Low-power 2-input OR-gate Rev. 5 — 17 January 2022

1. General description

The 74AUP1G32-Q100 provides the single 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 the damaging backflow current through the device when it is powered down.

This product has been qualified to the Automotive Electronics Council (AEC) standard Q100 (Grade 1) and is suitable for use in automotive applications.

2. Features and benefits

- Automotive product qualification in accordance with AEC-Q100 (Grade 1)
 - Specified from -40 °C to +85 °C and from -40 °C to +125 °C
- 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:
 - MIL-STD-883, method 3015 Class 3A. Exceeds 5000 V
 - HBM JESD22-A114F Class 3A. Exceeds 5000 V
 - MM JESD22-A115-A exceeds 200 V (C = 200 pF, R = 0 Ω)
- 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

3. Ordering information

Table 1. Ordering information

Type number	Package						
	Temperature range	Name	Description	Version			
74AUP1G32GW-Q100	-40 °C to +125 °C	TSSOP5	plastic thin shrink small outline package; 5 leads; body width 1.25 mm	SOT353-1			
74AUP1G32GM-Q100	-40 °C to +125 °C	XSON6	plastic extremely thin small outline package; no leads; 6 terminals; body 1 × 1.45 × 0.5 mm	SOT886			

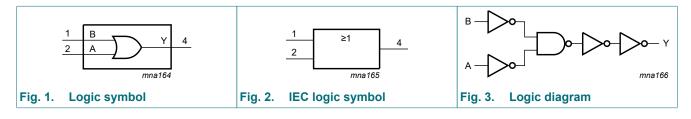
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4. Marking

Table 2. Marking				
Type number	Marking code[1]			
74AUP1G32GW-Q100	pG			
74AUP1G32GM-Q100	pG			

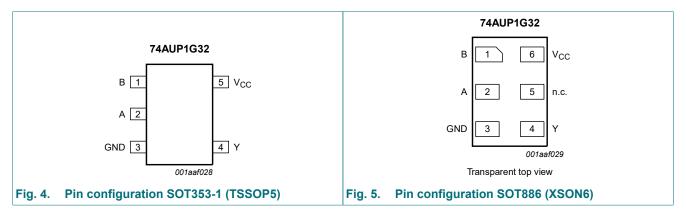
[1] The pin 1 indicator is located on the lower left corner of the device, below the marking code.

5. Functional diagram



6. Pinning information

6.1. Pinning



6.2. Pin description

Table 3. Pin description	on		
Symbol	Pin		Description
	TSSOP5	XSON6	
В	1	1	data input
A	2	2	data input
GND	3	3	ground (0 V)
Y	4	4	data output
n.c.	-	5	not connected
V _{CC}	5	6	supply voltage

74AUP1G32_Q100

7. Functional description

Table 4. Function table

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

Input C		Output
Α	В	Y
L	L	L
L	Н	Н
Н	L	Н
Н	Н	Н

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	[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	$T_{amb} = -40 \text{ °C to } +125 \text{ °C}$ [2]	-	250	mW

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

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

For SOT886 (XSON6) package: P_{tot} derates linearly with 3.3 mW/K above 74 °C.

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
Δt/ΔV	input transition rise and fall rate	V _{CC} = 0.8 V to 3.6 V	0	200	ns/V

10. Static characteristics

Table 7. Static characteristics

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

Symbol	Parameter	Conditions	Min	Тур	Мах	Unit
T _{amb} = 2	25 °C		<u> </u>			
V _{IH}	HIGH-level input	V _{CC} = 0.8 V	0.70 × V _{CC}	-	-	V
	voltage	V _{CC} = 0.9 V to 1.95 V	0.65 × 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	V _{CC} = 0.8 V	-	-	0.30 × V _{CC}	V
	voltage	V _{CC} = 0.9 V to 1.95 V	-	-	0.35 × 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	$V_{I} = V_{IH} \text{ or } V_{IL}$				
	voltage	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 × 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
V _{OL}	LOW-level output voltage	$V_{I} = V_{IH} \text{ or } V_{IL}$				
		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 × 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
lı	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_1 or $V_0 = 0$ V to 3.6 V; $V_{CC} = 0$ V	-	-	±0.2	μA
∆I _{OFF}	additional power-off leakage current	$V_1 \text{ or } V_0 = 0 \text{ V to } 3.6 \text{ V};$ $V_{CC} = 0 \text{ V to } 0.2 \text{ V}$	-	-	±0.2	μA
I _{CC}	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	μA
ΔI _{CC}	additional supply current	$V_{I} = V_{CC} - 0.6 V; I_{O} = 0 A; V_{CC} = 3.3 V$ [1]	-	-	40	μA
CI	input capacitance	V_{CC} = 0 V to 3.6 V; V_{I} = GND or V_{CC}	-	0.8	-	pF
Co	output capacitance	$V_0 = GND; V_{CC} = 0 V$	-	1.7	-	pF

Low-power 2-input OR-gate

Symbo	Parameter	Conditions	Min	Тур	Max	Unit
T _{amb} =	-40 °C to +85 °C					
V _{IH}	HIGH-level input	V _{CC} = 0.8 V	0.70 × V _{CC}	-	-	V
	voltage	V _{CC} = 0.9 V to 1.95 V	0.65 × 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	V _{CC} = 0.8 V	-	-	$0.30 \times V_{CC}$	V
	voltage	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	$V_{I} = V_{IH} \text{ or } V_{IL}$				
	voltage	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 × 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	$V_{I} = V_{IH} \text{ or } V_{IL}$				
		$I_0 = 20 \ \mu\text{A}; \ V_{CC} = 0.8 \ \text{V} \text{ to } 3.6 \ \text{V}$	-	-	0.1	V
		I _O = 1.1 mA; V _{CC} = 1.1 V	-	-	0.3 × 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
ΔI _{OFF}	additional power-off leakage current	$V_{I} \text{ or } V_{O} = 0 \text{ V to } 3.6 \text{ V};$ $V_{CC} = 0 \text{ V to } 0.2 \text{ V}$	-	-	±0.6	μA
I _{CC}	supply current	$V_{I} = GND \text{ or } V_{CC}; I_{O} = 0 \text{ A};$ $V_{CC} = 0.8 \text{ V to } 3.6 \text{ V}$	-	-	0.9	μA
ΔI _{CC}	additional supply current	$V_{\rm I} = V_{\rm CC} - 0.6 \text{ V}; I_{\rm O} = 0 \text{ A}; V_{\rm CC} = 3.3 \text{ V}$ [1]	-	-	50	μA
T _{amb} =	-40 °C to +125 °C					
V _{IH}	HIGH-level input	V _{CC} = 0.8 V	0.75 × V _{CC}	-	-	V
	voltage	V _{CC} = 0.9 V to 1.95 V	0.70 × 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	$V_{\rm CC} = 0.8 \text{ V}$	_	_	0.25 × V _{CC}	V
- IL	voltage	$V_{CC} = 0.9 V \text{ to } 1.95 V$	_	_	0.30 × V _{CC}	V
		$V_{CC} = 2.3 V \text{ to } 2.7 V$	-	-	0.7	V
		$V_{CC} = 2.0 \text{ V to } 2.1 \text{ V}$ $V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$	_	-	0.9	V
			-	-	0.9	v

Low-power 2-input OR-gate

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
V _{OH}	HIGH-level output	$V_{I} = V_{IH} \text{ or } V_{IL}$				
	voltage	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 × 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	$V_{I} = V_{IH} \text{ or } V_{IL}$				
		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 × 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	$V_1 \text{ or } V_0 = 0 \text{ V to } 3.6 \text{ V};$ $V_{CC} = 0 \text{ V to } 0.2 \text{ V}$	-	-	±0.75	μA
I _{CC}	supply current	$V_{I} = GND \text{ or } V_{CC}; I_{O} = 0 \text{ A};$ $V_{CC} = 0.8 \text{ V to } 3.6 \text{ V}$	-	-	1.4	μA
ΔI _{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	μA

[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 Fig. 7

Symbol	Parameter	Conditions	Min	Тур [1]	Мах	Unit
T _{amb} = 2	5 °C; C _L = 5 pF				<u> </u>	
t _{pd}	propagation delay	A, B to Y; see <u>Fig. 6</u> [2]				
		V _{CC} = 0.8 V	-	16.8	-	ns
		V _{CC} = 1.1 V to 1.3 V	2.4	5.1	10.9	ns
		V _{CC} = 1.4 V to 1.6 V	1.6	3.6	6.6	ns
		V _{CC} = 1.65 V to 1.95 V	1.4	3.0	5.2	ns
		V_{CC} = 2.3 V to 2.7 V	1.1	2.4	3.9	ns
		V _{CC} = 3.0 V to 3.6 V	1.0	2.1	3.5	ns

Low-power 2-input OR-gate

Symbol	Parameter	Conditions	Min	Тур <mark>[1]</mark>	Мах	Unit
T _{amb} = 2	25 °C; C _L = 10 pF					_
t _{pd}	propagation delay	A, B to Y; see <u>Fig. 6</u> [2]				
		V _{CC} = 0.8 V	-	20.3	-	ns
		V _{CC} = 1.1 V to 1.3 V	2.3	5.9	12.7	ns
		V _{CC} = 1.4 V to 1.6 V	1.9	4.2	7.7	ns
		V _{CC} = 1.65 V to 1.95 V	1.7	3.5	6.0	ns
		V _{CC} = 2.3 V to 2.7 V	1.4	2.9	4.6	ns
		V _{CC} = 3.0 V to 3.6 V	1.3	2.7	4.3	ns
T _{amb} = 2	25 °C; C _L = 15 pF					
t _{pd}	propagation delay	A, B to Y; see <u>Fig. 6</u> [2]				
		V _{CC} = 0.8 V	-	23.8	-	ns
		V _{CC} = 1.1 V to 1.3 V	3.3	6.7	14.3	ns
		V _{CC} = 1.4 V to 1.6 V	2.3	4.8	8.6	ns
		V _{CC} = 1.65 V to 1.95 V	2.0	4.0	6.7	ns
		V _{CC} = 2.3 V to 2.7 V	1.7	3.3	5.3	ns
		V _{CC} = 3.0 V to 3.6 V	1.5	3.1	4.9	ns
T _{amb} = 2	25 °C; C _L = 30 pF		1			
t _{pd}	propagation delay	A, B to Y; see <u>Fig. 6</u> [2]				
		V _{CC} = 0.8 V	-	34.1	-	ns
		V _{CC} = 1.1 V to 1.3 V	4.5	9.0	19.1	ns
		V _{CC} = 1.4 V to 1.6 V	3.4	6.3	11.3	ns
		V _{CC} = 1.65 V to 1.95 V	2.6	5.3	8.9	ns
		V _{CC} = 2.3 V to 2.7 V	2.3	4.4	7.0	ns
		V _{CC} = 3.0 V to 3.6 V	2.2	4.2	6.4	ns
T _{amb} = 2	25 °C	·				
C _{PD}	power dissipation	$f = 1 \text{ MHz}; V_I = \text{GND to } V_{CC}$ [3]				
	capacitance	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	-	2.8	-	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	-	3.9	-	pF

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

[1] Fin typical values are instantial total to the function of the same as t_{PLH} and t_{PHL} . [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). $P_D = C_{PD} \times V_{CC}^2 \times f_i \times N + \Sigma(C_L \times V_{CC}^2 \times f_o)$ where:

f_i = input frequency in MHz;

 f_o = output frequency in MHz;

 C_L = 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.

Low-power 2-input OR-gate

Table 9. Dynamic characteristics

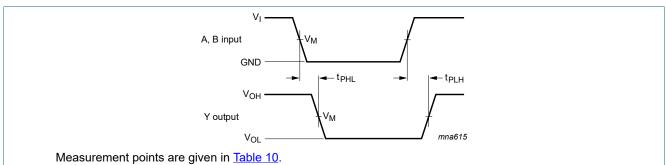
Voltages are referenced to GND (ground = 0 V); for test circuit see Fig. 7

Symbol	Parameter	Conditions	-40 °C to +85 °C		-40 °C to +125 °C		Unit
			Min	Max	Min	Max	1
C _L = 5 p	F			1	1		
t _{pd}	propagation delay	A, B to Y; see <u>Fig. 6</u> [1]					
		V _{CC} = 1.1 V to 1.3 V	2.1	11.9	2.1	13.2	ns
		V _{CC} = 1.4 V to 1.6 V	1.4	7.5	1.4	8.3	ns
		V _{CC} = 1.65 V to 1.95 V	1.2	6.0	1.2	6.6	ns
		V_{CC} = 2.3 V to 2.7 V	1.0	4.6	1.0	5.1	ns
		V _{CC} = 3.0 V to 3.6 V	0.9	4.1	0.9	4.6	ns
C _L = 10	pF						
t _{pd}	propagation delay	A, B to Y; see <u>Fig. 6</u> [1]					
		V _{CC} = 1.1 V to 1.3 V	2.1	13.8	2.1	15.2	ns
		V _{CC} = 1.4 V to 1.6 V	1.7	8.7	1.7	9.6	ns
		V _{CC} = 1.65 V to 1.95 V	1.5	6.9	1.5	7.7	ns
		V _{CC} = 2.3 V to 2.7 V	1.3	5.5	1.3	6.1	ns
		V _{CC} = 3.0 V to 3.6 V	1.2	5.0	1.2	5.5	ns
C _L = 15	pF						
t _{pd}	propagation delay	A, B to Y; see <u>Fig. 6</u> [1]					
		V _{CC} = 1.1 V to 1.3 V	3.0	15.6	3.0	17.2	ns
		V _{CC} = 1.4 V to 1.6 V	2.0	9.8	2.0	10.8	ns
		V _{CC} = 1.65 V to 1.95 V	1.8	7.9	1.8	8.7	ns
		V_{CC} = 2.3 V to 2.7 V	1.6	6.3	1.6	6.9	ns
		V _{CC} = 3.0 V to 3.6 V	1.5	5.8	1.5	6.4	ns
C _L = 30	pF						
t _{pd}	propagation delay	A, B to Y; see <u>Fig. 6</u> [1]					
		V _{CC} = 1.1 V to 1.3 V	4.0	21.5	4.0	23.7	ns
		V _{CC} = 1.4 V to 1.6 V	2.9	13.3	2.9	14.7	ns
		V _{CC} = 1.65 V to 1.95 V	2.4	10.7	2.4	11.8	ns
		V_{CC} = 2.3 V to 2.7 V	2.2	8.4	2.2	9.3	ns
		V _{CC} = 3.0 V to 3.6 V	2.1	7.7	2.1	8.5	ns

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

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11.1. Waveforms and test circuit



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

Fig. 6. The data input (A or B) to output (Y) propagation delays

Table 10. 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 × V _{CC}	0.5 × V _{CC}	V _{CC}	≤ 3.0 ns

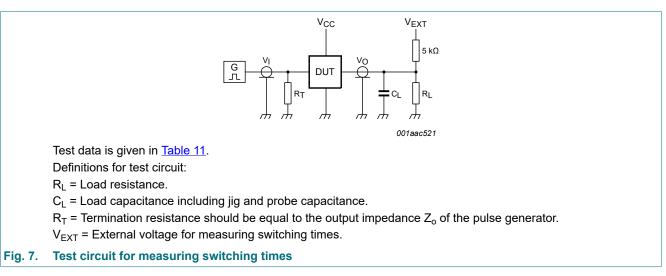


Table 11. Test data

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 kΩ or 1 MΩ	open	GND	2 × 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 $M\Omega.$

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12. Package outline

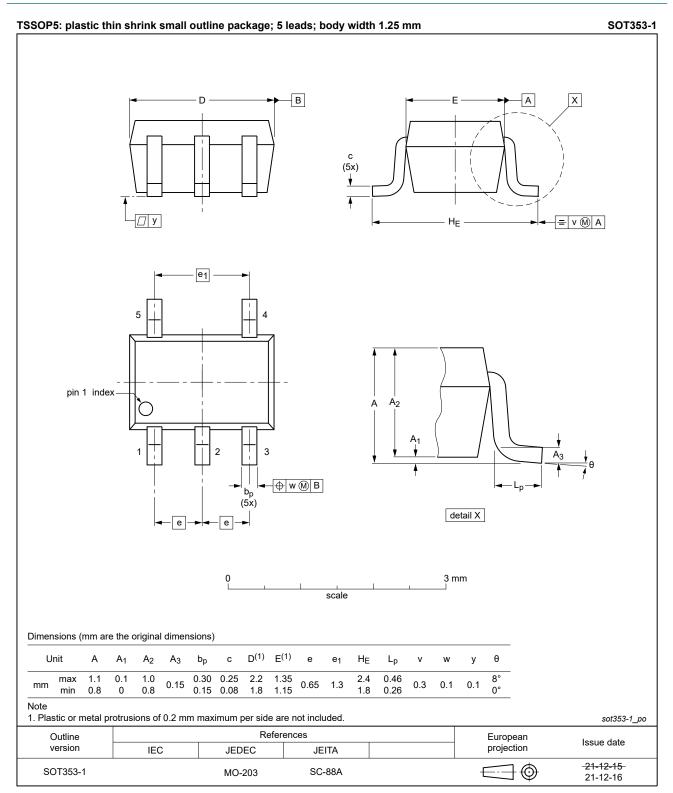


Fig. 8. Package outline SOT353-1 (TSSOP5)

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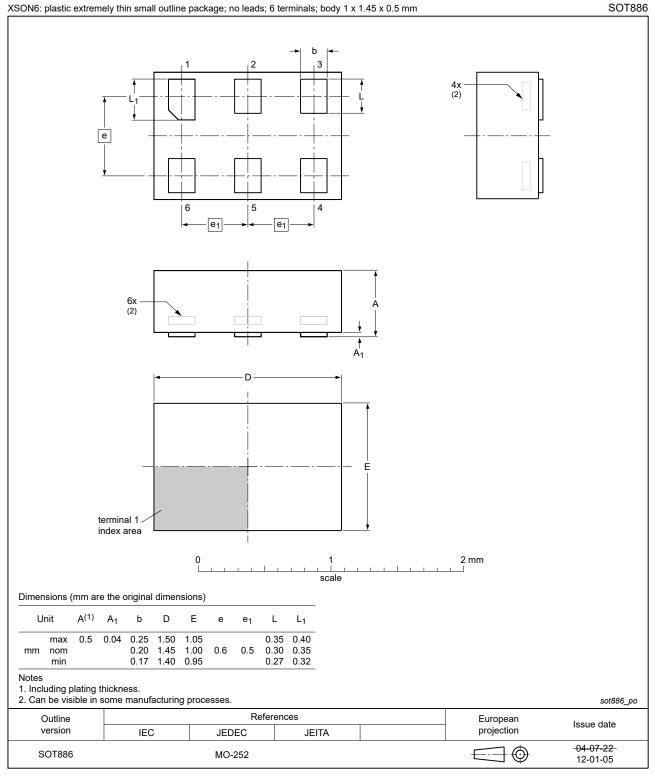


Fig. 9. Package outline SOT886 (XSON6)

13. Abbreviations

Table 12. Abbreviations			
Acronym	Description		
DUT	Device Under Test		
ESD	ElectroStatic Discharge		
НВМ	Human Body Model		
MIL	Military		
MM	Machine Model		

14. Revision history

Table 13. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes	
74AUP1G32_Q100 v.5	20220117	Product data sheet	-	74AUP1G32_Q100 v.4	
Modifications:	• Fig. 8: Pack	• Fig. 8: Package outline drawing for SOT353-1 (TSSOP5) has changed.			
74AUP1G32_Q100 v.4	20210423	Product data sheet	-	74AUP1G32_Q100 v.3	
Modifications:	• <u>Table 5</u> : Der	• <u>Table 5</u> : Derating values for P _{tot} total power dissipation updated.			
74AUP1G32_Q100 v.3	20190128	Product data sheet	-	74AUP1G32_Q100 v.2	
Modifications:	of Nexperia. • Legal texts h	 The format of this data sheet has been redesigned to comply with the identity guidelines of Nexperia. Legal texts have been adapted to the new company name where appropriate. Type number 74AUP1G32GM-Q100 (SOT886) added. 			
74AUP1G32_Q100 v.2	20130704	Product data sheet	-	74AUP1G32_Q100 v.1	
Modifications:	Typical value	Typical values C _I and C _O corrected (errata).			
74AUP1G32_Q100 v.1	20130320	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.

 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 <u>https://www.nexperia.com</u>.

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