11.2	ns
		V_{CC} = 1.4 V to 1.6 V		2.6	4.3	6.6	2.4	7.1	7.4	ns
		V_{CC} = 1.65 V to 1.95 V		2.1	3.7	5.4	2.0	6.0	6.2	ns
		V_{CC} = 2.3 V to 2.7 V		2.0	3.0	4.1	1.7	4.5	4.7	ns
		V_{CC} = 3.0 V to 3.6 V		1.9	2.8	3.6	1.5	3.9	4.0	ns
C_L = 10 pF										
t_{pd}	propagation delay	nA to nY; see Figure 7	[2]							
		V_{CC} = 0.8 V		-	23.4	-	-	-	-	ns
		V_{CC} = 1.1 V to 1.3 V		2.9	6.8	12.7	2.8	12.8	12.9	ns
		V_{CC} = 1.4 V to 1.6 V		2.8	5.0	7.7	2.6	8.2	8.6	ns
		V_{CC} = 1.65 V to 1.95 V		2.7	4.2	6.2	2.5	6.7	7.1	ns
		V_{CC} = 2.3 V to 2.7 V		2.3	3.6	4.8	2.1	5.2	5.5	ns
		V_{CC} = 3.0 V to 3.6 V		2.1	3.3	4.3	2.0	4.5	4.7	ns
C_L = 15 pF										
t_{pd}	propagation delay	nA to nY; see Figure 7	[2]							
		V_{CC} = 0.8 V		-	26.9	-	-	-	-	ns
		V_{CC} = 1.1 V to 1.3 V		3.3	7.6	14.3	3.0	14.5	14.7	ns
		V_{CC} = 1.4 V to 1.6 V		3.3	5.5	8.6	2.9	9.4	9.8	ns
		V_{CC} = 1.65 V to 1.95 V		2.8	4.7	7.0	2.8	7.7	8.1	ns
		V_{CC} = 2.3 V to 2.7 V		2.7	4.0	5.5	2.4	5.9	6.2	ns
		V_{CC} = 3.0 V to 3.6 V		2.6	3.8	4.8	2.2	5.2	5.4	ns
C_L = 30 pF										
t_{pd}	propagation delay	nA to nY; see Figure 7	[2]							
		V_{CC} = 0.8 V		-	37.3	-	-	-	-	ns
		V_{CC} = 1.1 V to 1.3 V		4.0	9.8	18.7	3.9	19.6	20.0	ns
		V_{CC} = 1.4 V to 1.6 V		3.7	7.1	11.2	3.8	12.3	12.9	ns
		V_{CC} = 1.65 V to 1.95 V		3.6	6.0	9.1	3.6	10.0	10.6	ns
		V_{CC} = 2.3 V to 2.7 V		3.5	5.2	6.9	3.2	7.5	7.9	ns
		V_{CC} = 3.0 V to 3.6 V		3.3	4.8	6.1	3.1	7.1	7.4	ns

Table 8.   Dynamic characteristics *…continued*

Voltages are referenced to GND (ground = 0 V); for test circuit see Figure 8.

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 pF, 10 pF, 15 pF and 30 pF									
C_{PD}	power dissipation capacitance	f_i = 1 MHz; V_I = GND to V_{CC} [3][4]							
		V_{CC} = 0.8 V	-	2.6	-	-	-	-	pF
		V_{CC} = 1.1 V to 1.3 V	-	2.7	-	-	-	-	pF
		V_{CC} = 1.4 V to 1.6 V	-	2.9	-	-	-	-	pF
		V_{CC} = 1.65 V to 1.95 V	-	3.1	-	-	-	-	pF
		V_{CC} = 2.3 V to 2.7 V	-	3.7	-	-	-	-	pF
		V_{CC} = 3.0 V to 3.6 V	-	4.3	-	-	-	-	pF

[1]   All typical values are measured at nominal V_{CC}.

[2] t_{pd} is the same as t_{PLH} and t_{PHL}.

[3]   All specified values are the average typical values over all stated loads.

[4] C_{PD} is used to determine the dynamic power dissipation (P_D in µW).

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

f_i = input frequency in MHz;

f_o = output frequency in MHz;

C_L = 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.

13. Waveforms
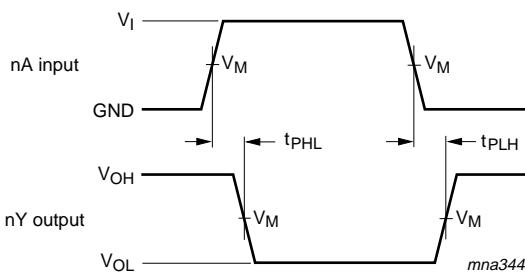
Measurement points are given in Table 9.

Logic levels: V_{OL} and V_{OH} are typical output voltage levels that occur with the output load.

Fig 7.   The data input (nA) to output (nY) propagation delays

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

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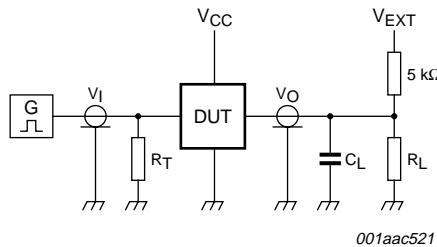
Test data is given in Table 10.

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_o of the pulse generator.

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

Fig 8.   Load circuitry for 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 kΩ or 1 MΩ	open	GND	$2 \times V_{CC}$

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

# 14. Transfer characteristics

Table 11.   Transfer characteristics

Voltages are referenced to GND (ground = 0 V); for test circuit see Figure 8.

Symbol	Parameter	Conditions	25 °C			−40 °C to +125 °C			Unit
			Min	Typ	Max	Min	Max (85 °C)	Max (125 °C)	
V_{T+}	positive-going threshold voltage	see Figure 9 and Figure 10							
		V_{CC} = 0.8 V	0.30	-	0.60	0.30	0.60	0.62	V
		V_{CC} = 1.1 V	0.53	-	0.90	0.53	0.90	0.92	V
		V_{CC} = 1.4 V	0.74	-	1.11	0.74	1.11	1.13	V
		V_{CC} = 1.65 V	0.91	-	1.29	0.91	1.29	1.31	V
		V_{CC} = 2.3 V	1.37	-	1.77	1.37	1.77	1.80	V
		V_{CC} = 3.0 V	1.88	-	2.29	1.88	2.29	2.32	V
V_{T-}	negative-going threshold voltage	see Figure 9 and Figure 10							
		V_{CC} = 0.8 V	0.10	-	0.60	0.10	0.60	0.60	V
		V_{CC} = 1.1 V	0.26	-	0.65	0.26	0.65	0.65	V
		V_{CC} = 1.4 V	0.39	-	0.75	0.39	0.75	0.75	V
		V_{CC} = 1.65 V	0.47	-	0.84	0.47	0.84	0.84	V
		V_{CC} = 2.3 V	0.69	-	1.04	0.69	1.04	1.04	V
		V_{CC} = 3.0 V	0.88	-	1.24	0.88	1.24	1.24	V

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Table 11.   Transfer characteristics *...continued*

Voltages are referenced to GND (ground = 0 V); for test circuit see Figure 8.

Symbol	Parameter	Conditions	25 °C			−40 °C to +125 °C			Unit
			Min	Typ	Max	Min	Max (85 °C)	Max (125 °C)	
V_H	hysteresis voltage	$(V_{T+} − V_{T−})$; see Figure 9, Figure 10, Figure 11 and Figure 12							
		V_{CC} = 0.8 V	0.07	-	0.50	0.07	0.50	0.50	V
		V_{CC} = 1.1 V	0.08	-	0.46	0.08	0.46	0.46	V
		V_{CC} = 1.4 V	0.18	-	0.56	0.18	0.56	0.56	V
		V_{CC} = 1.65 V	0.27	-	0.66	0.27	0.66	0.66	V
		V_{CC} = 2.3 V	0.53	-	0.92	0.53	0.92	0.92	V
		V_{CC} = 3.0 V	0.79	-	1.31	0.79	1.31	1.31	V

15. Waveforms transfer characteristics
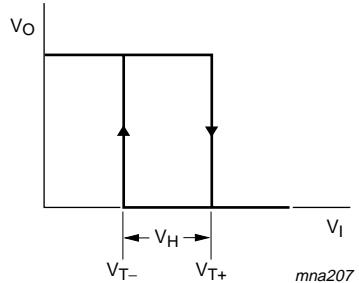
Fig 9.   Transfer characteristic
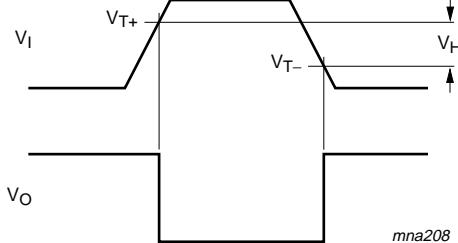
V_{T+} and $V_{T−}$ limits at 70 % and 20 %.

Fig 10.   Definition of V_{T+}, $V_{T−}$ and V_H
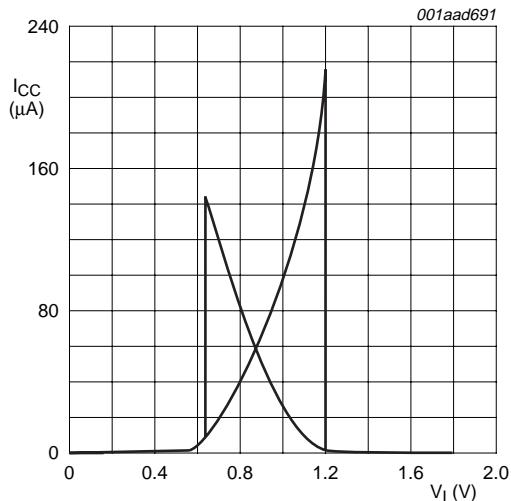
**Fig 11.   Typical transfer characteristics; V_{CC} = 1.8 V**
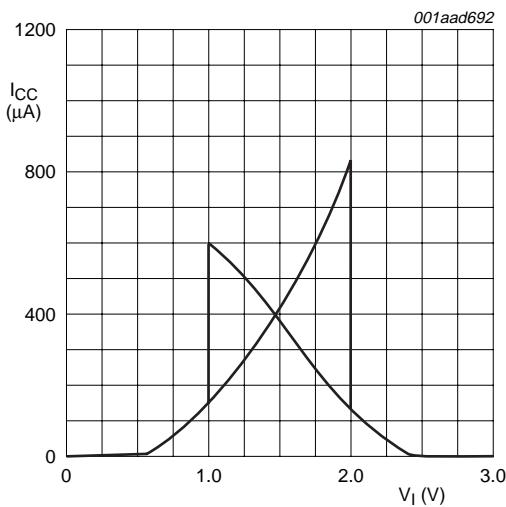
Fig 12. Typical transfer characteristics; V_{CC} = 3.0 V

16. Application information

The slow input rise and fall times cause additional power dissipation, this can be calculated using the following formula:

$P_{add} = f_i \times (t_r \times \Delta I_{CC(AV)} + t_f \times \Delta I_{CC(AV)}) \times V_{CC}$ where:

P_{add} = additional power dissipation (μW);

f_i = input frequency (MHz);

t_r = rise time (ns); 10 % to 90 %;

t_f = fall time (ns); 90 % to 10 %;

$\Delta I_{CC(AV)}$ = average additional supply current (μA).

Average $\Delta I_{CC(AV)}$ differs with positive or negative input transitions, as shown in Figure 13.

An example of a relaxation circuit using the 74AUP2G14 is shown in Figure 14.

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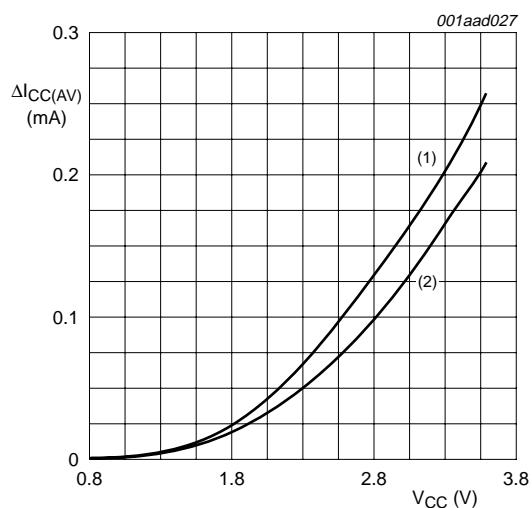
(1) Positive-going edge.

(2) Negative-going edge.

Fig 13. Average I_{CC} as a function of V_{CC}
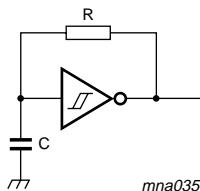
$$f = \frac{1}{T} \approx \frac{1}{a \times RC}$$

Average values for variable a are given in Table 12.

Fig 14. Relaxation oscillator

Table 12. Variable values

Supply voltage	Variable a
1.1 V	1.28
1.5 V	1.22
1.8 V	1.24
2.8 V	1.34
3.3 V	1.45

17. Package outline

Plastic surface-mounted package; 6 leads   **SOT363**
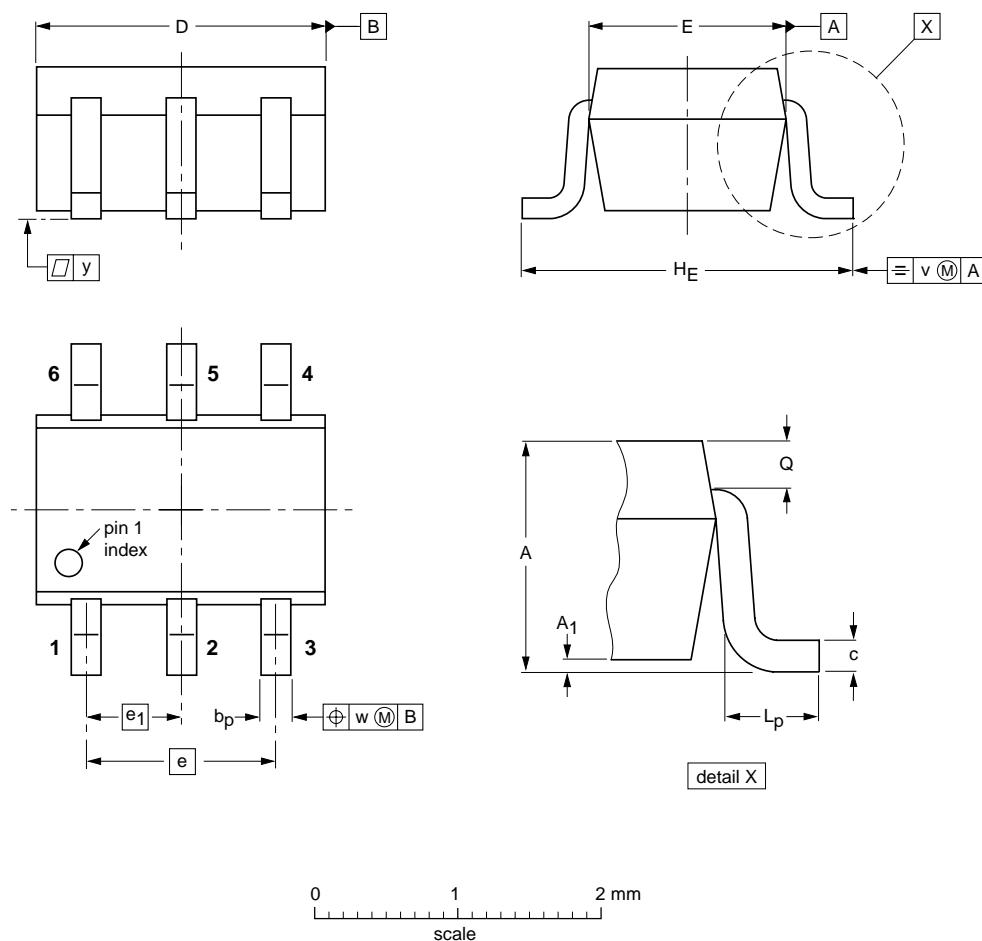
DIMENSIONS (mm are the original dimensions)

UNIT	A	A₁ max	bp	c	D	E	e	e₁	HE	Lp	Q	v	w	y
mm	1.1 0.8	0.1	0.30 0.20	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.25 0.15	0.2	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT363			SC-88			04-11-08 06-03-16

Fig 15. Package outline SOT363 (SC-88)

XSON6: plastic extremely thin small outline package; no leads; 6 terminals; body 1 x 1.45 x 0.5 mm   SOT886

DIMENSIONS (mm are the original dimensions)

UNIT	A[1] max	A$_1$ max	b	D	E	e	e$_1$	L	L$_1$
mm	0.5	0.04	0.25 0.17	1.5 1.4	1.05 0.95	0.6	0.5	0.35 0.27	0.40 0.32

Notes
1. Including plating thickness.
2. Can be visible in some manufacturing processes.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT886		MO-252				~~04-07-15~~ 04-07-22
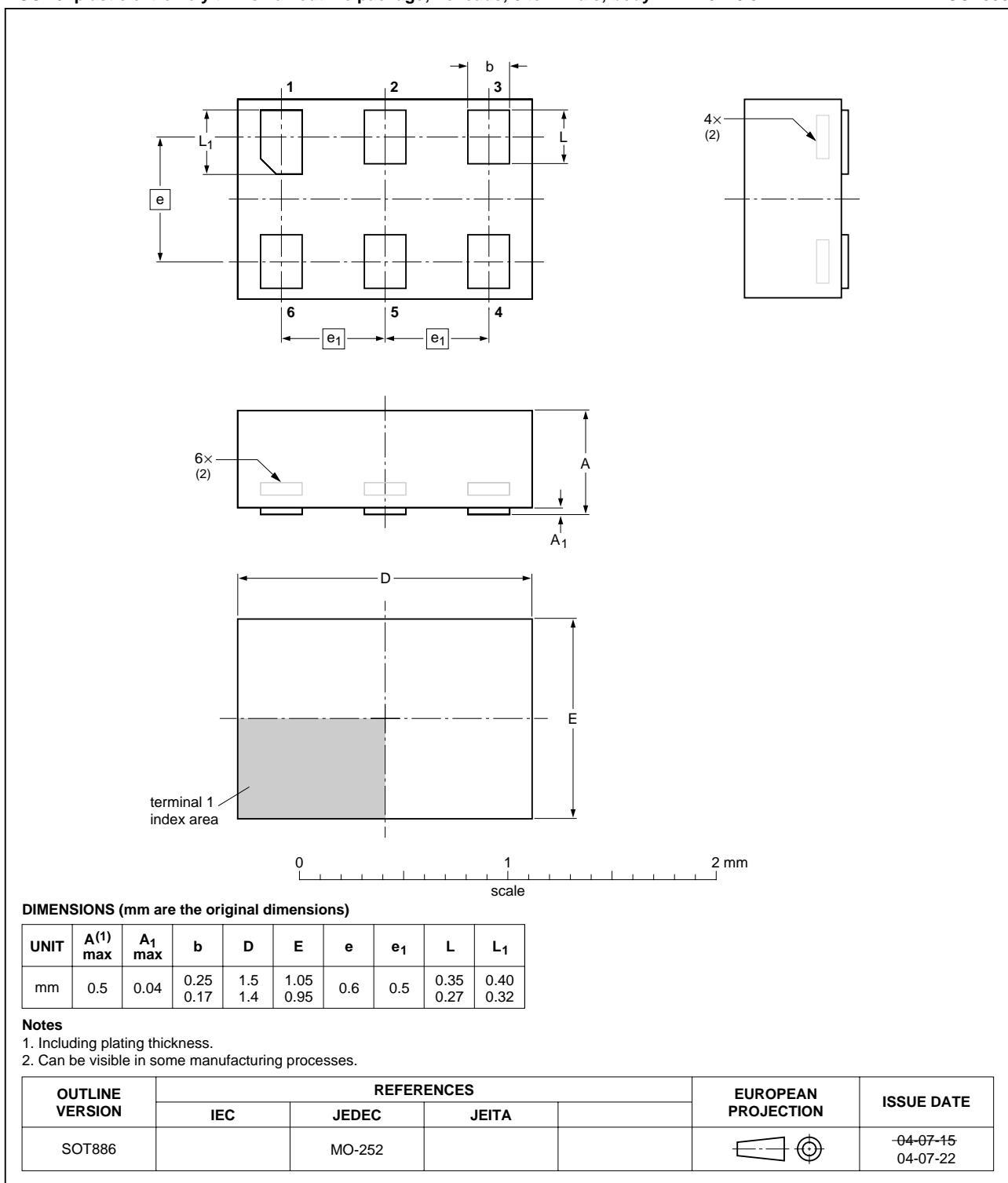
Fig 16.   Package outline SOT886 (XSON6)

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XSON6: plastic extremely thin small outline package; no leads; 6 terminals; body 1 x 1 x 0.5 mm   **SOT891**
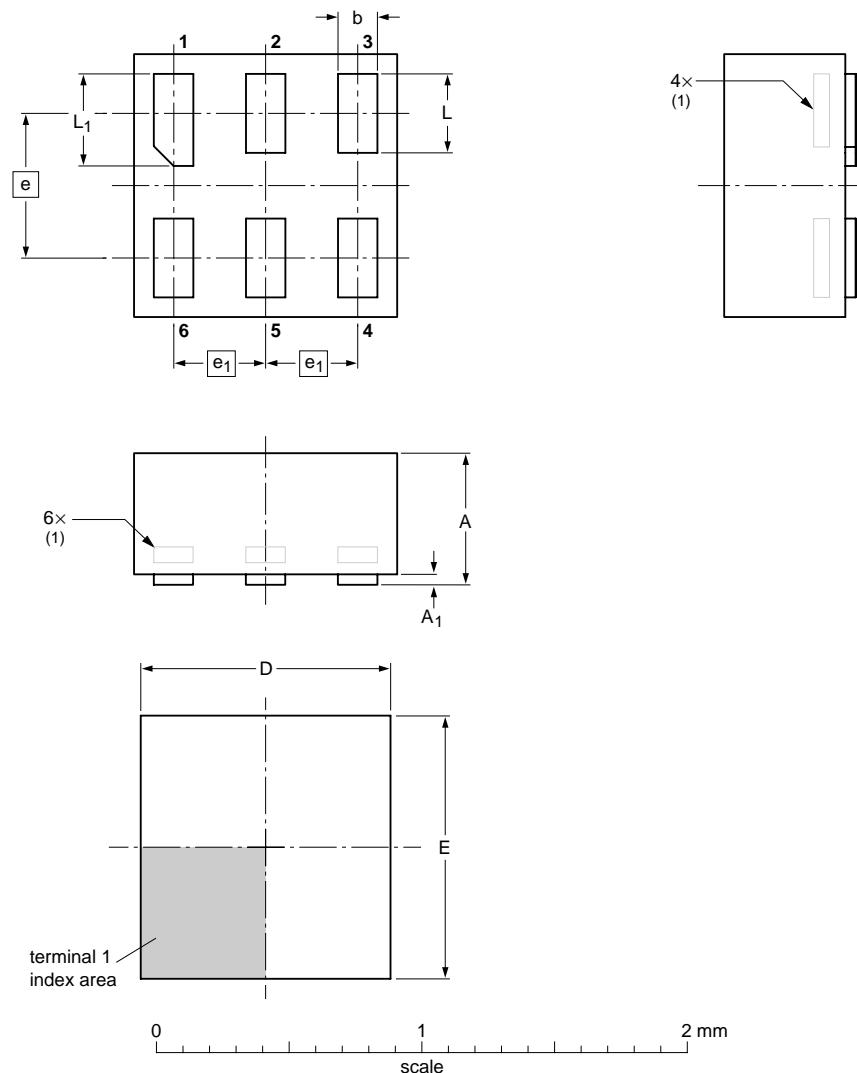
DIMENSIONS (mm are the original dimensions)

UNIT	A max	A₁ max	b	D	E	e	e₁	L	L₁
mm	0.5	0.04	0.20 / 0.12	1.05 / 0.95	1.05 / 0.95	0.55	0.35	0.35 / 0.27	0.40 / 0.32

Note
1. Can be visible in some manufacturing processes.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT891						~~05-04-06~~ 07-05-15

Fig 17.   Package outline SOT891 (XSON6)

18. Abbreviations

Table 13.   Abbreviations

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

19. Revision history

Table 14.   Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
74AUP2G14_2	20090703	Product data sheet	-	74AUP2G14_1
Modifications:	• Section 9 "Limiting values": Changed: Derating factor XSON6 packages.			
	• Section 11 "Static characteristics": Changed: conditions for HIGH-level output voltage and LOW-level output voltage.			
	• Section 12 "Dynamic characteristics": Changed: typical power dissipation capacitance.			
74AUP2G14_1	20061219	Product data sheet	-	-

20. Legal information

20.1 Data sheet status

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".

[3]   The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL http://www.nxp.com.

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