

74AUP2G57-Q100

Low-power dual PCB configurable multiple function gate

Rev. 2 — 17 July 2023

Product data sheet

1. General description

The 74AUP2G57-Q100 is a dual configurable multiple function gate with Schmitt-trigger inputs. Each gate within 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.

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
- 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
- ESD protection:
 - HBM: ANSI/ESDA/JEDEC JS-001 class 3A exceeds 5000 V
 - CDM: ANSI/ESDA/JEDEC JS-002 class C3 exceeds 1000 V

3. Ordering information

Table 1. Ordering information

Type number	Package			
	Temperature range	Name	Description	
				Version
74AUP2G57GU-Q100	-40 °C to +125 °C	XQFN10	plastic, extremely thin quad flat package; no leads; 10 terminals; body 1.40 x 1.80 x 0.50 mm	SOT1160-1

4. Marking

Table 2. Marking

Type number	Marking code [1]
74AUP2G57GU-Q100	aC

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

nexperia

5. Functional diagram

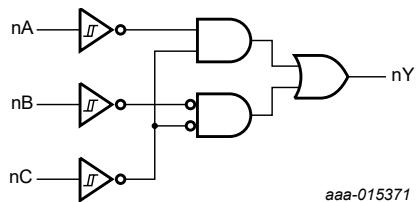


Fig. 1. Logic symbol (one gate)

6. Pinning information

6.1. Pinning

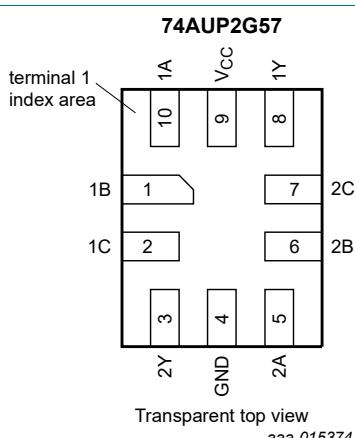


Fig. 2. Pin configuration SOT1160-1 (XQFN10)

6.2. Pin description

Table 3. Pin description

Symbol	Pin	Description
1A, 2A	10, 5	data input
1B, 2B	1, 6	data input
1C, 2C	2, 7	data input
1Y, 2Y	8, 3	data output
GND	4	ground (0 V)
V _{CC}	9	supply voltage

7. Functional description

Table 4. Function table

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

Input	Output		
nC	nB	nA	nY
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. 3
2-input AND with both inputs inverted	see Fig. 6
2-input NAND with inverted input	see Fig. 4 and Fig. 5
2-input OR with inverted input	see Fig. 4 and Fig. 5
2-input NOR	see Fig. 6
2-input NOR with both inputs inverted	see Fig. 3
2-input XNOR	see Fig. 7
Inverter	see Fig. 8
Buffer	see Fig. 9

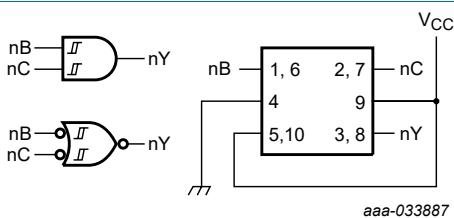


Fig. 3. 2-input AND gate or 2-input NOR gate with both inputs inverted

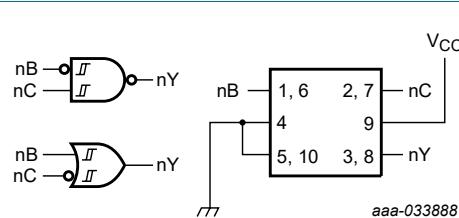


Fig. 4. 2-input NAND gate with input B inverted or 2-input OR gate with inverted C input

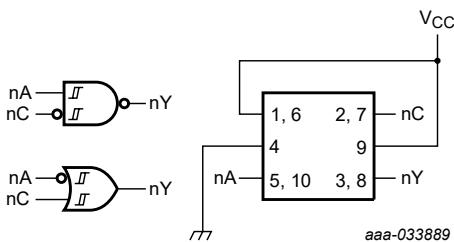


Fig. 5. 2-input NAND gate with input C inverted or 2-input OR gate with inverted A input

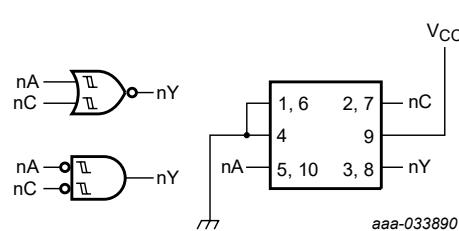


Fig. 6. 2-input NOR gate or 2-input AND gate with both inputs inverted

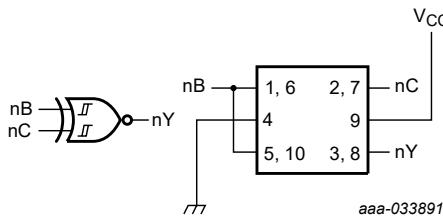


Fig. 7. 2-input XNOR gate

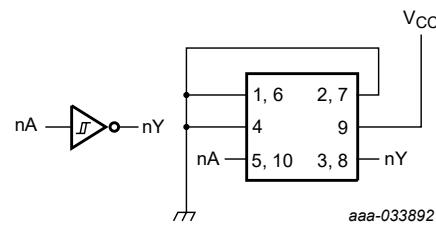


Fig. 8. Inverter

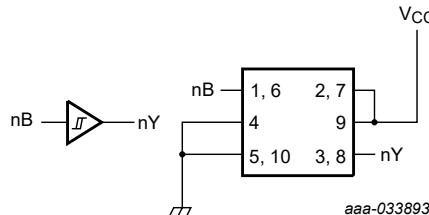


Fig. 9. Buffer

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 SOT1160-1 (XQFN10) package: P_{tot} derates linearly with 7.1 mW/K above 115 °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 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 _{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	-	-	0.31	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	-	-	40	µA
C _I	input capacitance	V _I = GND or V _{CC} ; V _{CC} = 0 V to 3.6 V	-	1.1	-	pF
C _O	output capacitance	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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
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
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. 11](#).

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	nA, nB and nC to nY; see Fig. 10 [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

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 = 10 pF										
t _{pd}	propagation delay	nA, nB and nC to nY; see Fig. 10 [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
C_L = 15 pF										
t _{pd}	propagation delay	nA, nB and nC to nY; see Fig. 10 [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	nA, nB and nC to nY; see Fig. 10 [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 μ W).

P_D = C_{PD} × V_{CC}² × f_i × N + Σ (C_L × V_{CC}² × f_o) where:

f_i = input frequency in MHz;

f_o = output frequency in MHz;

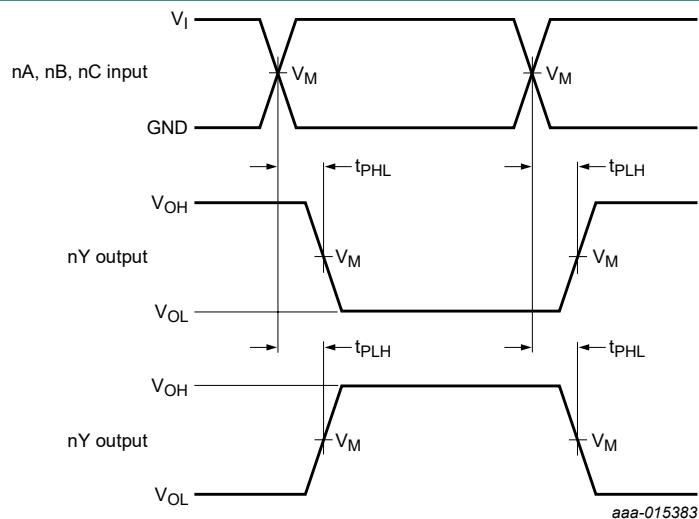
C_L = output load capacitance in pF;

V_{CC} = supply voltage in V;

N = number of inputs switching;

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

11.1. Waveform and test circuit



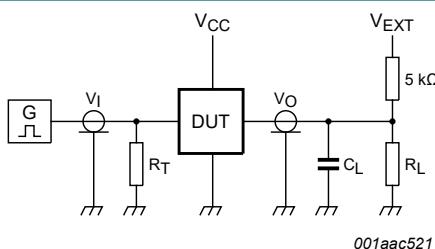
Measurement points are given in [Table 10](#).

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

Fig. 10. Input nA, nB and nC to output nY propagation delay times

Table 10. Measurement points

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



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. 11. Test circuit for measuring switching times

Table 11. Test data

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

[1] For measuring enable and disable times, $R_L = 5 \text{ k}\Omega$.

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

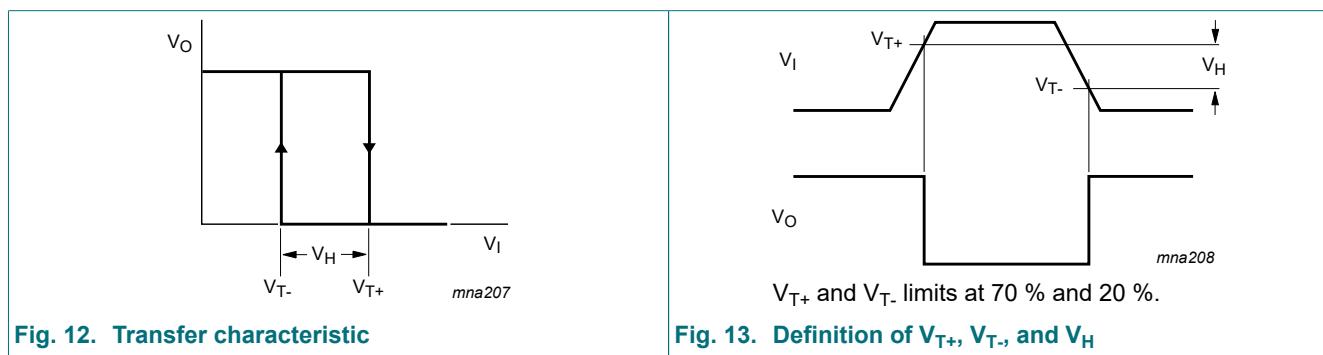
12. Transfer characteristics

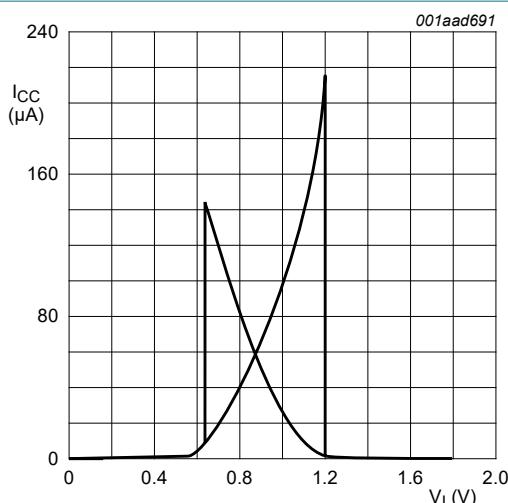
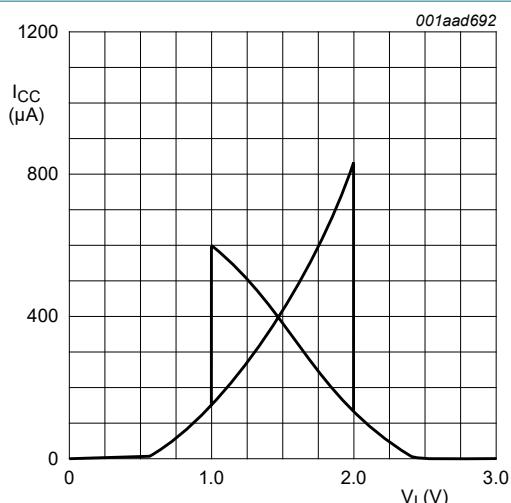
Table 12. Transfer characteristics

Voltages are referenced to GND (ground = 0 V); for test circuit see [Fig. 11](#).

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. 12 and Fig. 13								
		$V_{CC} = 0.8 \text{ V}$	0.30	-	0.60	0.30	0.60	0.30	0.62	V
		$V_{CC} = 1.1 \text{ V}$	0.53	-	0.90	0.53	0.90	0.53	0.92	V
		$V_{CC} = 1.4 \text{ V}$	0.74	-	1.11	0.74	1.11	0.74	1.13	V
		$V_{CC} = 1.65 \text{ V}$	0.91	-	1.29	0.91	1.29	0.91	1.31	V
		$V_{CC} = 2.3 \text{ V}$	1.37	-	1.77	1.37	1.77	1.37	1.80	V
		$V_{CC} = 3.0 \text{ V}$	1.88	-	2.29	1.88	2.29	1.88	2.32	V
V_{T-}	negative-going threshold voltage	see Fig. 12 and Fig. 13								
		$V_{CC} = 0.8 \text{ V}$	0.10	-	0.60	0.10	0.60	0.10	0.60	V
		$V_{CC} = 1.1 \text{ V}$	0.26	-	0.65	0.26	0.65	0.26	0.65	V
		$V_{CC} = 1.4 \text{ V}$	0.39	-	0.75	0.39	0.75	0.39	0.75	V
		$V_{CC} = 1.65 \text{ V}$	0.47	-	0.84	0.47	0.84	0.47	0.84	V
		$V_{CC} = 2.3 \text{ V}$	0.69	-	1.04	0.69	1.04	0.69	1.04	V
		$V_{CC} = 3.0 \text{ V}$	0.88	-	1.24	0.88	1.24	0.88	1.24	V
V_H	hysteresis voltage ($(V_{T+} - V_{T-})$; see Fig. 12 , Fig. 13 , Fig. 14 and Fig. 15)									
		$V_{CC} = 0.8 \text{ V}$	0.07	-	0.50	0.07	0.50	0.07	0.50	V
		$V_{CC} = 1.1 \text{ V}$	0.08	-	0.46	0.08	0.46	0.08	0.46	V
		$V_{CC} = 1.4 \text{ V}$	0.18	-	0.56	0.18	0.56	0.18	0.56	V
		$V_{CC} = 1.65 \text{ V}$	0.27	-	0.66	0.27	0.66	0.27	0.66	V
		$V_{CC} = 2.3 \text{ V}$	0.53	-	0.92	0.53	0.92	0.53	0.92	V
		$V_{CC} = 3.0 \text{ V}$	0.79	-	1.31	0.79	1.31	0.79	1.31	V

12.1. Waveform transfer characteristics



Fig. 14. Typical transfer characteristics; $V_{CC} = 1.8\text{ V}$ Fig. 15. Typical transfer characteristics; $V_{CC} = 3.0\text{ V}$

13. Package outline

XQFN10: plastic, extremely thin quad flat package; no leads; 10 terminals; body 1.40 x 1.80 x 0.50 mm

SOT1160-1

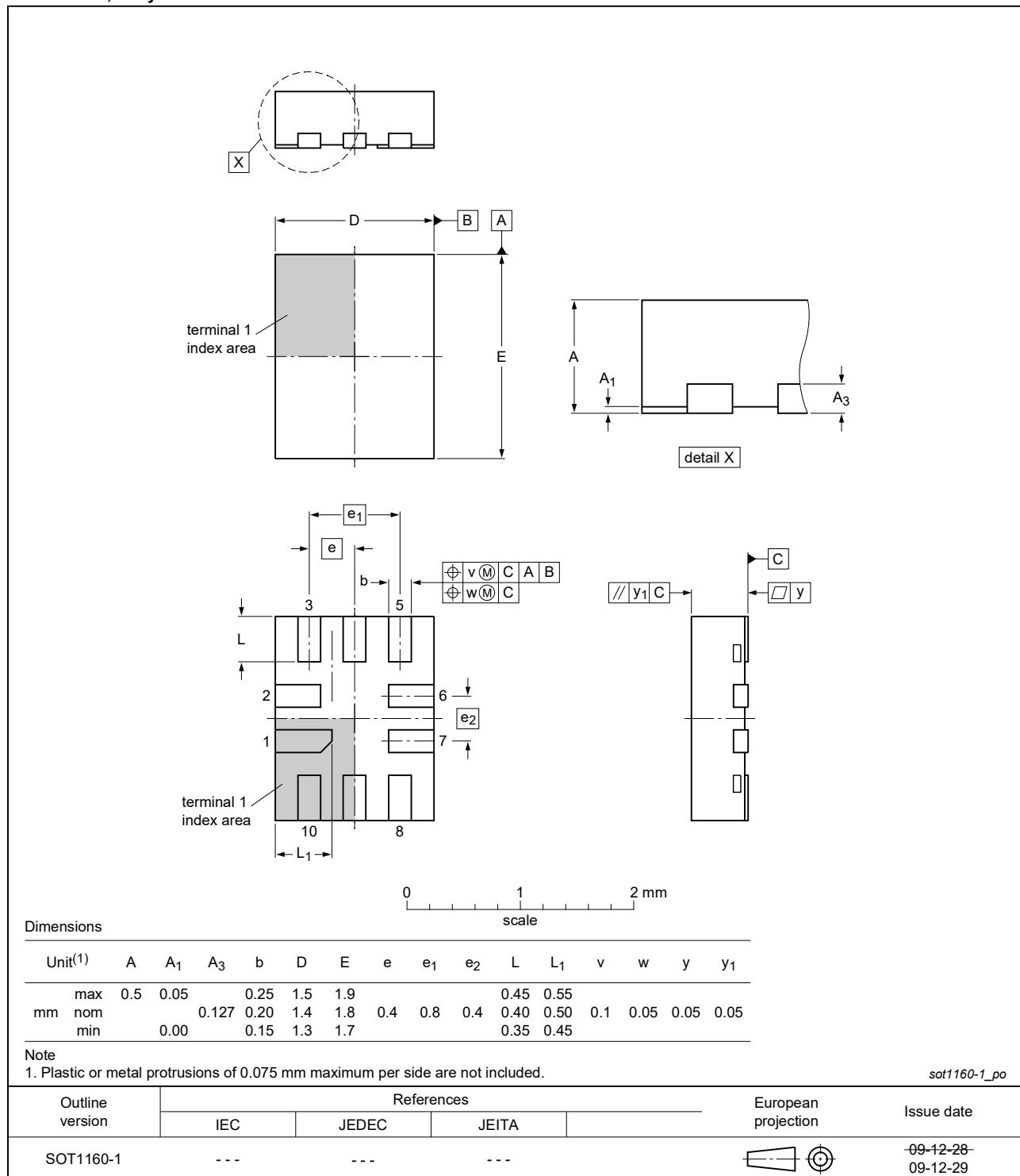


Fig. 16. Package outline SOT1160-1 (XQFN10)

14. Abbreviations

Table 13. Abbreviations

Acronym	Description
CDM	Charged Device Model
DUT	Device Under Test
ESD	ElectroStatic Discharge
HBM	Human Body Model
PCB	Printed Circuit Board

15. Revision history

Table 14. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
74AUP2G57_Q100 v.2	20230717	Product data sheet	-	74AUP2G57_Q100 v.1
Modifications:	<ul style="list-style-type: none">Section 2: ESD specification updated according to the latest JEDEC standard.			
74AUP2G57_Q100 v.1	20211108	Product data sheet	-	-

16. 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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For sales office addresses, please send an email to: salesaddresses@nexperia.com

Date of release: 17 July 2023