74AUP1G86-Q100

Low-power 2-input EXCLUSIVE-OR gate

Rev. 1 — 20 October 2014 Product data sheet

1. General description

The 74AUP1G86-Q100 provides the single 2-input EXCLUSIVE-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

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3. Ordering information

Table 1. Ordering information

Type number	Package			
	Temperature range	Name	Description	Version
74AUP1G86GW-Q100	–40 °C to +125 °C	TSSOP5	plastic thin shrink small outline package; 5 leads; body width 1.25 mm	SOT353-1

4. Marking

Table 2. Marking

Type number	Marking code[1]
74AUP1G86GW-Q100	pH

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

5. Functional diagram

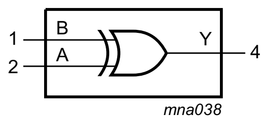

Fig 1. Logic symbol

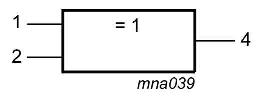

Fig 2. IEC logic symbol

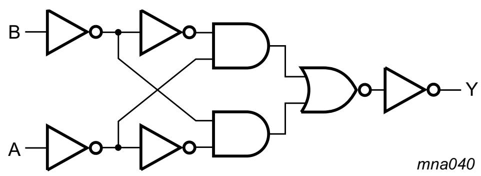

Fig 3. Logic diagram

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6. Pinning information

6.1 Pinning

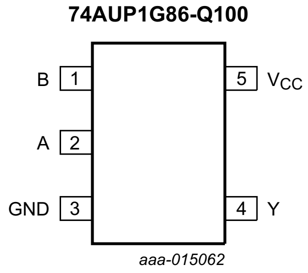

Fig 4. Pin configuration SOT353-1

6.2 Pin description

Table 3. Pin description

Symbol	Pin		Description
	TSSOP5 and X2SON5	XSON6	
B	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

7. Functional description

Table 4. Function table[1]

Input		Output
A	**B**	**Y**
L	L	L
L	H	H
H	L	H
H	H	L

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

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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}		-	±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 TSSOP5 packages: above 87.5 °C the value of P_{tot} derates linearly with 4.0 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
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
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	Typ	Max	Unit
T_{amb} = 25 °C						
V_{IH}	HIGH-level input voltage	V_{CC} = 0.8 V	0.70 × V_{CC}	-	-	V
		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 voltage	V_{CC} = 0.8 V	-	-	0.30 × V_{CC}	V
		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

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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
V_{OH}	HIGH-level output voltage	$V_I = V_{IH}$ or V_{IL}					
		$I_O = -20$ 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
V_{OL}	LOW-level output voltage	$V_I = V_{IH}$ 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		-	-	$0.3 \times V_{CC}$	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	[1]	-	-	40	µA
C_I	input capacitance	$V_{CC} = 0$ V to 3.6 V; V_I = GND or V_{CC}		-	0.8	-	pF
C_O	output capacitance	V_O = GND; $V_{CC} = 0$ V		-	1.7	-	pF
T_{amb} = −40 °C to +85 °C							
V_{IH}	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

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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
V_{OH}	HIGH-level output voltage	$V_I = V_{IH}$ or V_{IL}					
		$I_O = -20$ 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	$V_I = V_{IH}$ 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		-	-	$0.3 \times V_{CC}$	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
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	[1]	-	-	50	μA
T_{amb} = −40 °C to +125 °C							
V_{IH}	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
		$V_{CC} = 3.0$ V to 3.6 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
		$V_{CC} = 3.0$ V to 3.6 V		-	-	0.9	V

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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
V_{OH}	HIGH-level output voltage	$V_I = V_{IH}$ or V_{IL}				
		$I_O = -20$ 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	$V_I = V_{IH}$ 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	-	-	$0.33 \times V_{CC}$	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 [1]	-	-	75	μA

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

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11. Dynamic characteristics

Table 8. Dynamic characteristics

Voltages are referenced to GND (ground = 0 V); for test circuit, see Figure 6

Symbol	Parameter	Conditions	Min	Typ[1]	Max	Unit
T_{amb} = 25 °C; C_L = 5 pF						
t_{pd}	propagation delay	A or B to Y; see Figure 5 [2]				
		V_{CC} = 0.8 V	-	21.2	-	ns
		V_{CC} = 1.1 V to 1.3 V	2.3	5.9	13.1	ns
		V_{CC} = 1.4 V to 1.6 V	1.8	4.1	7.7	ns
		V_{CC} = 1.65 V to 1.95 V	1.5	3.3	5.9	ns
		V_{CC} = 2.3 V to 2.7 V	1.2	2.6	4.4	ns
		V_{CC} = 3.0 V to 3.6 V	1.0	2.3	4.0	ns
T_{amb} = 25 °C; C_L = 10 pF						
t_{pd}	propagation delay	A or B to Y; see Figure 5 [2]				
		V_{CC} = 0.8 V	-	24.7	-	ns
		V_{CC} = 1.1 V to 1.3 V	2.6	6.8	14.8	ns
		V_{CC} = 1.4 V to 1.6 V	2.2	4.8	8.7	ns
		V_{CC} = 1.65 V to 1.95 V	1.8	3.9	6.7	ns
		V_{CC} = 2.3 V to 2.7 V	1.5	3.1	5.2	ns
		V_{CC} = 3.0 V to 3.6 V	1.3	2.9	4.8	ns
T_{amb} = 25 °C; C_L = 15 pF						
t_{pd}	propagation delay	A or B to Y; see Figure 5 [2]				
		V_{CC} = 0.8 V	-	28.2	-	ns
		V_{CC} = 1.1 V to 1.3 V	3.0	7.6	16.5	ns
		V_{CC} = 1.4 V to 1.6 V	2.4	5.3	9.6	ns
		V_{CC} = 1.65 V to 1.95 V	2.1	4.4	7.5	ns
		V_{CC} = 2.3 V to 2.7 V	1.8	3.6	5.9	ns
		V_{CC} = 3.0 V to 3.6 V	1.6	3.3	5.4	ns
T_{amb} = 25 °C; C_L = 30 pF						
t_{pd}	propagation delay	A or B to Y; see Figure 5 [2]				
		V_{CC} = 0.8 V	-	38.5	-	ns
		V_{CC} = 1.1 V to 1.3 V	3.9	9.9	21.5	ns
		V_{CC} = 1.4 V to 1.6 V	3.2	6.9	12.5	ns
		V_{CC} = 1.65 V to 1.95 V	2.8	5.7	9.8	ns
		V_{CC} = 2.3 V to 2.7 V	2.4	4.7	7.6	ns
		V_{CC} = 3.0 V to 3.6 V	2.2	4.4	7.1	ns

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Table 8. Dynamic characteristics *...continued*

Voltages are referenced to GND (ground = 0 V); for test circuit, see Figure 6

Symbol	Parameter	Conditions		Min	Typ[1]	Max	Unit
T_{amb} = 25 °C							
C_{PD}	power dissipation capacitance	f = 1 MHz; V_I = GND to V_{CC}	[3]				
		V_{CC} = 0.8 V		-	2.7	-	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		-	3.1	-	pF
		V_{CC} = 2.3 V to 2.7 V		-	3.6	-	pF
		V_{CC} = 3.0 V to 3.6 V		-	4.2	-	pF

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

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

[3] 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 = 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.

Table 9. Dynamic characteristics

Voltages are referenced to GND (ground = 0 V); for test circuit, see Figure 6

Symbol	Parameter	Conditions		–40 °C to +85 °C		–40 °C to +125 °C		Unit
				Min	Max	Min	Max	
C_L = 5 pF								
t_{pd}	propagation delay	A or B to Y; see Figure 5	[1]					
		V_{CC} = 1.1 V to 1.3 V		2.1	14.3	2.1	15.8	ns
		V_{CC} = 1.4 V to 1.6 V		1.6	8.8	1.6	9.7	ns
		V_{CC} = 1.65 V to 1.95 V		1.4	6.9	1.4	7.6	ns
		V_{CC} = 2.3 V to 2.7 V		1.1	5.3	1.1	5.9	ns
		V_{CC} = 3.0 V to 3.6 V		0.9	4.7	0.9	5.2	ns
C_L = 10 pF								
t_{pd}	propagation delay	A or B to Y; see Figure 5	[1]					
		V_{CC} = 1.1 V to 1.3 V		2.4	16.2	2.4	17.9	ns
		V_{CC} = 1.4 V to 1.6 V		1.9	10.0	1.9	11.0	ns
		V_{CC} = 1.65 V to 1.95 V		1.7	8.0	1.7	8.8	ns
		V_{CC} = 2.3 V to 2.7 V		1.4	6.2	1.4	6.9	ns
		V_{CC} = 3.0 V to 3.6 V		1.3	5.6	1.3	6.2	ns

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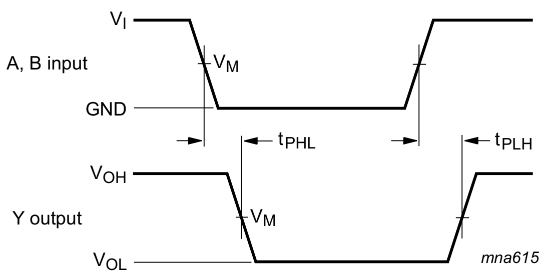
Table 9. Dynamic characteristics *...continued*
Voltages are referenced to GND (ground = 0 V); for test circuit, see Figure 6

Symbol	Parameter	Conditions	–40 °C to +85 °C		–40 °C to +125 °C		Unit
			Min	Max	Min	Max	
C_L = 15 pF							
t_{pd}	propagation delay	A or B to Y; see Figure 5 [1]					
		V_{CC} = 1.1 V to 1.3 V	2.7	18.1	2.7	20.0	ns
		V_{CC} = 1.4 V to 1.6 V	2.2	11.3	2.2	12.5	ns
		V_{CC} = 1.65 V to 1.95 V	1.9	9.0	1.9	9.9	ns
		V_{CC} = 2.3 V to 2.7 V	1.6	7.0	1.6	7.7	ns
		V_{CC} = 3.0 V to 3.6 V	1.5	6.4	1.5	7.1	ns
C_L = 30 pF							
t_{pd}	propagation delay	A or B to Y; see Figure 5 [1]					
		V_{CC} = 1.1 V to 1.3 V	3.5	24.1	3.5	26.6	ns
		V_{CC} = 1.4 V to 1.6 V	2.8	14.8	2.8	16.3	ns
		V_{CC} = 1.65 V to 1.95 V	2.5	11.7	2.5	12.9	ns
		V_{CC} = 2.3 V to 2.7 V	2.2	9.1	2.2	10.1	ns
		V_{CC} = 3.0 V to 3.6 V	2.1	8.3	2.1	9.2	ns

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

12. Waveforms



Measurement points are given in Table 10.

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

Fig 5. 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	V_I	$t_r = t_f$
0.8 V to 3.6 V	0.5 × V_{CC}	0.5 × V_{CC}	V_{CC}	≤ 3.0 ns

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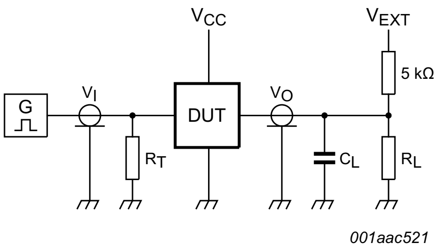

Test data is given in Table 11.

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 6. Test circuit for measuring switching times

Table 11. Test data

Supply voltage	Load		V_{EXT}
V_{CC}	C_L	R_L [1]	t_{PLH}, t_{PHL}
0.8 V to 3.6 V	5 pF, 10 pF, 15 pF and 30 pF	5 kΩ or 1 MΩ	open

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

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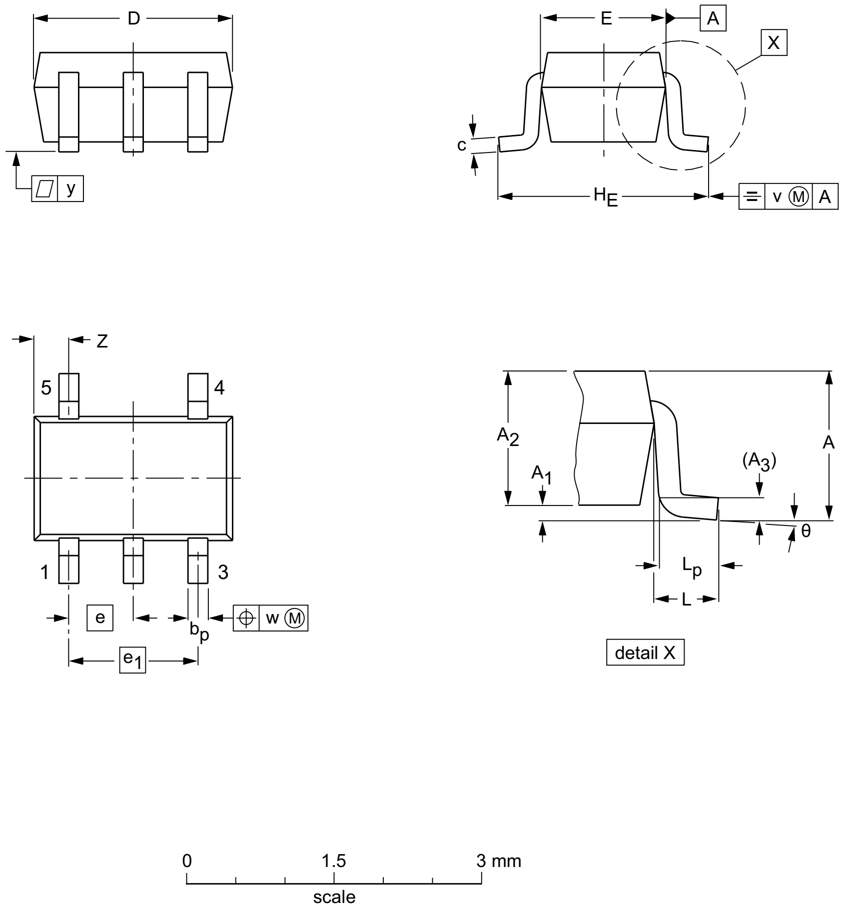
13. Package outline

TSSOP5: plastic thin shrink small outline package; 5 leads; body width 1.25 mm **SOT353-1**



DIMENSIONS (mm are the original dimensions)

UNIT	A max.	A_1	A_2	A_3	b_p	c	D(1)	E(1)	e	e_1	H_E	L	L_p	v	w	y	Z(1)	θ
mm	1.1	0.1 0	1.0 0.8	0.15	0.30 0.15	0.25 0.08	2.25 1.85	1.35 1.15	0.65	1.3	2.25 2.0	0.425	0.46 0.21	0.3	0.1	0.1	0.60 0.15	7° 0°

Note

1. Plastic or metal protrusions of 0.15 mm maximum per side are not included.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT353-1		MO-203	SC-88A			~~00-09-01~~ 03-02-19

Fig 7. Package outline SOT353-1 (TSSOP5)

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14. Abbreviations

Table 12. Abbreviations

Acronym	Description
DUT	Device Under Test
ESD	ElectroStatic Discharge
HBM	Human Body Model
MIL	Military
MM	Machine Model

15. Revision history

Table 13. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
74AUP1G86_Q100 v.1	20141020	Product data sheet	-	-

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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.

[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.nexperia.com.

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