

# 74AUP1T14GWH Datasheet

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DiGi Electronics Part Number	74AUP1T14GWH-DG
Manufacturer	<a href="#">Nexperia USA Inc.</a>
Manufacturer Product Number	74AUP1T14GWH
Description	IC INVERT SCHMITT 1CH 1IN 5TSSOP
Detailed Description	Inverter IC 1 Channel Schmitt Trigger 5-TSSOP



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## Purchase and inquiry

Manufacturer Product Number:

74AUP1T14GWH

Series:

74AUP

Logic Type:

Inverter

Number of Inputs:

1

Voltage - Supply:

2.3V ~ 3.6V

Current - Output High, Low:

4mA, 4mA

Input Logic Level - High:

1.9V ~ 2.6V

Operating Temperature:

-40°C ~ 125°C

Supplier Device Package:

5-TSSOP

Base Product Number:

74AUP1T14

Manufacturer:

Nexperia USA Inc.

Product Status:

Active

Number of Circuits:

1

Features:

Schmitt Trigger

Current - Quiescent (Max):

1.2  $\mu$ A

Input Logic Level - Low:

0.1V ~ 0.44V

Max Propagation Delay @ V, Max CL:

6.9ns @ 3.3V, 30pF

Mounting Type:

Surface Mount

Package / Case:

5-TSSOP, SC-70-5, SOT-353

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8542.39.0001

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

# 74AUP1T14

## Low-power inverter with voltage-level translator

Rev. 4 — 24 July 2023

Product data sheet

### 1. General description

The 74AUP1T14 provides a single inverting function. This device ensures a very low static and dynamic power consumption across the entire  $V_{CC}$  range from 2.3 V to 3.6 V.

The 74AUP1T14 is designed for logic-level translation applications with input switching levels that accept 1.8 V low-voltage CMOS signals, while operating from either a single 2.5 V or 3.3 V supply voltage.

The wide supply voltage range ensures normal operation as battery voltage drops from 3.6 V to 2.3 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.

Schmitt trigger inputs make the circuit tolerant to slower input rise and fall times across the entire  $V_{CC}$  range.

### 2. Features and benefits

- Wide supply voltage range from 2.3 V to 3.6 V
- High noise immunity
- Low static power consumption;  $I_{CC} = 1.5 \mu\text{A}$  (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
- ESD protection:
  - HBM: ANSI/ESDA/JEDEC JS-001 class 3A exceeds 5000 V
  - CDM: ANSI/ESDA/JEDEC JS-002 class C3 exceeds 1000 V
- Specified from -40 °C to +85 °C and -40 °C to +125 °C

### 3. Ordering information

Table 1. Ordering information

Type number	Package			Version
	Temperature range	Name	Description	
<a href="#">74AUP1T14GW</a>	-40 °C to +125 °C	TSSOP5	plastic thin shrink small outline package; 5 leads; body width 1.25 mm	<a href="#">SOT353-1</a>
<a href="#">74AUP1T14GX</a>	-40 °C to +125 °C	X2SON5	plastic thermal enhanced extremely thin small outline package; no leads; 5 terminals; body 0.8 × 0.8 × 0.32 mm	<a href="#">SOT1226-3</a>

## 4. Marking

Table 2. Marking

Type number	Marking code <sup>[1]</sup>
74AUP1T14GW	56
74AUP1T14GX	56

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

## 5. Functional diagram

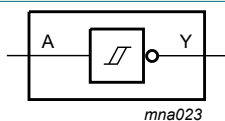


Fig. 1. Logic symbol

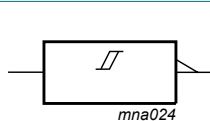


Fig. 2. IEC logic symbol

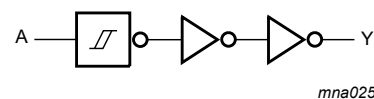
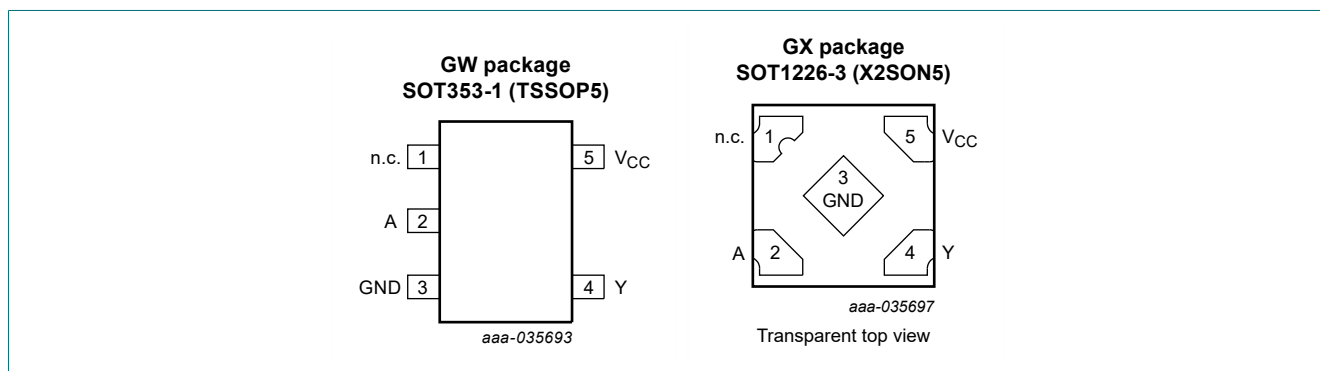


Fig. 3. Logic diagram

## 6. Pinning information

### 6.1. Pinning



### 6.2. Pin description

Table 3. Pin description

Symbol	Pin	Description
n.c.	1	not connected
A	2	data input
GND	3	ground (0 V)
Y	4	data output
V <sub>CC</sub>	5	supply voltage

## 7. Functional description

**Table 4. Function table**

*H = HIGH voltage level; L = LOW voltage level.*

Input	Output
A	Y
L	H
H	L

## 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	[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 $V_{CC}$	-	$\pm 20$	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 minimum input and output voltage ratings may be exceeded if the input and output current ratings are observed.

[2] For SOT353-1 (TSSOP5) package:  $P_{tot}$  derates linearly with 3.3 mW/K above 74 °C.  
For SOT1226-3 (X2SON5) package:  $P_{tot}$  derates linearly with 3.0 mW/K above 67 °C.

## 9. Recommended operating conditions

**Table 6. Recommended operating conditions**

Symbol	Parameter	Conditions	Min	Max	Unit
$V_{CC}$	supply voltage		2.3	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

## 10. 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
<b>T<sub>amb</sub> = 25 °C</b>						
V <sub>T+</sub>	positive-going threshold voltage	V <sub>CC</sub> = 2.3 V to 2.7 V	0.60	-	1.10	V
		V <sub>CC</sub> = 3.0 V to 3.6 V	0.75	-	1.16	V
V <sub>T-</sub>	negative-going threshold voltage	V <sub>CC</sub> = 2.3 V to 2.7 V	0.35	-	0.60	V
		V <sub>CC</sub> = 3.0 V to 3.6 V	0.50	-	0.85	V
V <sub>H</sub>	hysteresis voltage	(V <sub>H</sub> = V <sub>T+</sub> - V <sub>T-</sub> )				
		V <sub>CC</sub> = 2.3 V to 2.7 V	0.23	-	0.60	V
		V <sub>CC</sub> = 3.0 V to 3.6 V	0.25	-	0.56	V
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = -20 μA; V <sub>CC</sub> = 2.3 V to 3.6 V	V <sub>CC</sub> - 0.1	-	-	V
		I <sub>O</sub> = -2.3 mA; V <sub>CC</sub> = 2.3 V	2.05	-	-	V
		I <sub>O</sub> = -3.1 mA; V <sub>CC</sub> = 2.3 V	1.9	-	-	V
		I <sub>O</sub> = -2.7 mA; V <sub>CC</sub> = 3.0 V	2.72	-	-	V
		I <sub>O</sub> = -4.0 mA; V <sub>CC</sub> = 3.0 V	2.6	-	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = 20 μA; V <sub>CC</sub> = 2.3 V to 3.6 V	-	-	0.10	V
		I <sub>O</sub> = 2.3 mA; V <sub>CC</sub> = 2.3 V	-	-	0.31	V
		I <sub>O</sub> = 3.1 mA; V <sub>CC</sub> = 2.3 V	-	-	0.44	V
		I <sub>O</sub> = 2.7 mA; V <sub>CC</sub> = 3.0 V	-	-	0.31	V
		I <sub>O</sub> = 4.0 mA; V <sub>CC</sub> = 3.0 V	-	-	0.44	V
I <sub>I</sub>	input leakage current	V <sub>I</sub> = GND to 3.6 V; V <sub>CC</sub> = 0 V to 3.6 V	-	-	±0.1	μA
I <sub>OFF</sub>	power-off leakage current	V <sub>I</sub> or V <sub>O</sub> = 0 V to 3.6 V; V <sub>CC</sub> = 0 V	-	-	±0.1	μA
ΔI <sub>OFF</sub>	additional power-off leakage current	V <sub>I</sub> or V <sub>O</sub> = 0 V to 3.6 V; V <sub>CC</sub> = 0 V to 0.2 V	-	-	±0.1	μA
I <sub>CC</sub>	supply current	V <sub>I</sub> = GND or V <sub>CC</sub> ; I <sub>O</sub> = 0 A; V <sub>CC</sub> = 2.3 V to 3.6 V	-	-	1.2	μA
C <sub>I</sub>	input capacitance	V <sub>CC</sub> = 0 V to 3.6 V; V <sub>I</sub> = GND or V <sub>CC</sub>	-	0.8	-	pF
C <sub>O</sub>	output capacitance	V <sub>O</sub> = GND; V <sub>CC</sub> = 0 V	-	1.7	-	pF

## Low-power inverter with voltage-level translator

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>T<sub>amb</sub> = -40 °C to +85 °C</b>						
V <sub>T+</sub>	positive-going threshold voltage	V <sub>CC</sub> = 2.3 V to 2.7 V	0.60	-	1.10	V
		V <sub>CC</sub> = 3.0 V to 3.6 V	0.75	-	1.19	V
V <sub>T-</sub>	negative-going threshold voltage	V <sub>CC</sub> = 2.3 V to 2.7 V	0.35	-	0.60	V
		V <sub>CC</sub> = 3.0 V to 3.6 V	0.50	-	0.85	V
V <sub>H</sub>	hysteresis voltage	(V <sub>H</sub> = V <sub>T+</sub> - V <sub>T-</sub> )				
		V <sub>CC</sub> = 2.3 V to 2.7 V	0.10	-	0.60	V
		V <sub>CC</sub> = 3.0 V to 3.6 V	0.15	-	0.56	V
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = -20 μA; V <sub>CC</sub> = 2.3 V to 3.6 V	V <sub>CC</sub> - 0.1	-	-	V
		I <sub>O</sub> = -2.3 mA; V <sub>CC</sub> = 2.3 V	1.97	-	-	V
		I <sub>O</sub> = -3.1 mA; V <sub>CC</sub> = 2.3 V	1.85	-	-	V
		I <sub>O</sub> = -2.7 mA; V <sub>CC</sub> = 3.0 V	2.67	-	-	V
		I <sub>O</sub> = -4.0 mA; V <sub>CC</sub> = 3.0 V	2.55	-	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = 20 μA; V <sub>CC</sub> = 2.3 V to 3.6 V	-	-	0.1	V
		I <sub>O</sub> = 2.3 mA; V <sub>CC</sub> = 2.3 V	-	-	0.33	V
		I <sub>O</sub> = 3.1 mA; V <sub>CC</sub> = 2.3 V	-	-	0.45	V
		I <sub>O</sub> = 2.7 mA; V <sub>CC</sub> = 3.0 V	-	-	0.33	V
		I <sub>O</sub> = 4.0 mA; V <sub>CC</sub> = 3.0 V	-	-	0.45	V
I <sub>I</sub>	input leakage current	V <sub>I</sub> = GND to 3.6 V; V <sub>CC</sub> = 0 V to 3.6 V	-	-	±0.5	μA
I <sub>OFF</sub>	power-off leakage current	V <sub>I</sub> or V <sub>O</sub> = 0 V to 3.6 V; V <sub>CC</sub> = 0 V	-	-	±0.5	μA
ΔI <sub>OFF</sub>	additional power-off leakage current	V <sub>I</sub> or V <sub>O</sub> = 0 V to 3.6 V; V <sub>CC</sub> = 0 V to 0.2 V	-	-	±0.5	μA
I <sub>CC</sub>	supply current	V <sub>I</sub> = GND or V <sub>CC</sub> ; I <sub>O</sub> = 0 A; V <sub>CC</sub> = 2.3 V to 3.6 V	-	-	1.5	μA
ΔI <sub>CC</sub>	additional supply current	V <sub>CC</sub> = 2.3 V to 2.7 V; I <sub>O</sub> = 0 A [1]	-	-	0.6	μA
		V <sub>CC</sub> = 3.0 V to 3.6 V; I <sub>O</sub> = 0 A [2]	-	-	10	μA

## Low-power inverter with voltage-level translator

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>T<sub>amb</sub> = -40 °C to +125 °C</b>						
V <sub>T+</sub>	positive-going threshold voltage	V <sub>CC</sub> = 2.3 V to 2.7 V	0.60	-	1.10	V
		V <sub>CC</sub> = 3.0 V to 3.6 V	0.75	-	1.19	V
V <sub>T-</sub>	negative-going threshold voltage	V <sub>CC</sub> = 2.3 V to 2.7 V	0.33	-	0.64	V
		V <sub>CC</sub> = 3.0 V to 3.6 V	0.46	-	0.85	V
V <sub>H</sub>	hysteresis voltage	(V <sub>H</sub> = V <sub>T+</sub> - V <sub>T-</sub> )				
		V <sub>CC</sub> = 2.3 V to 2.7 V	0.10	-	0.60	V
		V <sub>CC</sub> = 3.0 V to 3.6 V	0.15	-	0.56	V
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = -20 μA; V <sub>CC</sub> = 2.3 V to 3.6 V	V <sub>CC</sub> - 0.11	-	-	V
		I <sub>O</sub> = -2.3 mA; V <sub>CC</sub> = 2.3 V	1.77	-	-	V
		I <sub>O</sub> = -3.1 mA; V <sub>CC</sub> = 2.3 V	1.67	-	-	V
		I <sub>O</sub> = -2.7 mA; V <sub>CC</sub> = 3.0 V	2.40	-	-	V
		I <sub>O</sub> = -4.0 mA; V <sub>CC</sub> = 3.0 V	2.30	-	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = 20 μA; V <sub>CC</sub> = 2.3 V to 3.6 V	-	-	0.11	V
		I <sub>O</sub> = 2.3 mA; V <sub>CC</sub> = 2.3 V	-	-	0.36	V
		I <sub>O</sub> = 3.1 mA; V <sub>CC</sub> = 2.3 V	-	-	0.50	V
		I <sub>O</sub> = 2.7 mA; V <sub>CC</sub> = 3.0 V	-	-	0.36	V
		I <sub>O</sub> = 4.0 mA; V <sub>CC</sub> = 3.0 V	-	-	0.50	V
I <sub>I</sub>	input leakage current	V <sub>I</sub> = GND to 3.6 V; V <sub>CC</sub> = 0 V to 3.6 V	-	-	±0.75	μA
I <sub>OFF</sub>	power-off leakage current	V <sub>I</sub> or V <sub>O</sub> = 0 V to 3.6 V; V <sub>CC</sub> = 0 V	-	-	±0.75	μA
ΔI <sub>OFF</sub>	additional power-off leakage current	V <sub>I</sub> or V <sub>O</sub> = 0 V to 3.6 V; V <sub>CC</sub> = 0 V to 0.2 V	-	-	±0.75	μA
I <sub>CC</sub>	supply current	V <sub>I</sub> = GND or V <sub>CC</sub> ; I <sub>O</sub> = 0 A; V <sub>CC</sub> = 2.3 V to 3.6 V	-	-	3.5	μA
ΔI <sub>CC</sub>	additional supply current	V <sub>CC</sub> = 2.3 V to 2.7 V; I <sub>O</sub> = 0 A [1]	-	-	1.8	μA
		V <sub>CC</sub> = 3.0 V to 3.6 V; I <sub>O</sub> = 0 A [2]	-	-	18	μA

[1] One input at 0.3 V or 1.1 V, other input at V<sub>CC</sub> or GND.

[2] One input at 0.45 V or 1.2 V, other input at V<sub>CC</sub> or GND.



## 11. Dynamic characteristics

**Table 8. Dynamic characteristics**

Voltages are referenced to GND (ground = 0 V); for test circuit see Fig. 5.

Symbol	Parameter	Conditions	25 °C			-40 °C to +85 °C		-40 °C to +125 °C		Unit
			Min	Typ[1]	Max	Min	Max	Min	Max	
<b>V<sub>CC</sub> = 2.3 V to 2.7 V; V<sub>I</sub> = 1.65 V to 1.95 V</b>										
t <sub>pd</sub>	propagation delay	A to Y; see Fig. 4 [2]								
		C <sub>L</sub> = 5 pF	1.8	3.3	5.1	0.5	6.8	0.5	7.5	ns
		C <sub>L</sub> = 10 pF	2.2	3.8	5.9	1.0	7.9	1.0	8.7	ns
		C <sub>L</sub> = 15 pF	2.6	4.3	6.4	1.0	8.7	1.0	9.6	ns
		C <sub>L</sub> = 30 pF	3.6	5.5	7.8	1.5	10.8	1.5	11.9	ns
<b>V<sub>CC</sub> = 2.3 V to 2.7 V; V<sub>I</sub> = 2.3 V to 2.7 V</b>										
t <sub>pd</sub>	propagation delay	A to Y; see Fig. 4 [2]								
		C <sub>L</sub> = 5 pF	1.4	3.1	5.3	0.5	6.0	0.5	6.6	ns
		C <sub>L</sub> = 10 pF	1.8	3.7	6.0	1.0	7.1	1.0	7.9	ns
		C <sub>L</sub> = 15 pF	2.1	4.2	6.5	1.0	7.9	1.0	8.7	ns
		C <sub>L</sub> = 30 pF	3.1	5.4	8.0	1.5	10.0	1.5	11.0	ns
<b>V<sub>CC</sub> = 2.3 V to 2.7 V; V<sub>I</sub> = 3.0 V to 3.6 V</b>										
t <sub>pd</sub>	propagation delay	A to Y; see Fig. 4 [2]								
		C <sub>L</sub> = 5 pF	1.1	2.9	4.8	0.5	5.5	0.5	6.1	ns
		C <sub>L</sub> = 10 pF	1.5	3.4	5.5	1.0	6.5	1.0	7.2	ns
		C <sub>L</sub> = 15 pF	1.8	3.9	6.1	1.0	7.4	1.0	8.2	ns
		C <sub>L</sub> = 30 pF	2.8	5.1	7.5	1.5	9.5	1.5	10.5	ns
<b>V<sub>CC</sub> = 3.0 V to 3.6 V; V<sub>I</sub> = 1.65 V to 1.95 V</b>										
t <sub>pd</sub>	propagation delay	A to Y; see Fig. 4 [2]								
		C <sub>L</sub> = 5 pF	1.8	2.7	3.8	0.5	8.0	0.5	8.8	ns
		C <sub>L</sub> = 10 pF	2.2	3.3	4.5	1.0	8.5	1.0	9.4	ns
		C <sub>L</sub> = 15 pF	2.5	3.7	5.1	1.0	9.1	1.0	10.1	ns
		C <sub>L</sub> = 30 pF	3.3	4.9	6.5	1.5	9.8	1.5	10.8	ns
<b>V<sub>CC</sub> = 3.0 V to 3.6 V; V<sub>I</sub> = 2.3 V to 2.7 V</b>										
t <sub>pd</sub>	propagation delay	A to Y; see Fig. 4 [2]								
		C <sub>L</sub> = 5 pF	1.3	2.6	4.2	0.5	5.3	0.5	5.9	ns
		C <sub>L</sub> = 10 pF	1.7	3.2	4.9	1.0	6.1	1.0	6.8	ns
		C <sub>L</sub> = 15 pF	2.1	3.7	5.5	1.0	6.8	1.0	7.5	ns
		C <sub>L</sub> = 30 pF	3.1	4.8	6.9	1.5	8.5	1.5	9.4	ns
<b>V<sub>CC</sub> = 3.0 V to 3.6 V; V<sub>I</sub> = 3.0 V to 3.6 V</b>										
t <sub>pd</sub>	propagation delay	A to Y; see Fig. 4 [2]								
		C <sub>L</sub> = 5 pF	1.0	2.5	4.3	0.5	4.7	0.5	5.2	ns
		C <sub>L</sub> = 10 pF	1.4	3.1	5	1.0	5.7	1.0	6.3	ns
		C <sub>L</sub> = 15 pF	1.8	3.6	5.6	1.0	6.2	1.0	6.9	ns
		C <sub>L</sub> = 30 pF	2.7	4.7	6.9	1.5	7.8	1.5	8.6	ns

## Low-power inverter with voltage-level translator

Symbol	Parameter	Conditions	25 °C			-40 °C to +85 °C		-40 °C to +125 °C		Unit
			Min	Typ[1]	Max	Min	Max	Min	Max	
<b>T<sub>amb</sub> = 25 °C</b>										
C <sub>PD</sub>	power dissipation capacitance	f <sub>i</sub> = 1 MHz; V <sub>I</sub> = GND to V <sub>CC</sub> [3]								
		V <sub>CC</sub> = 2.3 V to 2.7 V	-	4	-	-	-	-	-	pF
		V <sub>CC</sub> = 3.0 V to 3.6 V	-	5	-	-	-	-	-	pF

- [1] All typical values are measured at nominal V<sub>CC</sub>.
- [2] t<sub>pd</sub> is the same as t<sub>PLH</sub> and t<sub>PHL</sub>.
- [3] C<sub>PD</sub> is used to determine the dynamic power dissipation (P<sub>D</sub> 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<sub>i</sub> = input frequency in MHz;  
 f<sub>o</sub> = output frequency in MHz;  
 C<sub>L</sub> = output load capacitance in pF;  
 V<sub>CC</sub> = supply voltage in V;  
 N = number of inputs switching;  
 $\Sigma(C_L \times V_{CC}^2 \times f_o)$  = sum of the outputs.

## 11.1. Waveforms and test circuit

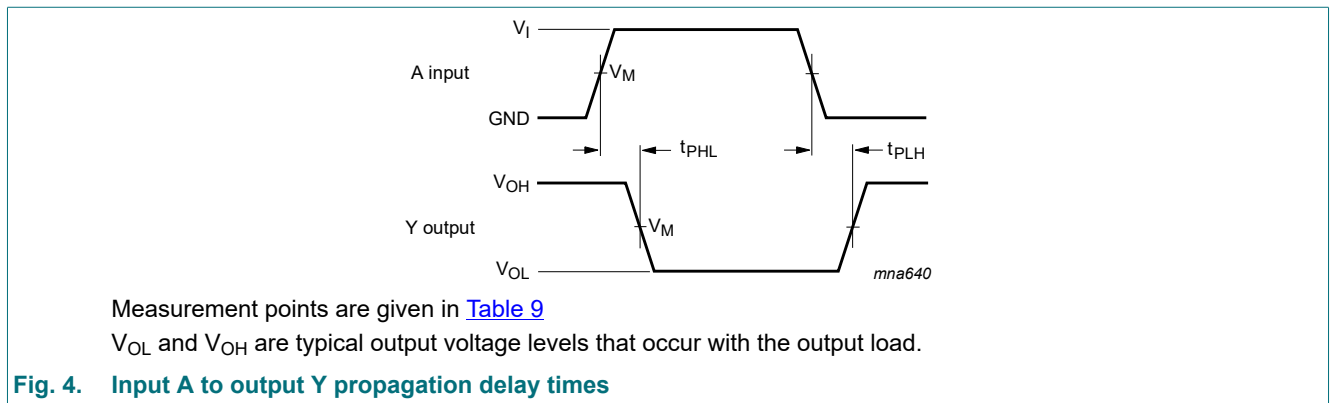
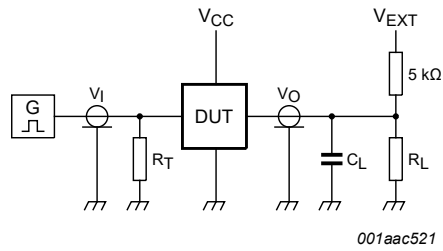


Table 9. Measurement points

Supply voltage	Output	Input		
V <sub>CC</sub>	V <sub>M</sub>	V <sub>M</sub>	V <sub>I</sub>	t <sub>r</sub> = t <sub>f</sub>
2.3 V to 3.6 V	0.5 × V <sub>CC</sub>	0.5 × V <sub>I</sub>	1.65 V to 3.6 V	≤ 3.0 ns



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. 5. Test circuit for measuring switching times**

**Table 10. Test data**

Supply voltage	Load		$V_{EXT}$		
$V_{CC}$	$C_L$	$R_L$ [1]	$t_{PLH}$ , $t_{PHL}$	$t_{PZH}$ , $t_{PHZ}$	$t_{PZL}$ , $t_{PLZ}$
2.3 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  $R_L = 5 \text{ k}\Omega$ .

For measuring propagation delays, setup and hold times and pulse width  $R_L = 1 \text{ M}\Omega$ .

## 12. Package outline

TSSOP5: plastic thin shrink small outline package; 5 leads; body width 1.25 mm

SOT353-1

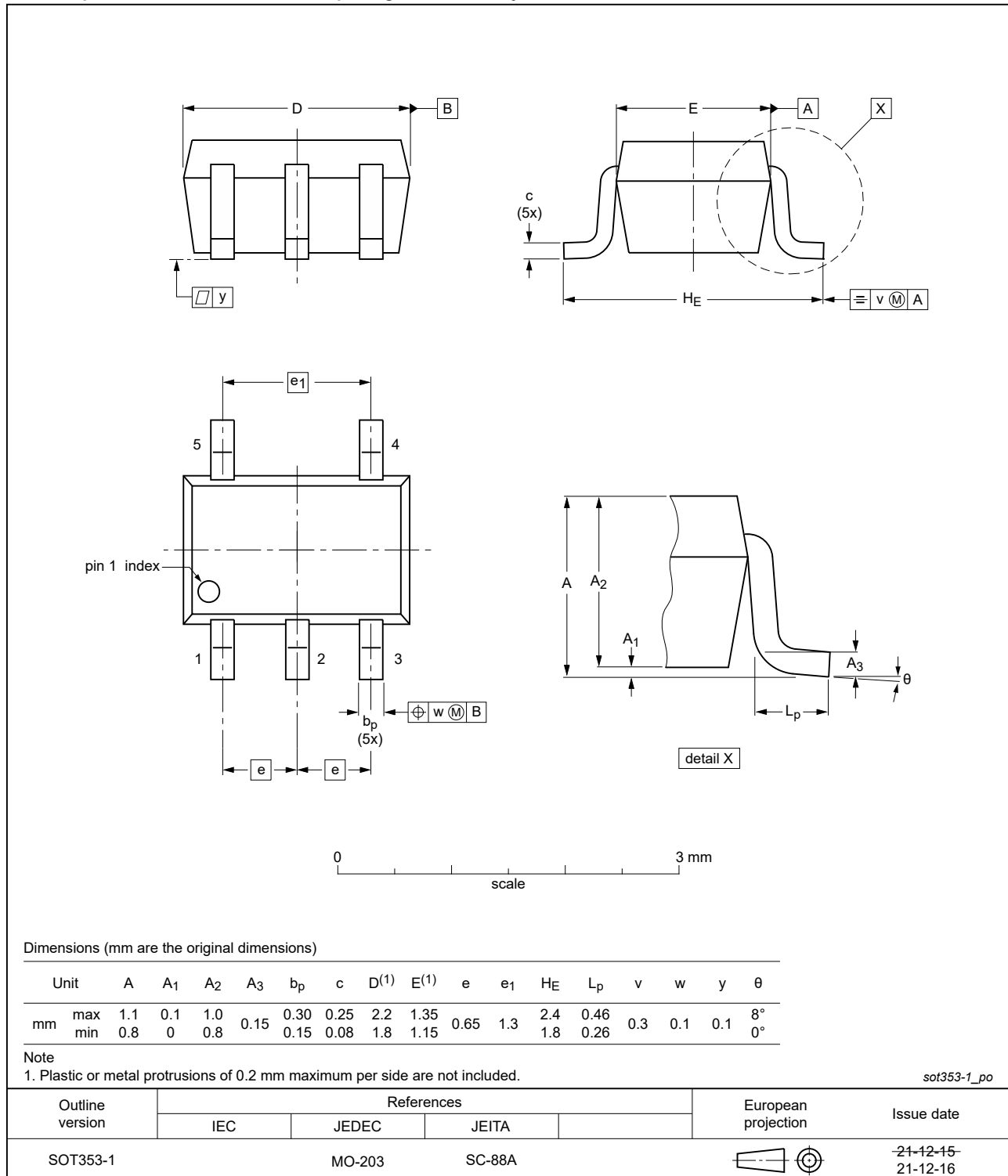


Fig. 6. Package outline SOT353-1 (TSSOP5)

X2SON5: plastic thermal enhanced extremely thin small outline package; no leads; 5 terminals; body 0.8 x 0.8 x 0.32 mm

SOT1226-3

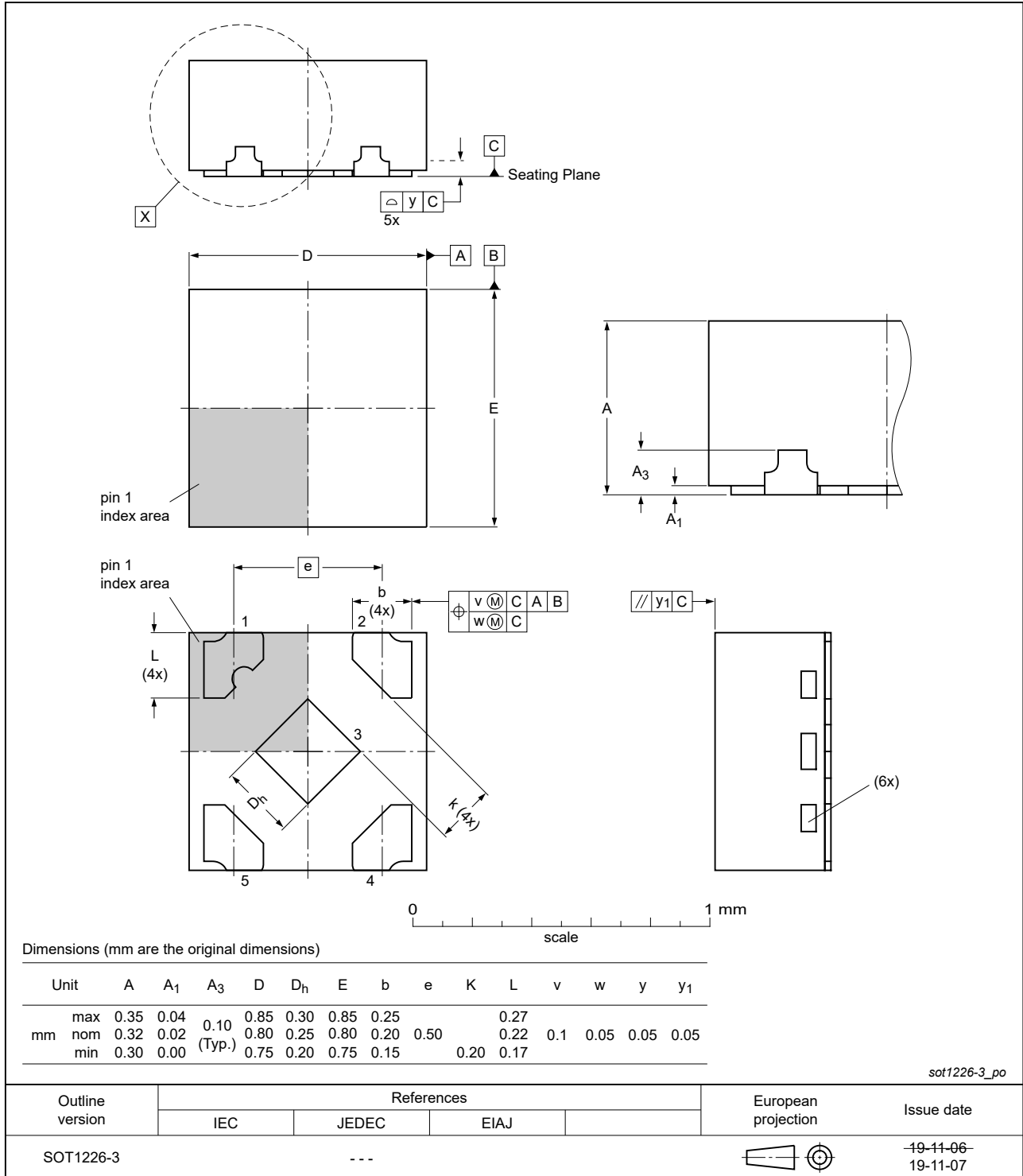


Fig. 7. Package outline SOT1226-3 (X2SON5)



## 13. Abbreviations

Table 11. Abbreviations

Acronym	Description
CDM	Charged Device Model
CMOS	Complementary Metal-Oxide Semiconductor
DUT	Device Under Test
ESD	ElectroStatic Discharge
HBM	Human Body Model

## 14. Revision history

Table 12. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
74AUP1T14 v.4	20230724	Product data sheet	-	74AUP1T14 v.3
Modifications:	<ul style="list-style-type: none"> <li><a href="#">Section 2</a>: ESD specification updated according to the latest JEDEC standard.</li> </ul>			
74AUP1T14 v.3	20220125	Product data sheet	-	74AUP1T14 v.2
Modifications:	<ul style="list-style-type: none"> <li><a href="#">Fig. 6</a>: Package outline drawing for SOT353-1 (TSSOP5) has changed.</li> </ul>			
74AUP1T14 v.2	20210719	Product data sheet	-	74AUP1T14 v.1
Modifications:	<ul style="list-style-type: none"> <li>SOT1226 (X2SON5) package changed to SOT1226-3 (X2SON5) package.</li> <li><a href="#">Table 5</a>: Derating values for <math>P_{tot}</math> total power dissipation updated.</li> </ul>			
74AUP1T14 v.1	20171128	Product data sheet	-	-

## 15. Legal information

### 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".
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