

74AUP1G57

Low-power configurable multiple function gate

Rev. 11 — 24 July 2023

Product data sheet

1. General description

The 74AUP1G57 is a configurable multiple function gate with Schmitt-trigger inputs. The device can be configured as any of the following logic functions AND, OR, NAND, NOR, XNOR, inverter and buffer; using the 3-bit input. All inputs can be connected directly to V_{CC} or GND. This device ensures 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 potentially 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
- CMOS low power dissipation
- High noise immunity
- Overvoltage tolerant inputs to 3.6 V
- Low noise overshoot and undershoot < 10 % of V_{CC}
- I_{OFF} circuitry provides partial power-down mode operation
- Latch-up performance exceeds 100 mA per JESD 78 Class II
- Low static power consumption; $I_{CC} = 0.9 \mu\text{A}$ (maximum)
- Complies with JEDEC standards:
 - JESD8-12 (0.8 V to 1.3 V)
 - JESD8-11 (0.9 V to 1.65 V)
 - JESD8-7 (1.65 V to 1.95 V)
 - JESD8-5 (2.3 V to 2.7 V)
 - JESD8C (2.7 V to 3.6 V)
- ESD protection:
 - HBM: ANSI/ESDA/JEDEC JS-001 class 3A exceeds 5000 V
 - CDM: ANSI/ESDA/JEDEC JS-002 class C3 exceeds 1000 V
- Multiple package options
- Specified from -40 °C to +85 °C and -40 °C to +125 °C

3. Ordering information

Table 1. Ordering information

Type number	Package			
	Temperature range	Name	Description	Version
74AUP1G57GW	-40 °C to +125 °C	TSSOP6	plastic thin shrink small outline package; 6 leads; body width 1.25 mm	SOT363-2
74AUP1G57GM	-40 °C to +125 °C	XSON6	plastic extremely thin small outline package; no leads; 6 terminals; body 1 × 1.45 × 0.5 mm	SOT886
74AUP1G57GN	-40 °C to +125 °C	XSON6	extremely thin small outline package; no leads; 6 terminals; body 0.9 × 1.0 × 0.35 mm	SOT1115
74AUP1G57GS	-40 °C to +125 °C	XSON6	extremely thin small outline package; no leads; 6 terminals; body 1.0 × 1.0 × 0.35 mm	SOT1202
74AUP1G57GX	-40 °C to +125 °C	X2SON6	plastic thermal enhanced extremely thin small outline package; no leads; 6 terminals; body 1.0 × 0.8 × 0.32 mm	SOT1255-2

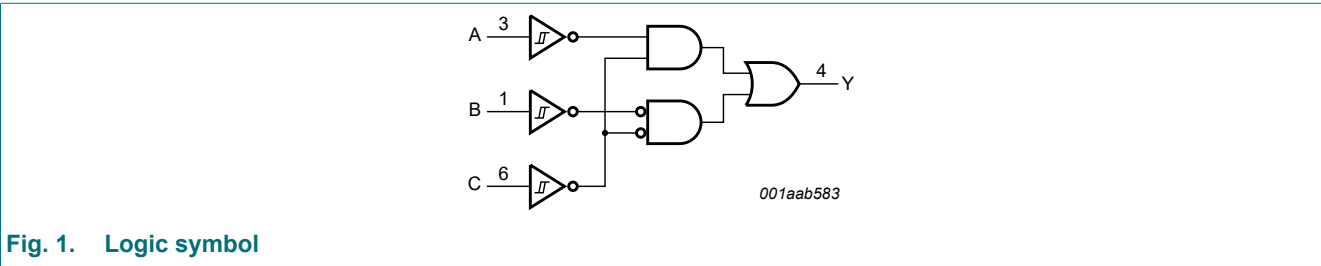
4. Marking

Table 2. Marking

Type number	Marking code[1]
74AUP1G57GW	aC
74AUP1G57GM	aC
74AUP1G57GN	aC
74AUP1G57GS	aC
74AUP1G57GX	aC

[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

74AUP1G57

001aab591

74AUP1G57

001aab592

Transparent top view

74AUP1G57

001aae058

Transparent top view

74AUP1G57

aaa-019829

Transparent top view

Fig. 2. Pin configuration SOT363-2 (TSSOP6)

Fig. 3. Pin configuration SOT886 (XSON6)

Fig. 4. Pin configuration SOT1115 and SOT1202 (XSON6)

Fig. 5. Pin configuration SOT1255-2 (X2SON6)

6.2. Pin description

Table 3. Pin description

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

7. Functional description

Table 4. Function table

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

Input			Output
C	B	A	Y
L	L	L	H
L	L	H	L
L	H	L	H
L	H	H	L
H	L	L	L
H	L	H	L
H	H	L	H
H	H	H	H

7.1. Logic configurations

Table 5. Function selection table

Logic function	Figure
2-input AND	see Fig. 6
2-input AND with both inputs inverted	see Fig. 9
2-input NAND with inverted input	see Fig. 7 and Fig. 8
2-input OR with inverted input	see Fig. 7 and Fig. 8
2-input NOR	see Fig. 9
2-input NOR with both inputs inverted	see Fig. 6
2-input XNOR	see Fig. 10
Inverter	see Fig. 11
Buffer	see Fig. 12

Fig. 6. 2-input AND gate or 2-input NOR gate with both inputs inverted

Fig. 7. 2-input NAND gate with input B inverted or 2-input OR gate with inverted C input

Fig. 8. 2-input NAND gate with input C inverted or 2-input OR gate with inverted A input

Fig. 9. 2-input NOR gate or 2-input AND gate with both inputs inverted

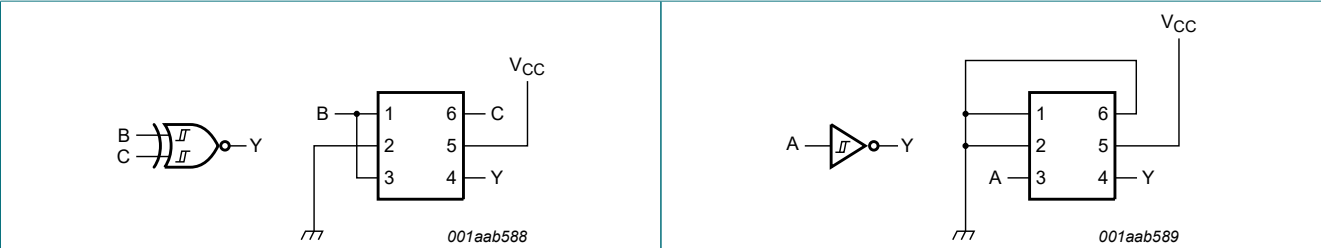


Fig. 10. 2-input XNOR gate

Fig. 11. Inverter

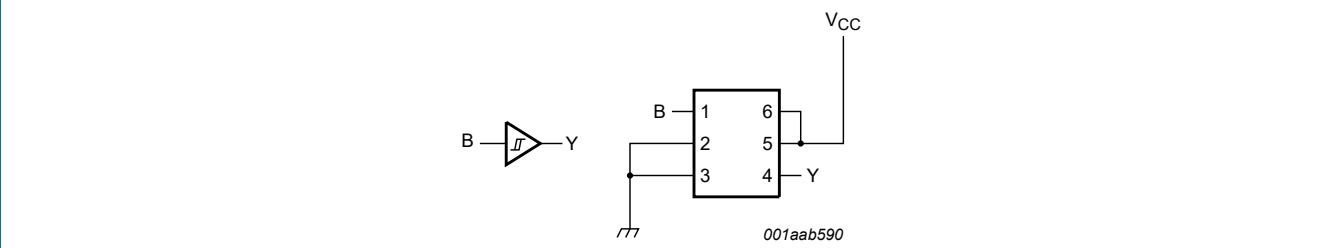


Fig. 12. Buffer

8. Limiting values

Table 6. 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 SOT363-2 (TSSOP6) package: P_{tot} derates linearly with 3.7 mW/K above 83 °C.
For SOT886 (XSON6) package: P_{tot} derates linearly with 3.3 mW/K above 74 °C.
For SOT1115 (XSON6) package: P_{tot} derates linearly with 3.2 mW/K above 71 °C.
For SOT1202 (XSON6) package: P_{tot} derates linearly with 3.3 mW/K above 74 °C.
For SOT1255-2 (X2SON6) package: P_{tot} derates linearly with 3.3 mW/K above 75 °C.

9. Recommended operating conditions

Table 7. 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

10. Static characteristics

Table 8. 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-}				
		$I_O = -20$ μ 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	$0.75 \times V_{CC}$	-	-	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
V_{OL}	LOW-level output voltage	$V_I = V_{T+}$ or V_{T-}				
		$I_O = 20$ μ 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
		$I_O = 1.7$ 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_I	input leakage current	$V_I = GND$ to 3.6 V; $V_{CC} = 0$ V to 3.6 V	-	-	± 0.1	μ A
		V_I or $V_O = 0$ V to 3.6 V; $V_{CC} = 0$ V	-	-	± 0.2	μ A
		V_I or $V_O = 0$ V to 3.6 V; $V_{CC} = 0$ V to 0.2 V	-	-	± 0.2	μ A
		$V_I = GND$ or V_{CC} ; $I_O = 0$ A; $V_{CC} = 0.8$ V to 3.6 V	-	-	0.5	μ A
		$V_I = V_{CC} - 0.6$ V; $I_O = 0$ A; $V_{CC} = 3.3$ V	-	-	40	μ A
		$V_I = GND$ or V_{CC} ; $V_{CC} = 0$ V to 3.6 V	-	1.1	-	pF
		$V_O = GND$; $V_{CC} = 0$ V	-	1.7	-	pF

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_{amb} = -40 °C to +85 °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	0.7 × 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 _{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 × 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	-	-	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 × 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

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	-	-	0.11	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 _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

11. Dynamic characteristics

Table 9. Dynamic characteristics

Voltages are referenced to GND (ground = 0 V); for test circuit, see Fig. 14.

Symbol	Parameter	Conditions	25 °C			-40 °C to +85 °C		-40 °C to +125 °C		Unit
			Min	Typ[1]	Max	Min	Max	Min	Max	
C _L = 5 pF										
t _{pd}	propagation delay	A, B and C to Y; see Fig. 13 [2]								
		V _{CC} = 0.8 V	-	22.6	-	-	-	-	-	ns
		V _{CC} = 1.1 V to 1.3 V	2.8	6.5	12.6	2.5	13.0	2.5	13.2	ns
		V _{CC} = 1.4 V to 1.6 V	2.2	4.6	7.6	2.5	8.2	2.5	8.6	ns
		V _{CC} = 1.65 V to 1.95 V	2.1	3.9	6.2	2.0	6.8	2.0	7.2	ns
		V _{CC} = 2.3 V to 2.7 V	2.0	3.1	4.5	1.8	5.1	1.8	5.3	ns
		V _{CC} = 3.0 V to 3.6 V	1.8	2.8	3.9	1.5	4.1	1.5	4.3	ns
C _L = 10 pF										
t _{pd}	propagation delay	A, B and C to Y; see Fig. 13 [2]								
		V _{CC} = 0.8 V	-	26.1	-	-	-	-	-	ns
		V _{CC} = 1.1 V to 1.3 V	3.2	7.3	14.4	2.8	14.9	2.8	15.2	ns
		V _{CC} = 1.4 V to 1.6 V	2.6	5.2	8.7	2.8	9.3	2.8	9.8	ns
		V _{CC} = 1.65 V to 1.95 V	2.5	4.5	7.0	2.2	7.8	2.2	8.2	ns
		V _{CC} = 2.3 V to 2.7 V	2.4	3.7	5.2	2.1	5.9	2.1	6.2	ns
		V _{CC} = 3.0 V to 3.6 V	2.3	3.4	4.6	1.9	4.9	1.9	5.1	ns

Symbol	Parameter	Conditions	25 °C			-40 °C to +85 °C		-40 °C to +125 °C		Unit
			Min	Typ[1]	Max	Min	Max	Min	Max	
C _L = 15 pF										
t _{pd}	propagation delay	A, B and C to Y; see Fig. 13 [2]								
		V _{CC} = 0.8 V	-	31.6	-	-	-	-	-	ns
		V _{CC} = 1.1 V to 1.3 V	3.4	8.0	15.7	3.1	16.7	3.1	17.0	ns
		V _{CC} = 1.4 V to 1.6 V	2.8	5.7	9.4	3.1	10.4	3.1	10.9	ns
		V _{CC} = 1.65 V to 1.95 V	2.6	4.9	7.7	2.5	8.7	2.5	9.2	ns
		V _{CC} = 2.3 V to 2.7 V	2.6	4.1	5.7	2.4	6.5	2.4	6.9	ns
		V _{CC} = 3.0 V to 3.6 V	2.5	3.8	5.0	2.2	5.5	2.2	5.7	ns
C _L = 30 pF										
t _{pd}	propagation delay	A, B and C to Y; see Fig. 13 [2]								
		V _{CC} = 0.8 V	-	37.8	-	-	-	-	-	ns
		V _{CC} = 1.1 V to 1.3 V	4.6	10.4	20.9	3.9	21.8	3.9	22.3	ns
		V _{CC} = 1.4 V to 1.6 V	3.6	7.4	12.2	3.8	13.4	3.8	14.1	ns
		V _{CC} = 1.65 V to 1.95 V	3.5	6.2	9.9	3.1	11.1	3.1	11.8	ns
		V _{CC} = 2.3 V to 2.7 V	3.4	5.2	7.4	3.1	8.3	3.1	8.8	ns
		V _{CC} = 3.0 V to 3.6 V	3.2	4.9	6.6	2.8	7.0	2.8	7.4	ns
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	-	2.8	-	-	-	-	-	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).

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

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;

Σ(C_L × V_{CC}² × f_o) = sum of the outputs.

11.1. Waveforms and test circuit

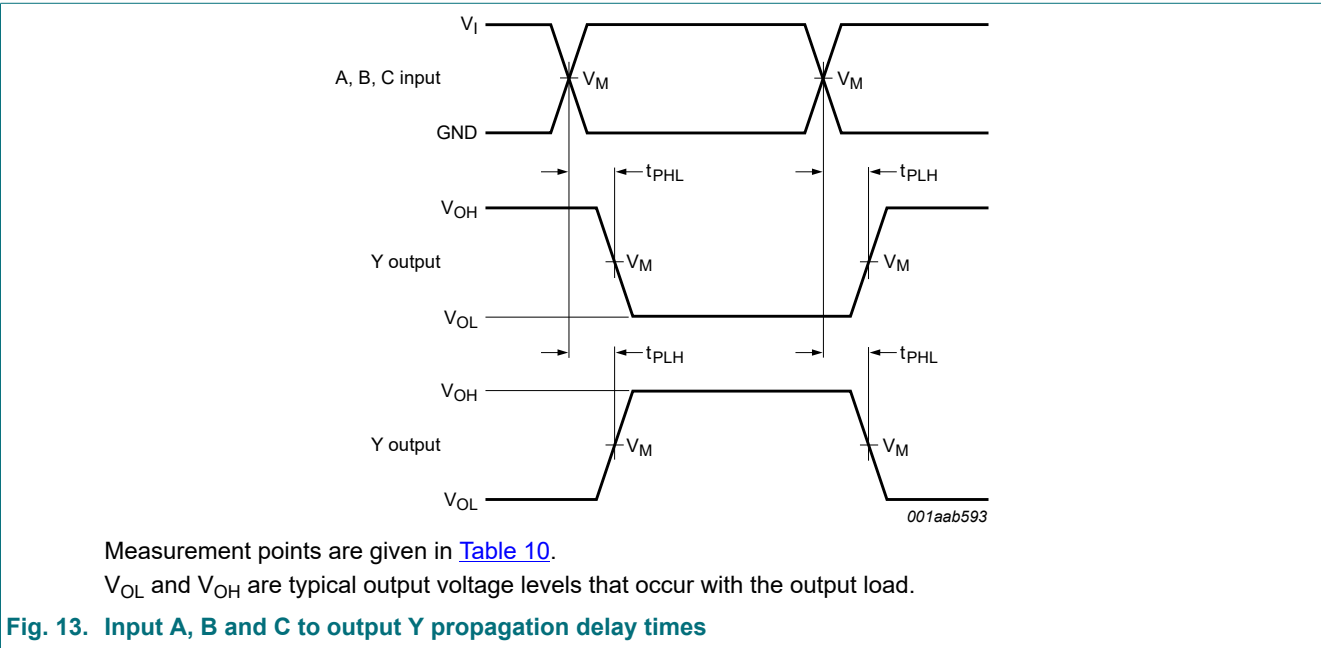


Table 10. Measurement points

Supply voltage	Output	Input		
V_{CC}	V_M	V_M	V_I	$t_r = t_f$
0.8 V to 3.6 V	$0.5 \times V_{CC}$	$0.5 \times V_{CC}$	V_{CC}	≤ 3.0 ns

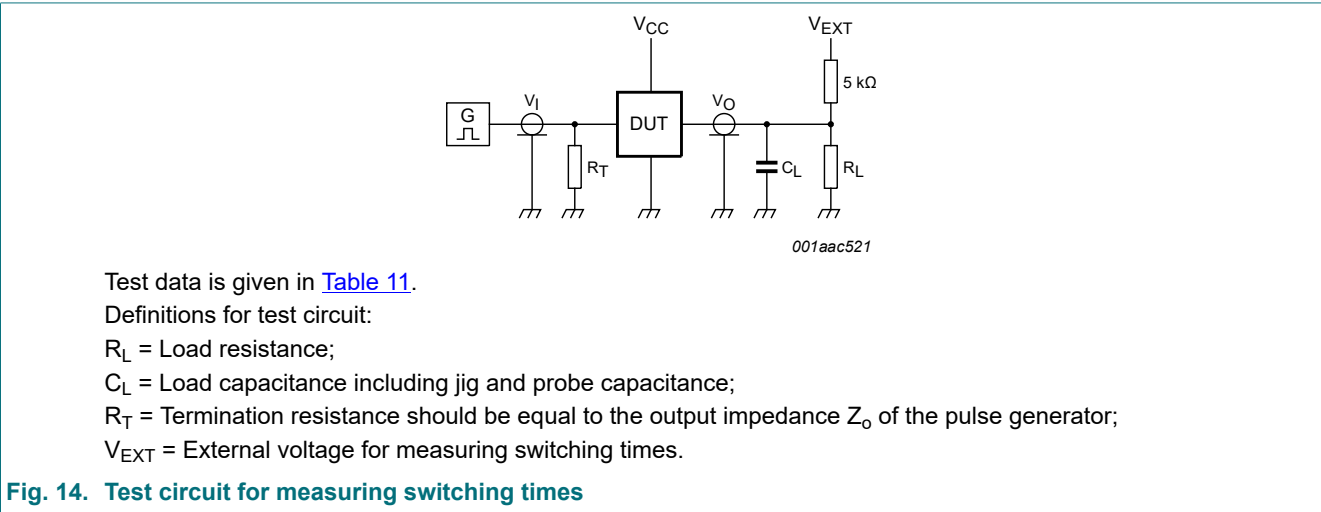


Table 11. Test data

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.

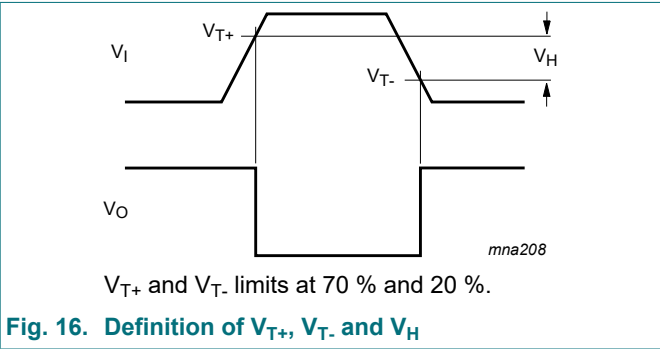
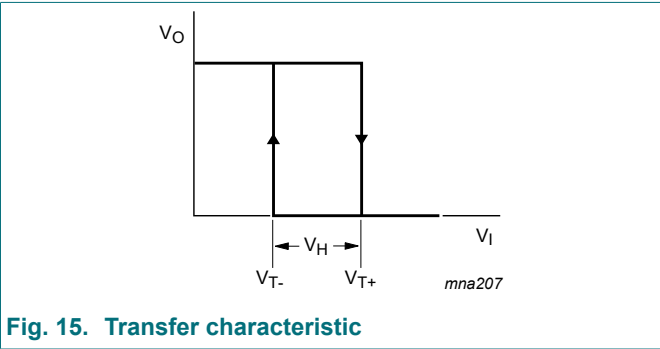
11.2. Transfer characteristics

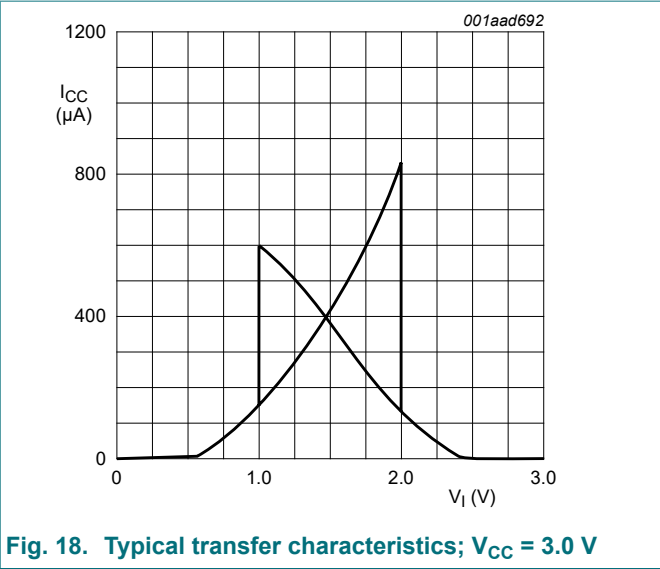
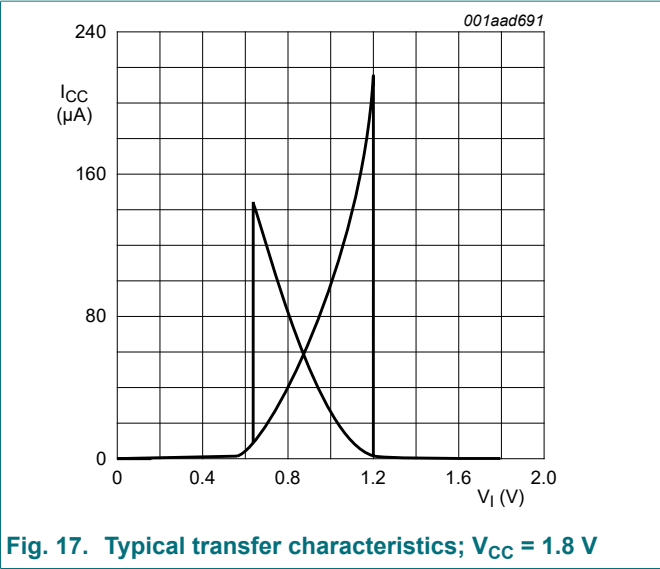
Table 12. Transfer characteristics

Voltages are referenced to GND (ground = 0 V); for test circuit see Fig. 14.

Symbol	Parameter	Conditions	25 °C			-40 °C to +85 °C		-40 °C to +125 °C		Unit
			Min	Typ	Max	Min	Max	Min	Max	
V _{T+}	positive-going threshold voltage	see Fig. 15 and Fig. 16								
		V _{CC} = 0.8 V	0.30	-	0.60	0.30	0.60	0.30	0.62	V
		V _{CC} = 1.1 V	0.53	-	0.90	0.53	0.90	0.53	0.92	V
		V _{CC} = 1.4 V	0.74	-	1.11	0.74	1.11	0.74	1.13	V
		V _{CC} = 1.65 V	0.91	-	1.29	0.91	1.29	0.91	1.31	V
		V _{CC} = 2.3 V	1.37	-	1.77	1.37	1.77	1.37	1.80	V
		V _{CC} = 3.0 V	1.88	-	2.29	1.88	2.29	1.88	2.32	V
V _{T-}	negative-going threshold voltage	see Fig. 15 and Fig. 16								
		V _{CC} = 0.8 V	0.10	-	0.60	0.10	0.60	0.10	0.60	V
		V _{CC} = 1.1 V	0.26	-	0.65	0.26	0.65	0.26	0.65	V
		V _{CC} = 1.4 V	0.39	-	0.75	0.39	0.75	0.39	0.75	V
		V _{CC} = 1.65 V	0.47	-	0.84	0.47	0.84	0.47	0.84	V
		V _{CC} = 2.3 V	0.69	-	1.04	0.69	1.04	0.69	1.04	V
		V _{CC} = 3.0 V	0.88	-	1.24	0.88	1.24	0.88	1.24	V
V _H	hysteresis voltage	(V _{T+} - V _{T-}); see Fig. 15, Fig. 16, Fig. 17 and Fig. 18								
		V _{CC} = 0.8 V	0.07	-	0.50	0.07	0.50	0.07	0.50	V
		V _{CC} = 1.1 V	0.08	-	0.46	0.08	0.46	0.08	0.46	V
		V _{CC} = 1.4 V	0.18	-	0.56	0.18	0.56	0.18	0.56	V
		V _{CC} = 1.65 V	0.27	-	0.66	0.27	0.66	0.27	0.66	V
		V _{CC} = 2.3 V	0.53	-	0.92	0.53	0.92	0.53	0.92	V
		V _{CC} = 3.0 V	0.79	-	1.31	0.79	1.31	0.79	1.31	V

11.3. Waveform transfer characteristics





12. Package outline

TSSOP6: plastic thin shrink small outline package; 6 leads; body width 1.25 mmSOT363-2

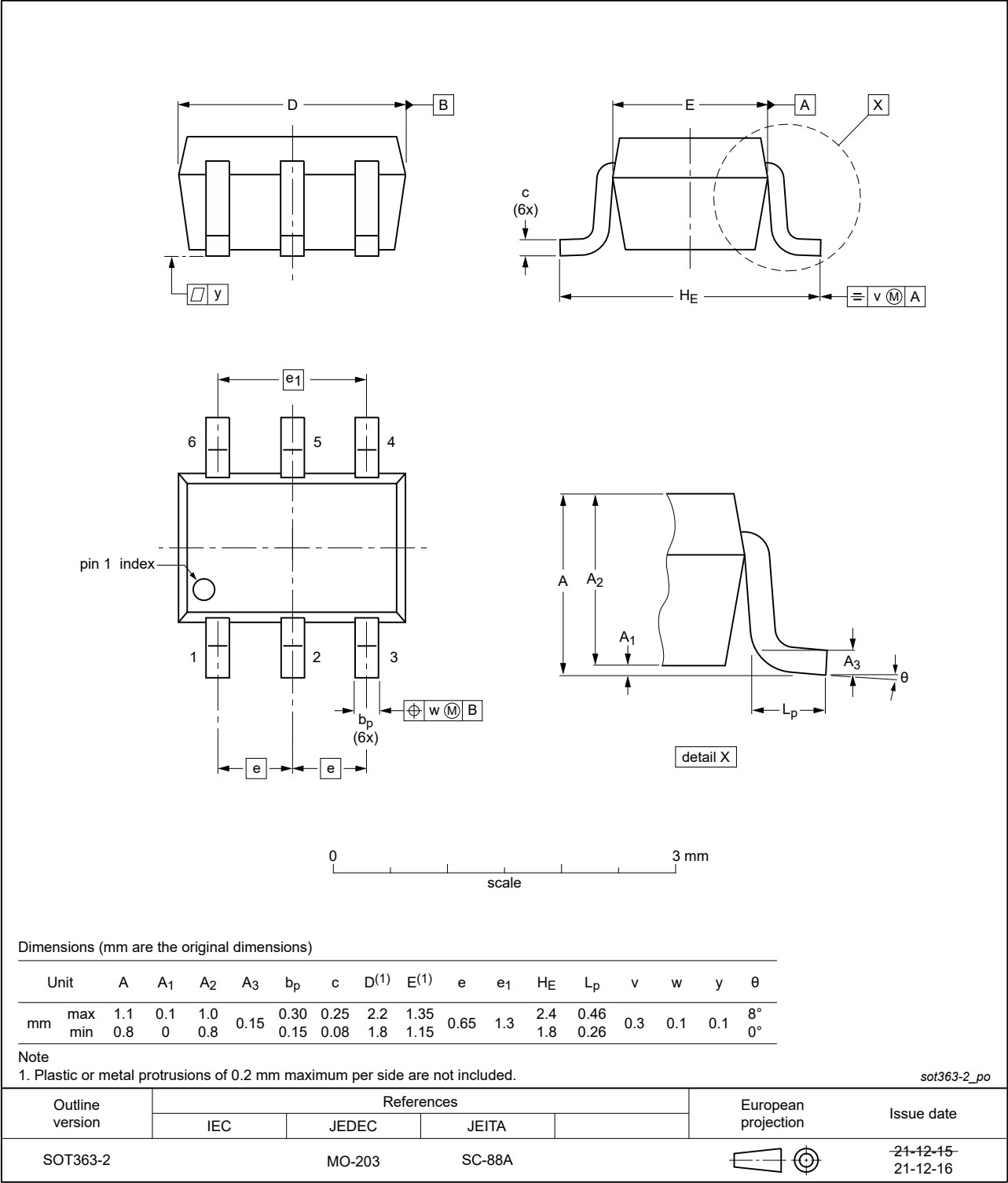


Fig. 19. Package outline SOT363-2 (TSSOP6)

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

SOT886

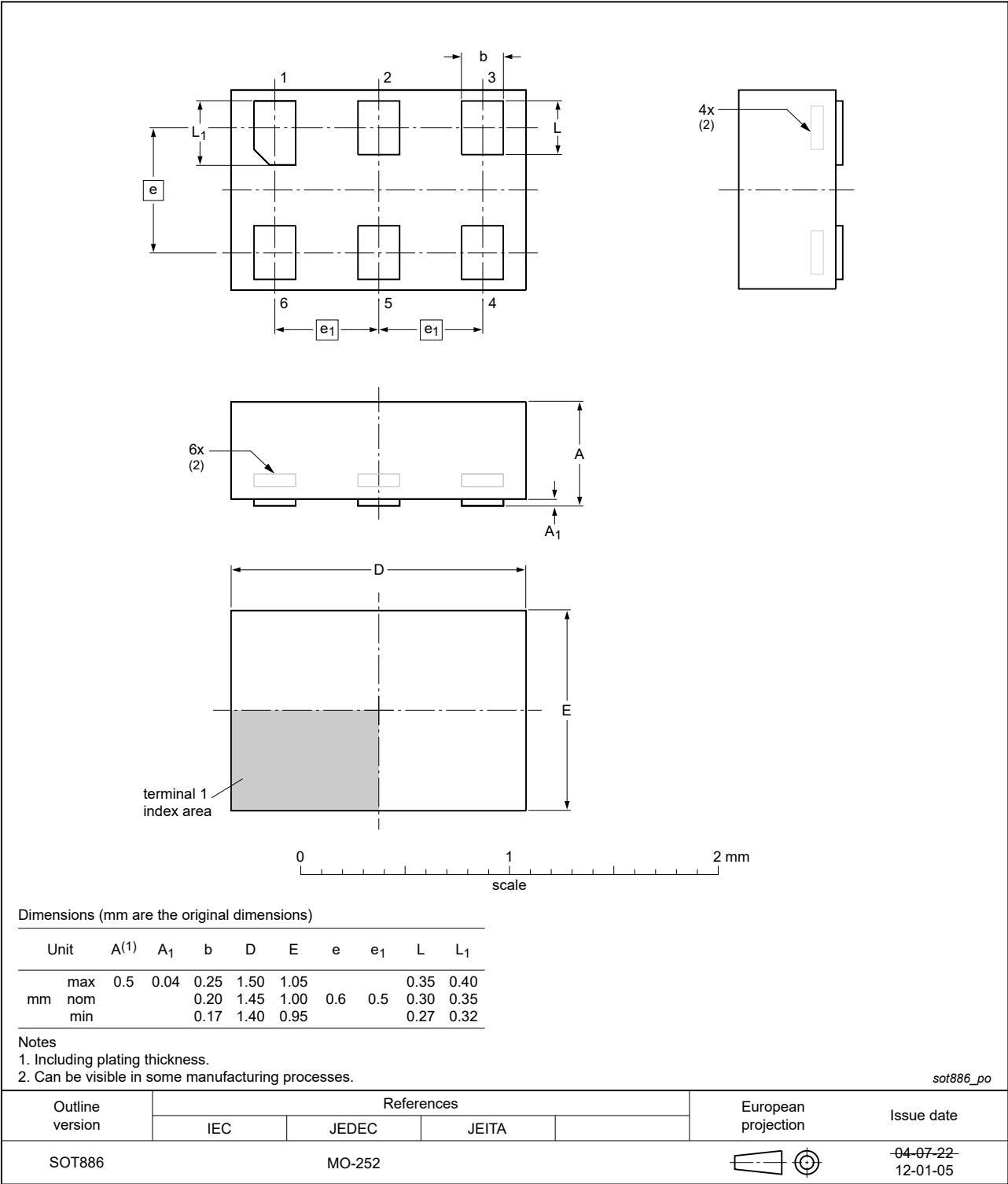


Fig. 20. Package outline SOT886 (XSON6)

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

SOT1115

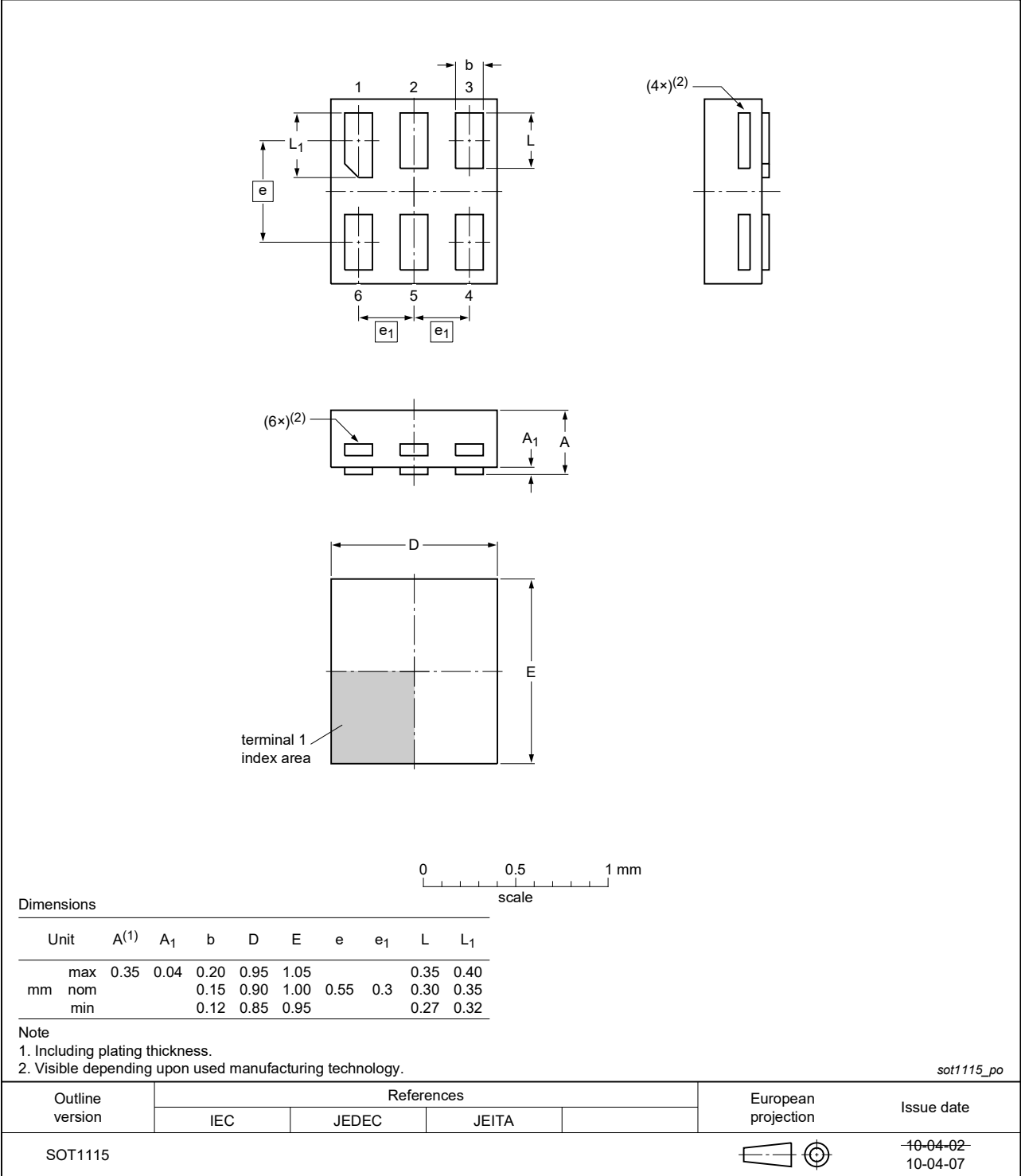


Fig. 21. Package outline SOT1115 (XSON6)

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

SOT1202

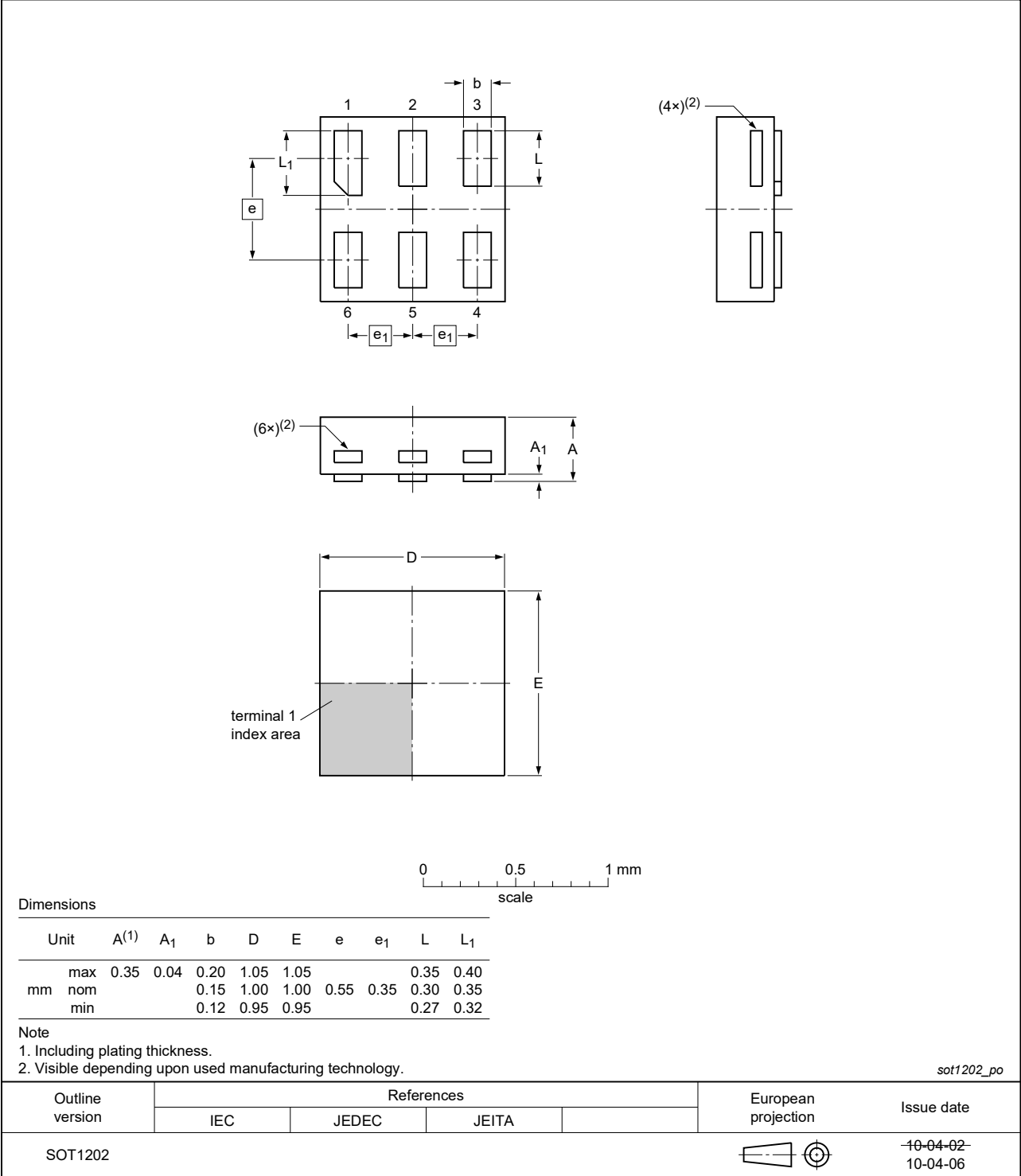


Fig. 22. Package outline SOT1202 (XSON6)

X2SON6: plastic thermal enhanced extremely thin small outline package; no leads;
6 terminals; body 1.0 x 0.8 x 0.32 mm

SOT1255-2

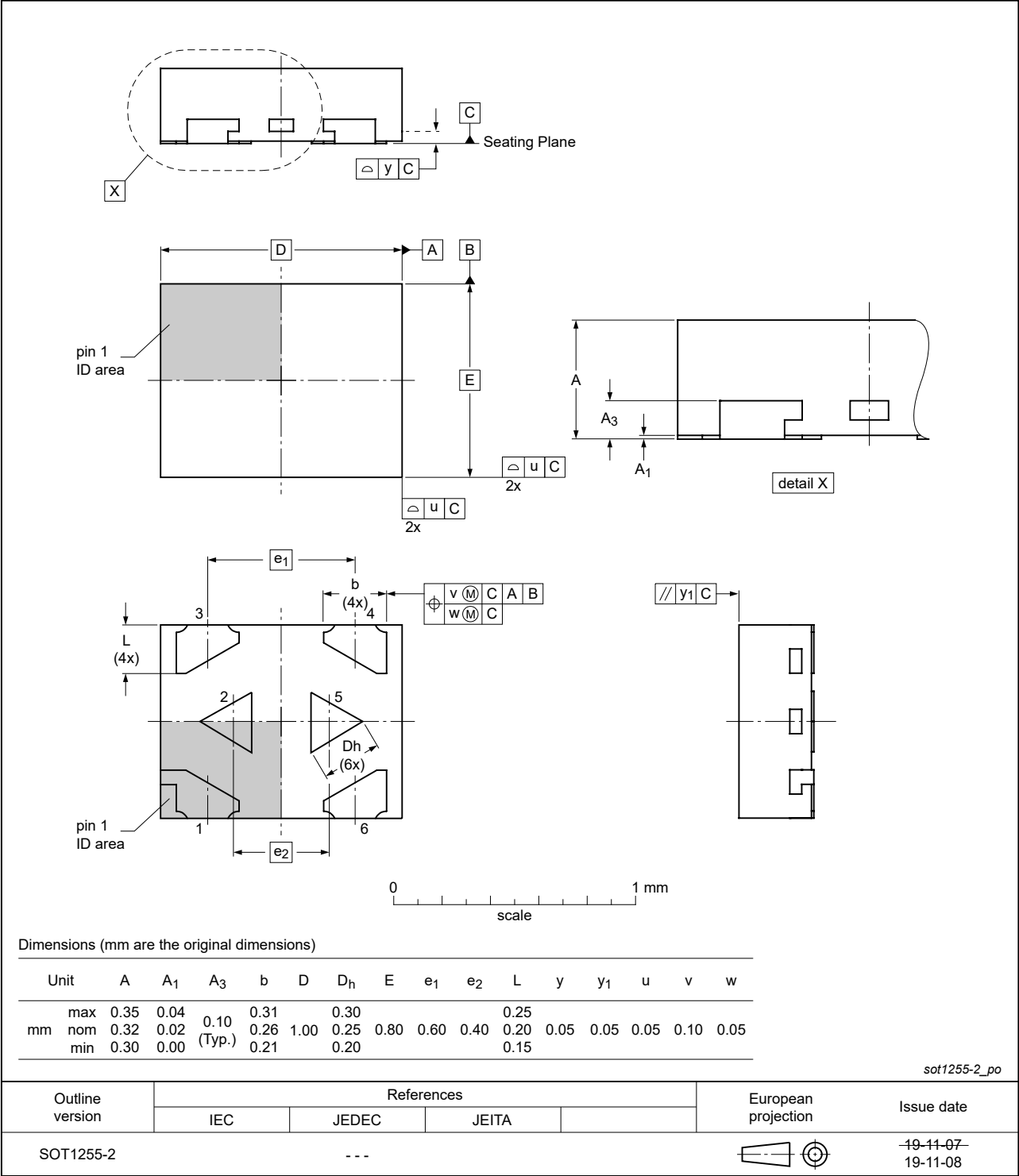


Fig. 23. Package outline SOT1255-2 (X2SON6)

13. Abbreviations

Table 13. Abbreviations

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

14. Revision history

Table 14. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
74AUP1G57 v.11	20230724	Product data sheet	-	74AUP1G57 v.10
Modifications:	Section 2: ESD specification updated according to the latest JEDEC standard.			
74AUP1G57 v.10	20220121	Product data sheet	-	74AUP1G57 v.9
Modifications:	Package SOT363 (SC-88) changed to SOT363-2 (TSSOP6).			
74AUP1G57 v.9	20211104	Product data sheet	-	74AUP1G57 v.8
Modifications:	Section 1 and Section 2 updated. Table 6: Derating values for P_{tot} total power dissipation updated. - Type number 74AUP1G57GF (SOT891/XSON6) removed. - SOT1255 (X2SON6) package changed to SOT1255-2 (X2SON6) package.			
74AUP1G57 v.8	20180223	Product data sheet	-	74AUP1G57 v.7
Modifications:	- 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.			
74AUP1G57 v.7	20150916	Product data sheet	-	74AUP1G57 v.6
Modifications:	Added type number 74AUP1G57GX (SOT1255/X2SON6).			
74AUP1G57 v.6	20120815	Product data sheet	-	74AUP1G57 v.5
Modifications:	Package outline drawing of SOT886 (Fig. 20) modified.			
74AUP1G57 v.5	20111125	Product data sheet	-	74AUP1G57 v.4
74AUP1G57 v.4	20100720	Product data sheet	-	74AUP1G57 v.3
74AUP1G57 v.3	20090622	Product data sheet	-	74AUP1G57 v.2
74AUP1G57 v.2	20090323	Product data sheet	-	74AUP1G57 v.1
74AUP1G57 v.1	20061123	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".
- [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 <https://www.nexperia.com>.

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