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Tel: +86-755-8981 8866 Fax: +86-755-8427 6832 Email & Skype: info@chipsmall.com Web: www.chipsmall.com Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Low-power dual buffer Rev. 6 — 17 September 2015

Product data sheet

1. General description

The 74AUP2G34 provides two low-power, low-voltage buffers.

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 the 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 1000 V
- Low static power consumption; $I_{CC} = 0.9 \ \mu A \ (maximum)$
- 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

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3. Ordering information

Table 1. Ordering information

Type number	Package						
	Temperature range	Name	Description	Version			
74AUP2G34GW	–40 °C to +125 °C	SC-88	plastic surface-mounted package; 6 leads	SOT363			
74AUP2G34GM	–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			
74AUP2G34GF	–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			
74AUP2G34GN	–40 °C to +125 °C	XSON6	extremely thin small outline package; no leads; 6 terminals; body $0.9 \times 1.0 \times 0.35$ mm	SOT1115			
74AUP2G34GS	-40 °C to +125 °C	XSON6	extremely thin small outline package; no leads; 6 terminals; body $1.0 \times 1.0 \times 0.35$ mm	SOT1202			
74AUP2G34GX	-40 °C to +125 °C	X2SON6	plastic thermal extremely thin small outline package; no leads; 6 terminals; body 1 \times 0.8 \times 0.35 mm	SOT1255			

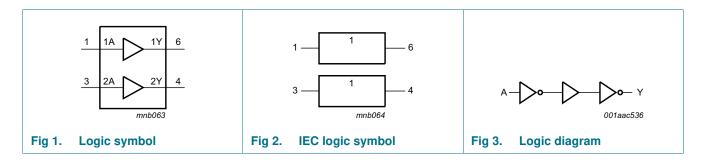
4. Marking

Table 2. Marking

Type number	Marking code ^[1]
74AUP2G34GW	aA
74AUP2G34GM	aA
74AUP2G34GF	aA
74AUP2G34GN	aA
74AUP2G34GS	aA
74AUP2G34GX	aA

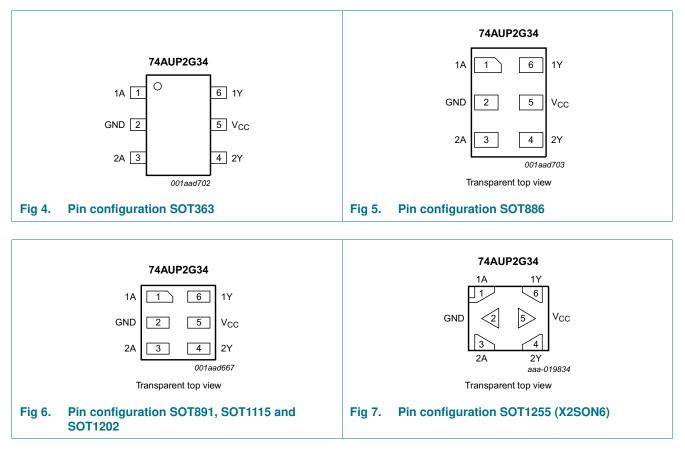
[1] The pin 1 indicator is located on the lower left corner of the device, below the marking code.

5. Functional diagram



6. Pinning information

6.1 Pinning



6.2 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

7. Functional description

Input	Output
	nY
L	L
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 ₁ < 0 V		-50	-	mA
VI	input voltage		[1]	-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	[1]	-0.5	+4.6	V
I _O	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	$T_{amb} = -40 \ ^{\circ}C \ to \ +125 \ ^{\circ}C$	[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 SC-88 packages: above 87.5 °C the value of P_{tot} derates linearly with 4.0 mW/K.

For X2SON6 and XSON6 packages: above 118 °C the value of P_{tot} derates linearly with 7.8 mW/K.

9. Recommended operating conditions

Table 6. Recommended 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

Low-power dual buffer

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					1
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
		$V_{CC} = 2.3 \text{ V to } 2.7 \text{ V}$	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	-	-	$\begin{array}{c c} 0.35 \times V_{CC} \\ \hline 0.7 \\ \hline 0.9 \\ \hline \\ & - \\ \hline \\ & 0.1 \\ \hline \\ 0.3 \times V_{CC} \\ \hline \\ & 0.31 \\ \end{array}$	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
		$I_{O} = -1.1 \text{ mA}; V_{CC} = 1.1 \text{ V}$	$0.75 \times V_{CC}$	-	-	V
		$I_{O} = -1.7 \text{ mA}; V_{CC} = 1.4 \text{ V}$	1.11	-	-	V
		$I_{O} = -1.9 \text{ mA}; V_{CC} = 1.65 \text{ V}$	1.32	-	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	V
		$I_{O} = -2.3 \text{ mA}; V_{CC} = 2.3 \text{ V}$	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 _O = 1.1 mA; V _{CC} = 1.1 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	-	-	$\begin{array}{c c c c c c } & - & & & & & \\ & - & & & & & \\ & 0.30 \times V_{CC} & & & \\ & 0.35 \times V_{CC} & & & \\ & 0.35 \times V_{CC} & & & \\ & 0.7 & & & & \\ & 0.9 & & & & \\ & 0.7 & & & & \\ & 0.7 & & & & \\ & 0.7 & & & & \\ & - & & & & \\ & - & & & & \\ & - & & & &$	V
		I_{O} = 2.3 mA; V_{CC} = 2.3 V	-	-		V
		$I_{O} = 3.1 \text{ mA}; V_{CC} = 2.3 \text{ V}$	-	-		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
l	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	$V_1 \text{ or } V_0 = 0 \text{ V to } 3.6 \text{ V};$ $V_{CC} = 0 \text{ V to } 0.2 \text{ V}$	-			
lcc	supply current	$\label{eq:VI} \begin{array}{l} V_{I}=GND \text{ or } V_{CC}; \ I_{O}=0 \ A; \\ V_{CC}=0.8 \ V \ to \ 3.6 \ V \end{array}$	-			μA
Δl _{CC}	additional supply current		-			
Cı	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

Low-power dual buffer

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	$0.70 imes V_{CC}$	-	-	V
		V _{CC} = 0.9 V to 1.95 V	$0.65 \times V_{CC}$	-	-	V
		$V_{CC} = 2.3 \text{ V} \text{ to } 2.7 \text{ V}$	1.6	-	-	V
		V _{CC} = 3.0 V to 3.6 V	2.0	-	-	V
V _{IL}		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	-	-	$\begin{array}{c c c c c c } & - & & & & & & & & & & & & & & & & & $	V
V _{ОН}	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 mA; V _{CC} = 1.1 V	$0.7 \times V_{CC}$	-	-	V
		$I_{O} = -1.7 \text{ mA}; V_{CC} = 1.4 \text{ V}$	1.03	-	-	V
		I _O = −1.9 mA; V _{CC} = 1.65 V	1.30	-	-	V
		$I_{O} = -2.3 \text{ mA}; V_{CC} = 2.3 \text{ V}$	3 mA; $V_{CC} = 2.3 V$ 1.97-1 mA; $V_{CC} = 2.3 V$ 1.85-7 mA; $V_{CC} = 3.0 V$ 2.67-	V		
		$I_{O} = -3.1 \text{ mA}; V_{CC} = 2.3 \text{ V}$		V		
		$I_{O} = -2.7 \text{ mA}; V_{CC} = 3.0 \text{ V}$	2.67	-	-	V
		$I_{O} = -4.0 \text{ mA}; V_{CC} = 3.0 \text{ V}$	2.55	-	-	V
V _{OL}	LOW-level output voltage	$V_{I} = V_{IH} \text{ or } V_{IL}$				
		$I_{O} = 20 \ \mu A; V_{CC} = 0.8 \ V \ to \ 3.6 \ V$	-	-	0.1	V
		I _O = 1.1 mA; V _{CC} = 1.1 V	$0.65 \times V_{CC}$ - - N 1.6 - - N 2.0 - - N 1.6 - 0.30 $\times V_{CC}$ N - - 0.30 $\times V_{CC}$ N - - 0.35 $\times V_{CC}$ N - - 0.7 N - - 0.7 N - - 0.9 N - - - N - 1.03 - - N 1.30 - - N N 1.85 - - N N 2.67 - - N N V - - 0.33 $\times V_{CC}$ N - - 0.33 $\times V_{CC}$ N	V		
		I _O = 1.7 mA; V _{CC} = 1.4 V	-	-	- - 0.30 × V_{CC} 0.35 × V_{CC} 0.35 × V_{CC} 0.35 × V_{CC} 0.7 0.9 - - - - - - - - - - - - - - - 0.1 0.3 × V_{CC} 0.37 0.35 0.33 0.45 0.33 0.45 ±0.5 ±0.5 ±0.6 0.9	V
		I _O = 1.9 mA; V _{CC} = 1.65 V	-	-		V
		I _O = 2.3 mA; V _{CC} = 2.3 V	-	-		V
		I _O = 3.1 mA; V _{CC} = 2.3 V	-	-		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
1	input leakage current	$V_{I} = GND$ to 3.6 V; $V_{CC} = 0$ V to 3.6 V	-	-	±0.5	μA
OFF	power-off leakage current	V_{I} or $V_{O} = 0$ V to 3.6 V; $V_{CC} = 0$ V	-	-	±0.5	μA
∆l _{OFF}	additional power-off leakage current	$V_1 \text{ or } V_0 = 0 \text{ V to } 3.6 \text{ V};$ $V_{CC} = 0 \text{ V to } 0.2 \text{ V}$	-	.9785852.672.550.10.3 \times V _{CC} 0.370.330.330.45-0.450.4510.5 \pm 0.5 \pm 0.6		
сс	supply current	$\label{eq:VI} \begin{array}{l} V_{I} = GND \text{ or } V_{CC}; \ I_{O} = 0 \ A; \\ V_{CC} = 0.8 \ V \text{ to } 3.6 \ V \end{array}$	-	-	0.9	μA
∆l _{CC}	additional supply current		-	-	50	μA

Static characteristics ... continued Table 7.

..... and to CND (a

Low-power dual buffer

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
T _{amb} = –	40 °C to +125 °C		I			
VIH	HIGH-level input voltage	V _{CC} = 0.8 V	$0.75 imes V_{CC}$	-	-	V
		V _{CC} = 0.9 V to 1.95 V	$0.70 \times V_{CC}$	-	-	V
		$V_{CC} = 2.3 \text{ V} \text{ to } 2.7 \text{ V}$	1.6	-	-	V
		V _{CC} = 3.0 V to 3.6 V	2.0	-	-	V
V _{IL}	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	V				
		V _{CC} = 0.9 V to 1.95 V	-	-	$0.30 \times V_{CC}$	V
		$V_{CC} = 2.3 \text{ V to } 2.7 \text{ V}$	-	-	0.7	V
		V _{CC} = 3.0 V to 3.6 V	-	-	0.9	V
V _{OH}	HIGH-level output voltage	$V_{I} = V_{IH} \text{ or } V_{IL}$				
		$I_{O} = -20 \ \mu A; V_{CC} = 0.8 \ V \ to \ 3.6 \ V$	$V_{CC} - 0.11$	-	-	V
		I _O = -1.1 mA; V _{CC} = 1.1 V	$0.6 \times V_{CC}$	-	-	V
		$I_{O} = -1.7 \text{ mA}; V_{CC} = 1.4 \text{ V}$	0.93	-	-	V
		I _O = −1.9 mA; V _{CC} = 1.65 V	1.17	-	- - - - - - - 0.25 × V_{CC} - 0.30 × V_{CC} - 0.7 - 0.7 - 0.9 - - - 0.33 × V_{CC} - 0.36 - 0.50 - ±0.75 - ±0.75	V
	$I_{O} = -2.3 \text{ mA}; V_{CC} = 2.3 \text{ V} \qquad 1.77 \qquad -$ $I_{O} = -3.1 \text{ mA}; V_{CC} = 2.3 \text{ V} \qquad 1.67 \qquad -$	-	-	V		
		$I_{O} = -3.1 \text{ mA}; V_{CC} = 2.3 \text{ V} $ 1.67 $I_{O} = -2.7 \text{ mA}; V_{CC} = 3.0 \text{ V} $ 2.40	-	V		
I _O =	$I_{O} = -2.7 \text{ mA}; V_{CC} = 3.0 \text{ V}$	2.40	-	-	V	
		$I_{O} = -4.0 \text{ mA}; V_{CC} = 3.0 \text{ V}$	2.30	-	-	V
V _{OL}	LOW-level output voltage	$V_{I} = V_{IH} \text{ or } V_{IL}$	- - 0.7 V - - 0.9 V V _{CC} - 0.11 - - V 0.6 × V _{CC} - - V 0.93 - - V 1.17 - - V 1.67 - V V 2.40 - V V 2.30 - V V 2.30 - 0.11 V - 0.33 × V _{CC} V V - - 0.33 × V _{CC} V - - 0.33 × V _{CC} V - - 0.33 × V _{CC} V - - 0.36 V - - 0.36 V - - 0.36 V - - 0.36 V			
		$I_{O} = 20 \ \mu A; V_{CC} = 0.8 \ V \ to \ 3.6 \ V$	-	-	0.11	V
		$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$0.33 \times V_{CC}$	V		
		I _O = 1.7 mA; V _{CC} = 1.4 V	-	-	- - - 0.25 × V_{CC} 0.30 × V_{CC} 0.7 0.9 - - 0.7 0.9 - - 0.30 × V_{CC} 0.7 0.9 - - - - - - 0.11 0.33 × V_{CC} 0.41 0.39 0.36 0.50 0.50 ±0.75 ±0.75 ±0.75 ±0.75	V
		I _O = 1.9 mA; V _{CC} = 1.65 V	-	-		V
		I _O = 2.3 mA; V _{CC} = 2.3 V	-	-		V
		I _O = 3.1 mA; V _{CC} = 2.3 V	-	-		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
1	input leakage current	$V_{I} = GND$ to 3.6 V; $V_{CC} = 0$ V to 3.6 V	-	-	±0.75	μA
OFF	power-off leakage current	V_{I} or $V_{O} = 0$ V to 3.6 V; $V_{CC} = 0$ V	-	-	±0.75	μA
∆I _{OFF}	additional power-off leakage current	1 0	-	$\begin{array}{c cccc} - & 0.33 \times V_{CC} \\ - & 0.41 \\ - & 0.39 \\ - & 0.36 \\ - & 0.50 \\ - & 0.36 \\ - & 0.50 \\ - & \pm 0.75 \\ \end{array}$		μA
СС	supply current		-	-	1.4	μA
∆l _{CC}	additional supply current		-	-	75	μA

Static characteristics ... continued Table 7.

..... and to CND (a

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			
			Min	Typ[1]	Max	Min	Max (85 °C)	Max (125 °C)	
C _L = 5 p	F								
t _{pd}	propagation delay	nA to nY; see Figure 8 [2]							
		V _{CC} = 0.8 V	-	14.9	-	-	-	-	ns
		V _{CC} = 1.1 V to 1.3 V	2.6	4.7	9.2	2.0	10.0	11.0	ns
		V _{CC} = 1.4 V to 1.6 V	2.1	3.4	5.7	1.6	6.5	7.2	ns
		V _{CC} = 1.65 V to 1.95 V	1.8	2.9	4.5	1.4	5.2	5.8	ns
		V _{CC} = 2.3 V to 2.7 V	1.5	2.3	3.5	1.2	4.2	4.6	ns
		V _{CC} = 3.0 V to 3.6 V	1.4	2.1	3.2	1.0	3.8	4.2	ns
C _L = 10	pF								
t _{pd}	propagation delay	nA to nY; see Figure 8 [2]							
		V _{CC} = 0.8 V	-	18.4	-	-	-	-	ns
		V _{CC} = 1.1 V to 1.3 V	3.2	5.6	10.9	2.3	11.8	13.1	ns
		V _{CC} = 1.4 V to 1.6 V	2.6	4.1	6.7	1.9	7.7	8.5	ns
		V _{CC} = 1.65 V to 1.95 V	2.3	3.4	5.3	1.7	6.2	6.9	ns
		V _{CC} = 2.3 V to 2.7 V	2.0	2.9	4.2	1.5	5.0	5.5	ns
		V _{CC} = 3.0 V to 3.6 V	1.7	2.6	3.8	1.4	4.6	5.1	ns
C _L = 15	pF								
t _{pd}	propagation delay	nA to nY; see <u>Figure 8</u> [2]							
		V _{CC} = 0.8 V	-	21.9	-	-	-	-	ns
		V _{CC} = 1.1 V to 1.3 V	3.6	6.4	12.6	2.6	13.8	15.2	ns
		V _{CC} = 1.4 V to 1.6 V	3.0	4.6	7.6	2.2	8.9	9.8	ns
		V _{CC} = 1.65 V to 1.95 V	2.6	3.9	6.0	2.0	7.2	7.9	ns
		V_{CC} = 2.3 V to 2.7 V	2.3	3.3	4.8	1.8	5.7	6.3	ns
		$V_{CC} = 3.0 \text{ V} \text{ to } 3.6 \text{ V}$	2.1	3.1	4.2	1.6	5.0	5.5	ns
C _L = 30	pF								
t _{pd}	propagation delay	nA to nY; see Figure 8 [2]							
		V _{CC} = 0.8 V	-	32.1	-	-	-	-	ns
		V _{CC} = 1.1 V to 1.3 V	4.8	8.7	16.3	3.6	18.9	20.8	ns
		V _{CC} = 1.4 V to 1.6 V	4.0	6.2	10.3	3.4	12.2	13.4	ns
		V _{CC} = 1.65 V to 1.95 V	3.6	5.2	8.1	3.2	9.8	10.8	ns
		V _{CC} = 2.3 V to 2.7 V	3.0	4.4	6.4	2.7	7.7	8.5	ns
		V _{CC} = 3.0 V to 3.6 V	2.9	4.2	5.6	2.5	6.5	7.2	ns

Low-power dual buffer

Table 8. Dynamic characteristics ... continued

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

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, 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][4]							
		V _{CC} = 0.8 V	-	2.5	-	-	-	-	pF
		V _{CC} = 1.1 V to 1.3 V	-	2.6	-	-	-	-	pF
		V _{CC} = 1.4 V to 1.6 V	-	2.7	-	-	-	-	pF
		V _{CC} = 1.65 V to 1.95 V	-	2.9	-	-	-	-	pF
		V _{CC} = 2.3 V to 2.7 V	-	3.4	-	-	-	-	pF
		V _{CC} = 3.0 V to 3.6 V	-	4.0	-	-	-	-	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).

 $P_{D} = C_{PD} \times V_{CC}^{2} \times f_{i} \times N + \Sigma (C_{L} \times V_{CC}^{2} \times f_{o}) \text{ where:}$

 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.

12. Waveforms

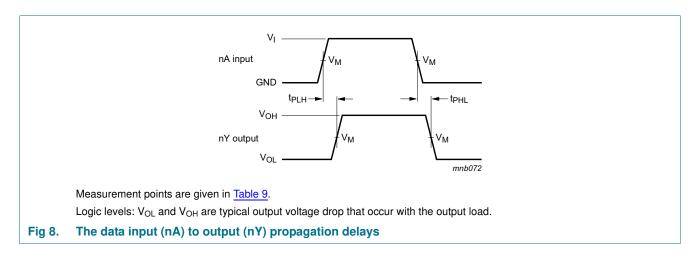


Table 9. Measurement points

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

Low-power dual buffer

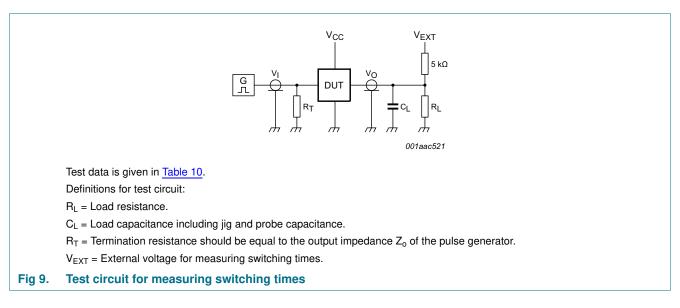


Table 10. Test data

Supply voltage	Load		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 $R_L = 1 M\Omega$.

Low-power dual buffer

13. Package outline

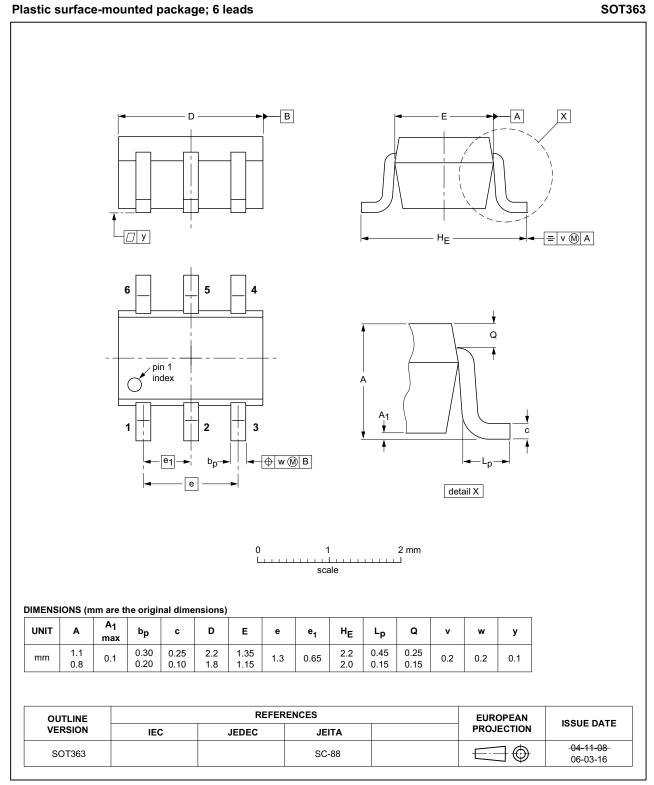


Fig 10. Package outline SOT363 (SC-88)

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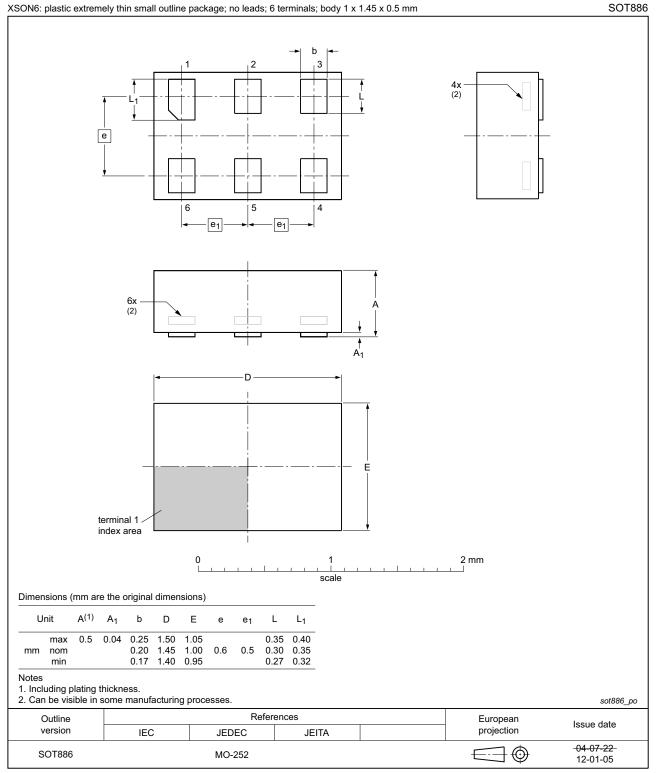


Fig 11. Package outline SOT886 (XSON6)

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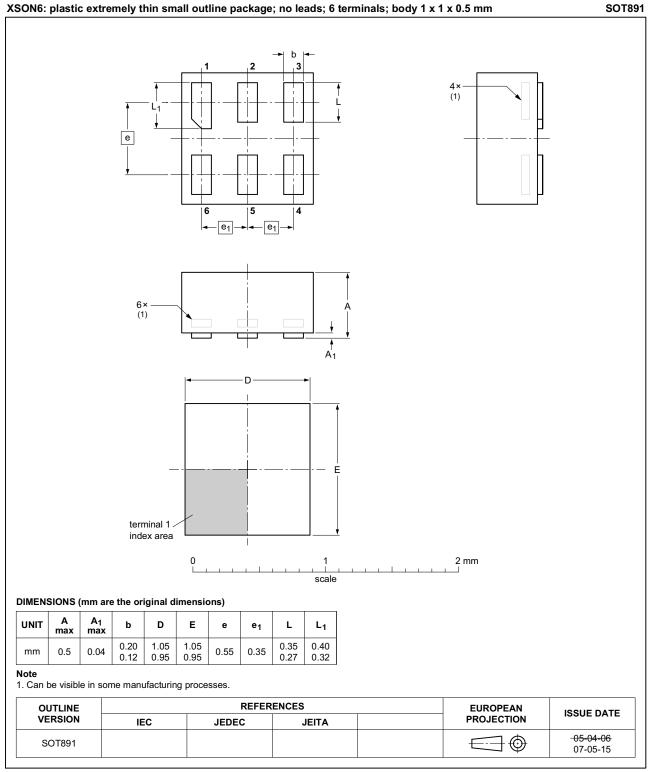
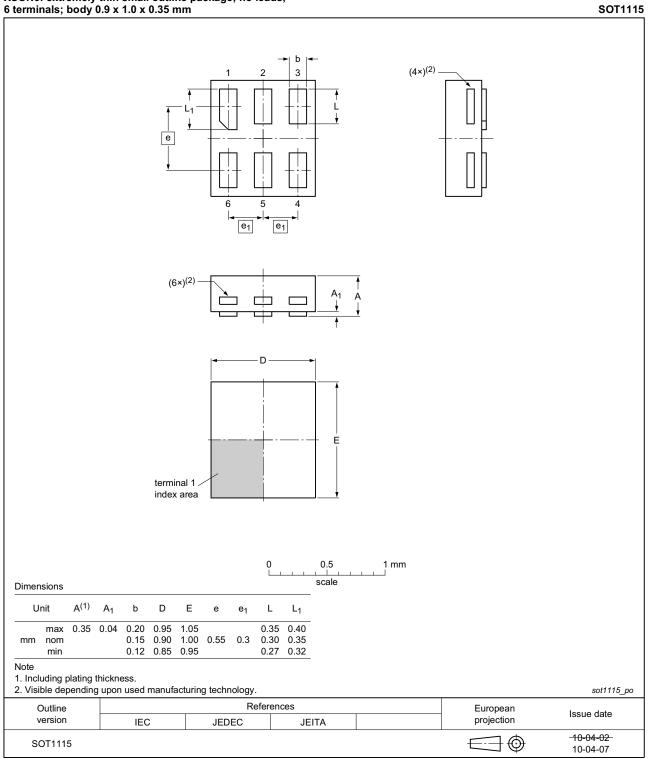


Fig 12. Package outline SOT891 (XSON6)

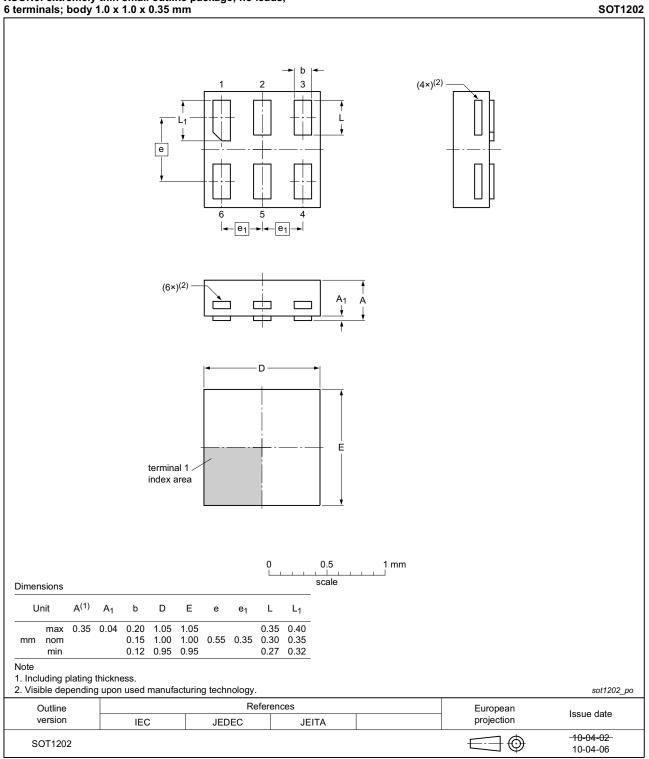
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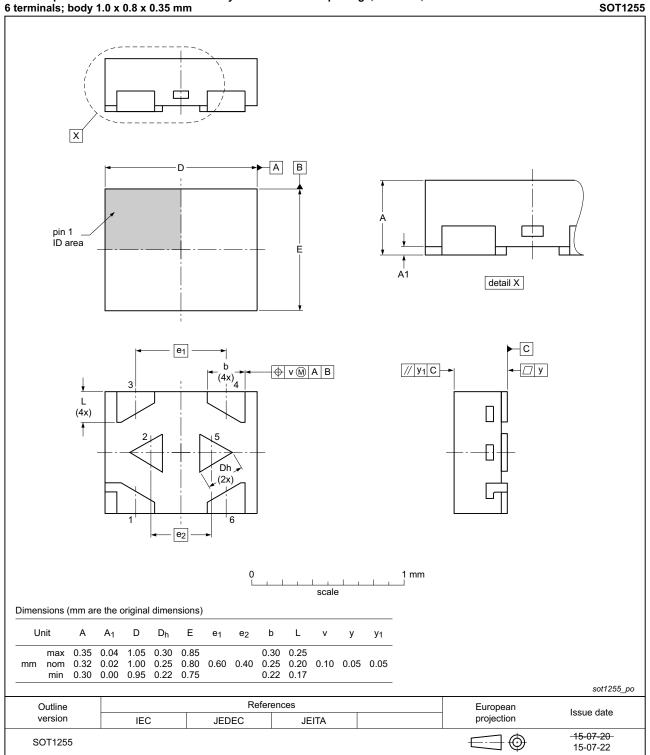
XSON6: extremely thin small outline package; no leads; 6 terminals; body 0.9 x 1.0 x 0.35 mm

Fig 13. Package outline SOT1115 (XSON6)



XSON6: extremely thin small outline package; no leads; 6 terminals; body 1.0 x 1.0 x 0.35 mm

Fig 14. Package outline SOT1202 (XSON6)



X2SON6: plastic thermal enhanced extremely thin small outline package; no leads; 6 terminals; body 1.0 x 0.8 x 0.35 mm

Fig 15. Package outline SOT1255 (X2SON6)



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

Table 12.Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes	
74AUP2G34 v.6	20150917	Product data sheet	-	74AUP2G34 v.5	
Modifications:	Added type	Added type number 74AUP2G34GX (SOT1255/X2SON6).			
74AUP2G34 v.5	20130110	Product data sheet	-	74AUP2G34 v.4	
Modifications:	 Package ou 	Package outline drawing of SOT886 (Figure 11) modified.			
74AUP2G34 v.4	20111206	Product data sheet	-	74AUP2G34 v.3	
Modifications:	Legal page:	Legal pages updated.			
74AUP2G34 v.3	20100903	Product data sheet	-	74AUP2G34 v.2	
74AUP2G34 v.2	20080131	Product data sheet	-	74AUP2G34 v.1	
74AUP2G34 v.1	20061122	Product data sheet	-	-	

16. Legal information

16.1 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.

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

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74AUP2G34

Low-power dual buffer

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