74LVC1G58

Low-power configurable multiple function gate Rev. 8 — 22 April 2014 P

Product data sheet

General description 1.

The 74LVC1G58 provides configurable multiple functions. The output state is determined by eight patterns of 3-bit input. The user can choose the logic functions AND, OR, NAND, NOR, XOR, inverter and buffer. All inputs can be connected to V_{CC} or GND.

Inputs can be driven from either 3.3 V or 5 V devices. This feature allows the use of this device in a mixed 3.3 V and 5 V environment.

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.

All inputs (A, B and C) are Schmitt trigger inputs. They are capable of transforming slowly changing input signals into sharply defined, jitter-free output signals.

2. **Features and benefits**

- Wide supply voltage range from 1.65 V to 5.5 V
- 5 V tolerant input/output for interfacing with 5 V logic
- High noise immunity
- Complies with JEDEC standard:
 - ◆ JESD8-7 (1.65 V to 1.95 V)
 - ◆ JESD8-5 (2.3 V to 2.7 V)
 - JESD8B/JESD36 (2.7 V to 3.6 V).
- ESD protection:
 - ♦ HBM JESD22-A114F exceeds 2000 V
 - MM JESD22-A115-A exceeds 200 V.
- \pm 24 mA output drive (V_{CC} = 3.0 V)
- CMOS low power consumption
- Latch-up performance exceeds 250 mA
- Direct interface with TTL levels
- Inputs accept voltages up to 5 V
- Multiple package options
- Specified from -40 °C to +85 °C and -40 °C to +125 °C.



Low-power configurable multiple function gate

3. Ordering information

Table 1. Ordering information

Type number	Package						
	Temperature range	Name	Description	Version			
74LVC1G58GW	−40 °C to +125 °C	SC-88	plastic surface-mounted package; 6 leads	SOT363			
74LVC1G58GV	−40 °C to +125 °C	TSOP6	plastic surface-mounted package (TSOP6); 6 leads	SOT457			
74LVC1G58GM	–40 °C to +125 °C	XSON6	plastic extremely thin small outline package; no leads; 6 terminals; body 1 \times 1.45 \times 0.5 mm	SOT886			
74LVC1G58GF	–40 °C to +125 °C	XSON6	plastic extremely thin small outline package; no leads; 6 terminals; body 1 × 1 × 0.5 mm	SOT891			
74LVC1G58GN	–40 °C to +125 °C	XSON6	extremely thin small outline package; no leads; 6 terminals; body $0.9 \times 1.0 \times 0.35$ mm	SOT1115			
74LVC1G58GS	-40 °C to +125 °C	XSON6	extremely thin small outline package; no leads; 6 terminals; body $1.0 \times 1.0 \times 0.35$ mm	SOT1202			

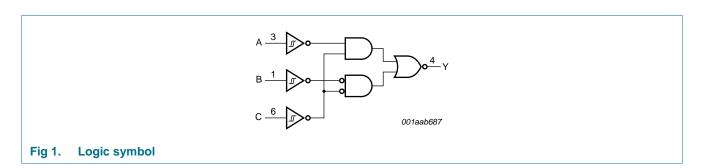
4. Marking

Table 2. Marking

Type number	Marking code ^[1]
74LVC1G58GW	YK
74LVC1G58GV	V58
74LVC1G58GM	YK
74LVC1G58GF	YK
74LVC1G58GN	YK
74LVC1G58GS	YK

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

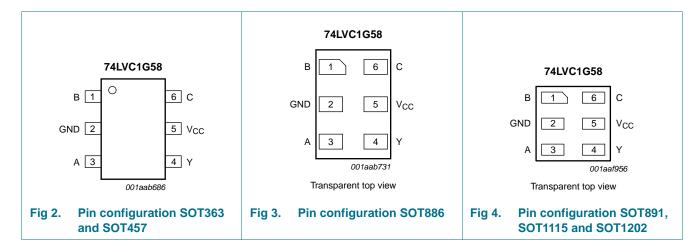
5. Functional diagram



Low-power configurable multiple function gate

6. Pinning information

6.1 Pinning



6.2 Pin description

Table 3. Pin description

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

7. Functional description

Table 4. Function table[1]

Inputs	Output		
С	В	Α	Υ
L	L	L	L
L	L	Н	Н
L	Н	L	L
L	Н	Н	Н
Н	L	L	Н
Н	L	Н	Н
Н	Н	L	L
Н	Н	Н	L

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

Low-power configurable multiple function gate

7.1 Logic configurations

Table 5. Function selection table

Logic function	Figure
2-input NAND	see Figure 5
2-input NAND with both inputs inverted	see Figure 8
2-input AND with inverted input	see Figure 6 and 7
2-input NOR with inverted input	see Figure 6 and 7
2-input OR	see Figure 8
2-input OR with both inputs inverted	see Figure 5
2-input XOR	see Figure 9
Buffer	see Figure 10
Inverter	see Figure 11

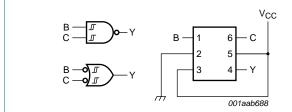


Fig 5. 2-input NAND gate or 2-input OR with both inputs inverted

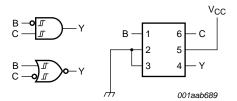


Fig 6. 2-input AND gate with inverted B input or 2-input NOR gate with inverted C input

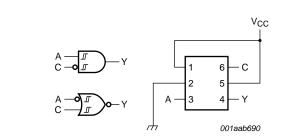


Fig 7. 2-input AND gate with inverted C input or 2-input NOR gate with inverted A input

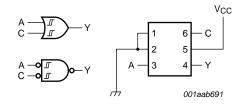
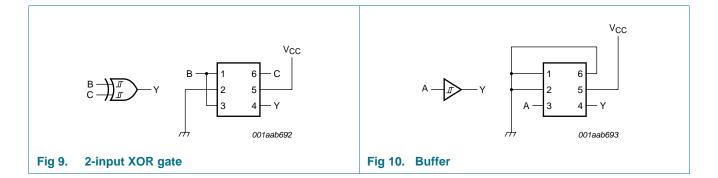
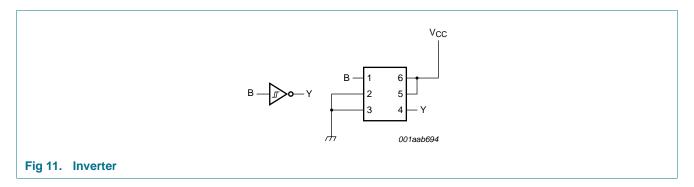


Fig 8. 2-input OR gate or 2-input NAND gate with both inputs inverted



74LVC1G58

Low-power configurable multiple function gate



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	+6.5	V
I _{IK}	input clamping current	V _I < 0 V		-50	-	mA
V _I	input voltage		[1]	-0.5	+6.5	V
I _{OK}	output clamping current	$V_O > V_{CC}$ or $V_O < 0 V$		-	±50	mA
Vo	output voltage	Active mode	[1][2]	-0.5	+6.5	V
		Power-down mode	[1][2]	-0.5	+6.5	V
Io	output current	$V_O = 0 \text{ V to } V_{CC}$		-	±50	mA
I _{CC}	supply current			-	100	mA
I _{GND}	ground current			-100	-	mA
T _{stg}	storage temperature			-65	+150	°C
P _{tot}	total power dissipation	$T_{amb} = -40 ^{\circ}\text{C} \text{ to } +125 ^{\circ}\text{C}$	[3]	-	250	mW

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

9. Recommended operating conditions

Table 7. Recommended operating conditions

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
V _{CC}	supply voltage		1.65	-	5.5	V
VI	input voltage		0	-	5.5	V
Vo	output voltage	Active mode	0	-	V _{CC}	V
		Power-down mode; V _{CC} = 0 V	0	-	5.5	V
T _{amb}	ambient temperature		-40	-	+125	°C

^[2] When $V_{CC} = 0 \text{ V}$ (Power-down mode), the output voltage can be 5.5 V in normal operation.

^[3] For SC-88 and SC-74 packages: above 87.5 °C the value of P_{tot} derates linearly with 4.0 mW/K. For XSON6 packages: above 118 °C the value of P_{tot} derates linearly with 7.8 mW/K.

74LVC1G58 **NXP Semiconductors**

Low-power configurable multiple function gate

10. Static characteristics

Table 8. Static characteristics

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

Symbol	Parameter	Conditions	Min	Typ[1]	Max	Unit
T _{amb} = -4	0 °C to +85 °C				'	
V _{OL}	LOW-level output voltage	$V_I = V_{T+}$ or V_{T-}				
		$I_O = 100 \ \mu A; \ V_{CC} = 1.65 \ V \ to \ 5.5 \ V$	-	-	0.1	V
		I _O = 4 mA; V _{CC} = 1.65 V	-	-	0.45	V
		I_{O} = 8 mA; V_{CC} = 2.3 V	-	-	0.3	V
		I_{O} = 12 mA; V_{CC} = 2.7 V	-	-	0.4	V
		I_{O} = 24 mA; V_{CC} = 3.0 V	-	-	0.55	V
		I _O = 32 mA; V _{CC} = 4.5 V	-	-	0.55	V
V _{OH}	HIGH-level output voltage	$V_I = V_{T+}$ or V_{T-}				
		$I_{O} = -100 \mu A$; $V_{CC} = 1.65 \text{ V to } 5.5 \text{ V}$	V _{CC} - 0.1	-	-	V
		$I_{O} = -4 \text{ mA}; V_{CC} = 1.65 \text{ V}$	1.2	-	-	V
		$I_{O} = -8 \text{ mA}; V_{CC} = 2.3 \text{ V}$	1.9	-	-	V
		$I_{O} = -12 \text{ mA}; V_{CC} = 2.7 \text{ V}$	2.2	-	-	V
		$I_{O} = -24 \text{ mA}; V_{CC} = 3.0 \text{ V}$	2.3	-	-	V
		$I_{O} = -32 \text{ mA}; V_{CC} = 4.5 \text{ V}$	3.8	-	-	V
 	input leakage current	$V_I = 5.5 \text{ V or GND}$; $V_{CC} = 0 \text{ V to } 5.5 \text{ V}$	-	±0.1	±5	μΑ
OFF	power-off leakage current	V_{I} or $V_{O} = 5.5 \text{ V}$; $V_{CC} = 0 \text{ V}$	-	±0.1	±10	μΑ
I _{CC}	supply current	V _I = 5.5 V or GND; V _{CC} = 1.65 V to 5.5 V; I _O = 0 A	-	0.1	10	μΑ
Δl _{CC}	additional supply current	$V_I = V_{CC} - 0.6 \text{ V}; I_O = 0 \text{ A};$ $V_{CC} = 2.3 \text{ V to } 5.5 \text{ V}$	-	5	500	μΑ
Cı	input capacitance		-	2.5	-	pF
$T_{amb} = -4$	10 °C to +125 °C					
V _{OL}	LOW-level output voltage	$V_I = V_{T+}$ or V_{T-}				
		I _O = 100 μA; V _{CC} = 1.65 V to 5.5 V	-	-	0.1	V
		I _O = 4 mA; V _{CC} = 1.65 V	-	-	0.7	V
		$I_{O} = 8 \text{ mA}; V_{CC} = 2.3 \text{ V}$	-	-	0.45	V
		I _O = 12 mA; V _{CC} = 2.7 V	-	-	0.6	V
		I _O = 24 mA; V _{CC} = 3.0 V	-	-	0.8	V
		I _O = 32 mA; V _{CC} = 4.5 V	-	-	0.8	V
V _{OH}	HIGH-level output voltage	$V_I = V_{T+}$ or V_{T-}				
		$I_O = -100 \mu A$; $V_{CC} = 1.65 \text{ V to } 5.5 \text{ V}$	V _{CC} - 0.1	-	-	V
		$I_{O} = -4 \text{ mA}$; $V_{CC} = 1.65 \text{ V}$	0.95	-	-	V
		$I_0 = -8 \text{ mA}; V_{CC} = 2.3 \text{ V}$	1.7	-	-	V
		$I_{O} = -12 \text{ mA}; V_{CC} = 2.7 \text{ V}$	1.9	-	-	V
		$I_O = -24 \text{ mA}; V_{CC} = 3.0 \text{ V}$	2.0	-	-	V
		$I_{O} = -32 \text{ mA}; V_{CC} = 4.5 \text{ V}$	3.4	-	-	V
l _l	input leakage current	V _I = 5.5 V or GND; V _{CC} = 0 V to 5.5 V	-	_	±100	μΑ

Low-power configurable multiple function gate

 Table 8.
 Static characteristics ...continued

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

Symbol	Parameter	Conditions	Min	Typ[1]	Max	Unit
I _{OFF}	power-off leakage current	V_{I} or $V_{O} = 5.5 \text{ V}$; $V_{CC} = 0 \text{ V}$	-	-	±200	μΑ
I _{CC}	supply current	V _I = 5.5 V or GND; V _{CC} = 1.65 V to 5.5 V; I _O = 0 A	-	-	200	μΑ
ΔI_{CC}	additional supply current	$V_I = V_{CC} - 0.6 \text{ V}; I_O = 0 \text{ A};$ $V_{CC} = 2.3 \text{ V} \text{ to } 5.5 \text{ V}$	-	-	5000	μΑ

^[1] Typical values are measured at maximum V_{CC} and T_{amb} = 25 °C.

11. Dynamic characteristics

Table 9. Dynamic characteristics

Voltages are referenced to GND (ground = 0 V); for test circuit see Figure 13.

Symbol	Parameter	Conditions	-40 °C to +85 °C			-40 °C to	Unit	
			Min	Typ[1]	Max	Min	Max	
t _{pd}	propagation delay	A, B, C to Y; see Figure 12						
		V _{CC} = 1.65 V to 1.95 V	1.0	6.0	14.4	1.0	18.0	ns
		V _{CC} = 2.3 V to 2.7 V	0.5	3.5	8.3	0.5	10.4	ns
		V _{CC} = 2.7 V	0.5	4.2	8.5	0.5	10.6	ns
		V _{CC} = 3.0 V to 3.6 V	0.5	3.8	6.3	0.5	7.9	ns
		V _{CC} = 4.5 V to 5.5 V	0.5	3.0	5.1	0.5	6.4	ns
C_{PD}	power dissipation capacitance	$V_{CC} = 3.3 \text{ V}; V_I = \text{GND to } V_{CC}$ [3]	-	20	-	-	-	pF

^[1] Typical values are measured at nominal V_{CC} and at T_{amb} = 25 °C.

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

^[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 μW).

74LVC1G58 **NXP Semiconductors**

Low-power configurable multiple function gate

12. Waveforms

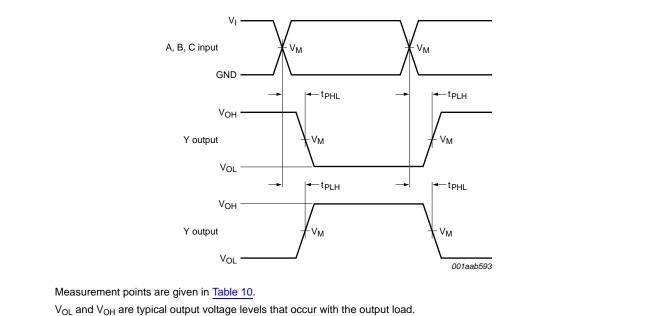
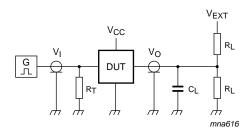


Fig 12. Input A, B, C to output Y propagation delay times

Table 10. Measurement points

Supply voltage	Input	Output
V _{CC}	V _M	V _M
1.65 V to 1.95 V	0.5 × V _{CC}	$0.5 \times V_{CC}$
2.3 V to 2.7 V	0.5 × V _{CC}	$0.5 \times V_{CC}$
2.7 V	1.5 V	1.5 V
3.0 V to 3.6 V	1.5 V	1.5 V
4.5 V to 5.5 V	0.5 × V _{CC}	$0.5 \times V_{CC}$

Low-power configurable multiple function gate



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 output impedance Z_0 of the pulse generator.

V_{EXT} = External voltage for measuring switching times.

Fig 13. Test circuit for measuring switching times

Table 11. Test data

Supply voltage	Input	nput		Input Load		Load	
V _{CC}	VI	$t_r = t_f$	CL	R _L	t _{PLH} , t _{PHL}		
1.65 V to 1.95 V	V _{CC}	≤ 2.0 ns	30 pF	1 kΩ	open		
2.3 V to 2.7 V	V _{CC}	≤ 2.0 ns	30 pF	500 Ω	open		
2.7 V	2.7 V	≤ 2.5 ns	50 pF	500 Ω	open		
3.0 V to 3.6 V	2.7 V	≤ 2.5 ns	50 pF	500 Ω	open		
4.5 V to 5.5 V	V _{CC}	≤ 2.5 ns	50 pF	500 Ω	open		

13. Transfer characteristics

Table 12. Transfer characteristics

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

Symbol	Parameter	Conditions	–40 °C to +85 °C			-40 °C to +125 °C		Unit
			Min	Typ[1]	Max	Min	Max	
V _{T+}	positive-going threshold voltage	see Figure 14, Figure 15, Figure 16 and Figure 17						
		V _{CC} = 1.8 V	0.70	1.02	1.20	0.67	1.20	V
		V _{CC} = 2.3 V	1.11	1.42	1.60	1.08	1.60	V
		V _{CC} = 3.0 V	1.50	1.79	2.00	1.47	2.00	V
		V _{CC} = 4.5 V	2.16	2.52	2.74	2.13	2.74	V
		V _{CC} = 5.5 V	2.61	2.99	3.33	2.58	3.33	V
V_{T-}	negative-going threshold voltage	see Figure 14, Figure 15, Figure 16 and Figure 17						
		V _{CC} = 1.8 V	0.30	0.53	0.72	0.30	0.75	V
		V _{CC} = 2.3 V	0.58	0.77	1.00	0.58	1.03	V
		V _{CC} = 3.0 V	0.80	1.04	1.30	0.80	1.33	V
		V _{CC} = 4.5 V	1.21	1.55	1.90	1.21	1.93	V
		V _{CC} = 5.5 V	1.45	1.86	2.29	1.45	2.32	V

74LVC1G58

All information provided in this document is subject to legal disclaimers.

Low-power configurable multiple function gate

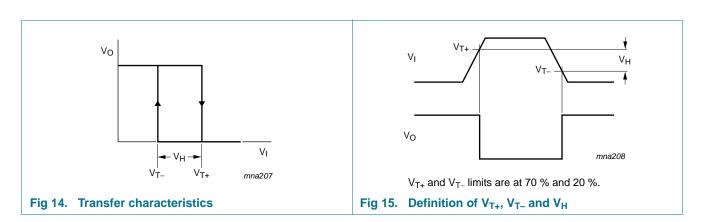
Table 12. Transfer characteristics ...continued

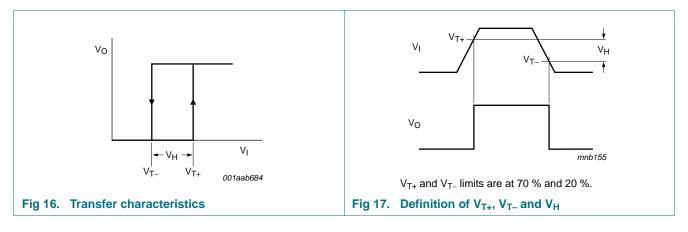
At recommended operating conditions; voltages are referenced to GND (ground = 0 V).

Symbol	Parameter	Conditions	-4	-40 °C to +85 °C			-40 °C to +125 °C	
			Min	Typ[1]	Max	Min	Max	
V _H	hysteresis voltage	(V _{T+} – V _{T-}); see <u>Figure 14</u> , <u>Figure 15</u> , <u>Figure 16</u> and <u>Figure 17</u>						
		V _{CC} = 1.8 V	0.30	0.48	0.62	0.23	0.62	V
		V _{CC} = 2.3 V	0.40	0.64	0.80	0.34	0.80	V
		V _{CC} = 3.0 V	0.50	0.75	1.00	0.44	1.00	V
		V _{CC} = 4.5 V	0.71	0.97	1.20	0.65	1.20	V
		V _{CC} = 5.5 V	0.71	1.13	1.40	0.65	1.40	V

^[1] Typical values are measured at T_{amb} = 25 °C.

14. Waveforms transfer characteristics





Low-power configurable multiple function gate

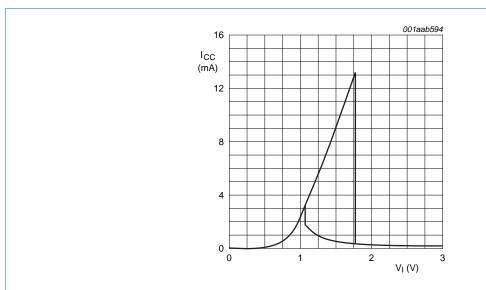


Fig 18. Typical 74LVC1G58 transfer characteristics; $V_{CC} = 3.0 \text{ V}$

Low-power configurable multiple function gate

15. Package outline

Plastic surface-mounted package; 6 leads

SOT363

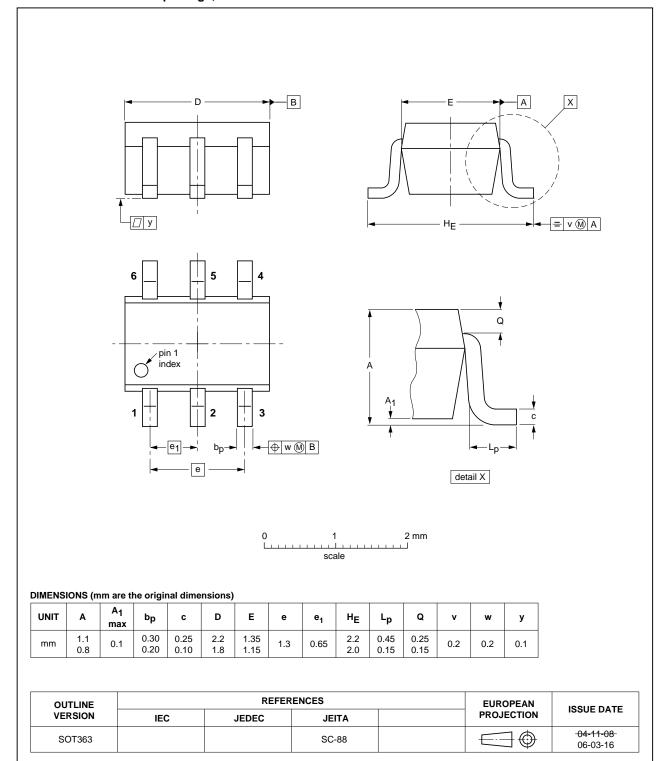


Fig 19. Package outline SOT363 (SC-88)

LVC1G58 All information provided in this document is subject to legal disclaimers.

Low-power configurable multiple function gate

Plastic surface-mounted package (TSOP6); 6 leads



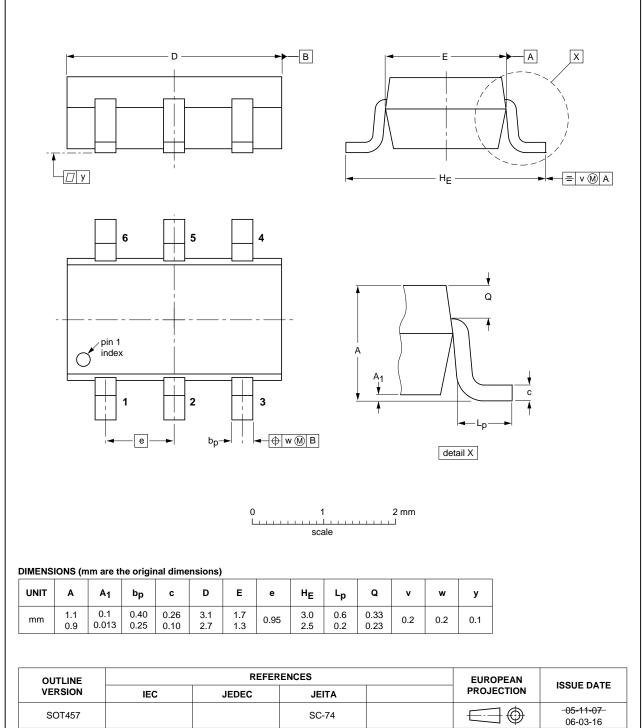


Fig 20. Package outline SOT457 (TSOP6)

Low-power configurable multiple function gate

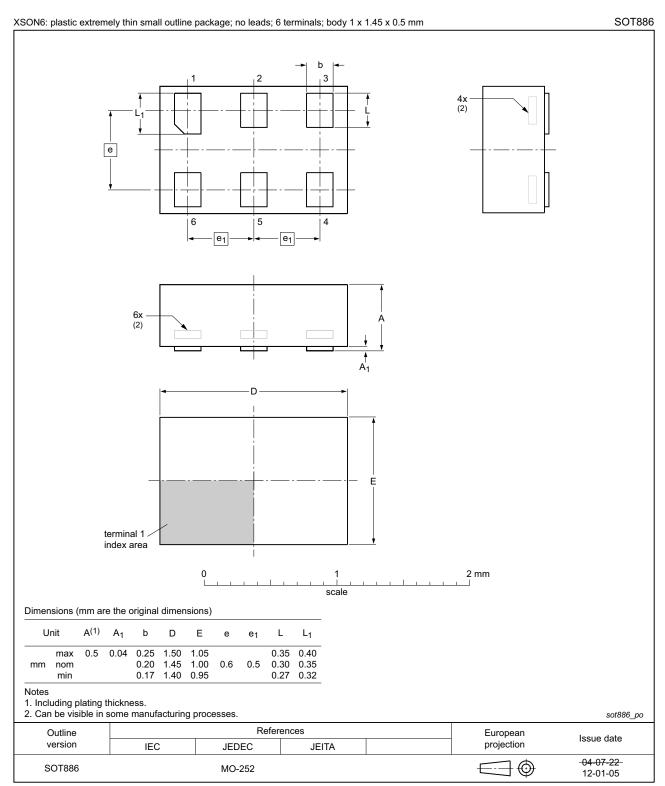


Fig 21. Package outline SOT886 (XSON6)

74LVC1G58

All information provided in this document is subject to legal disclaimers.

Low-power configurable multiple function gate

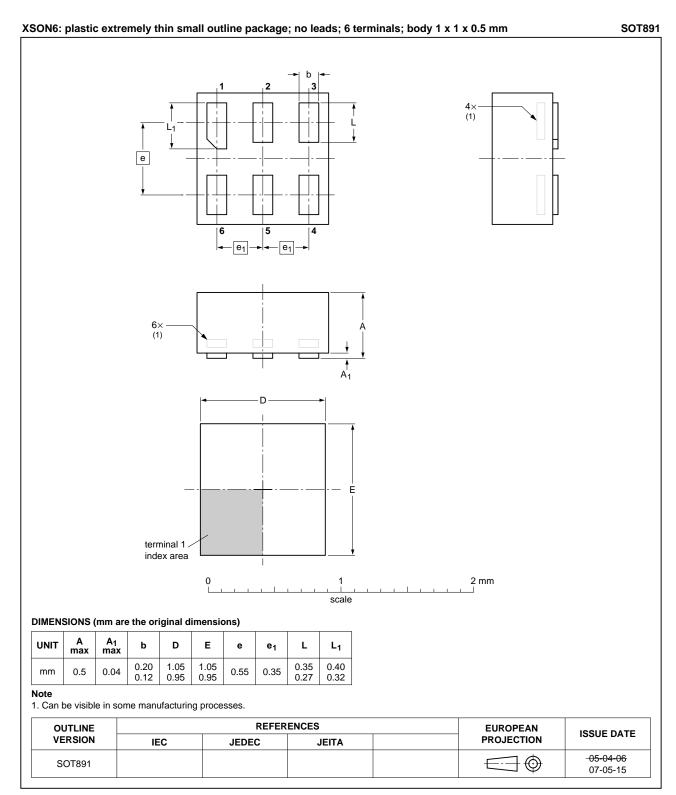


Fig 22. Package outline SOT891 (XSON6)

74LVC1G58 All information provided in this document is subject to legal disclaimers.

Low-power configurable multiple function gate

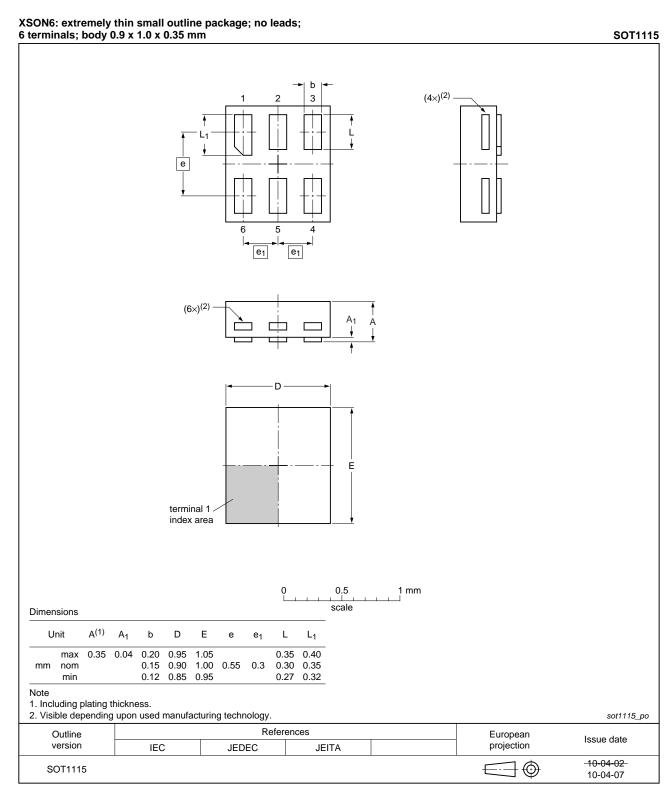


Fig 23. Package outline SOT1115 (XSON6)

74LVC1G58 All information provided in this document is subject to legal disclaimers.

74LVC1G58 **NXP Semiconductors**

Low-power configurable multiple function gate

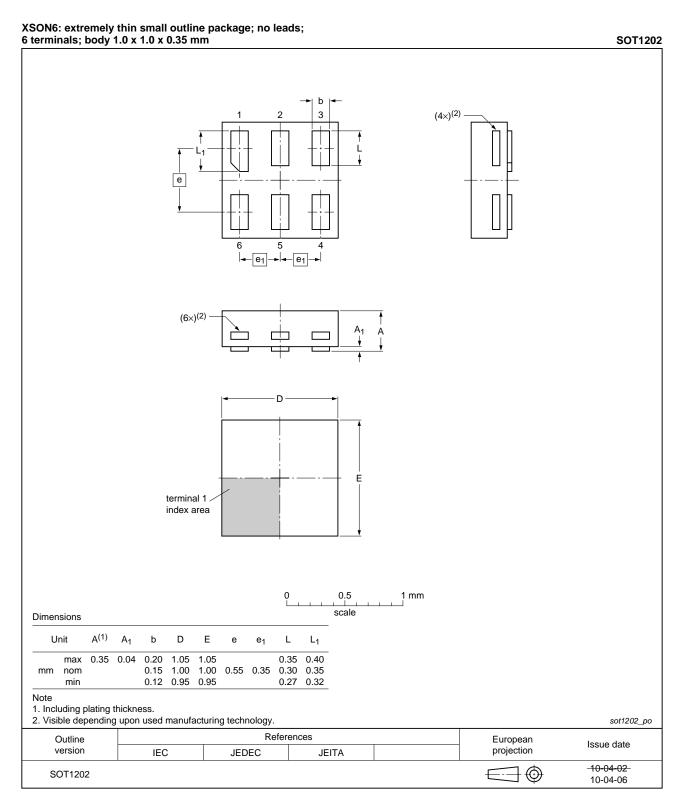


Fig 24. Package outline SOT1202 (XSON6)

74LVC1G58 All information provided in this document is subject to legal disclaimers.

Low-power configurable multiple function gate

16. Abbreviations

Table 13. Abbreviations

Acronym	Description
CMOS	Complementary Metal Oxide Semiconductor
DUT	Device Under Test
ESD	ElectroStatic Discharge
HBM	Human Body Model
MM	Machine Model
TTL	Transistor-Transistor Logic

17. Revision history

Table 14. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
74LVC1G58 v.8	20140422	Product data sheet	-	74LVC1G58 v.7
Modifications:	Package outli	ne drawing of SOT886 (Figure	21) modified.	
74LVC1G58 v.7	20111206	Product data sheet	-	74LVC1G58 v.6
Modifications:	• Legal pages (updated.		
74LVC1G58 v.6	20110923	Product data sheet	-	74LVC1G58 v.5
74LVC1G58 v.5	20101015	Product data sheet	-	74LVC1G58 v.4
74LVC1G58 v.4	20090427	Product data sheet	-	74LVC1G58 v.3
74LVC1G58 v.3	20070827	Product data sheet	-	74LVC1G58 v.2
74LVC1G58 v.2	20070222	Product data sheet	-	74LVC1G58 v.1
74LVC1G58 v.1	20040915	Product data sheet	-	-

Low-power configurable multiple function gate

18. Legal information

18.1 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.nxp.com.

18.2 Definitions

Draft — The document is a draft version only. The content is still under internal review and subject to formal approval, which may result in modifications or additions. NXP Semiconductors does not give any representations or warranties as to the accuracy or completeness of information included herein and shall have no liability for the consequences of use of such information.

Short data sheet — A short data sheet is an extract from a full data sheet with the same product type number(s) and title. A short data sheet is intended for quick reference only and should not be relied upon to contain detailed and full information. For detailed and full information see the relevant full data sheet, which is available on request via the local NXP Semiconductors sales office. In case of any inconsistency or conflict with the short data sheet, the full data sheet shall prevail.

Product specification — The information and data provided in a Product data sheet shall define the specification of the product as agreed between NXP Semiconductors and its customer, unless NXP Semiconductors and customer have explicitly agreed otherwise in writing. In no event however, shall an agreement be valid in which the NXP Semiconductors product is deemed to offer functions and qualities beyond those described in the Product data sheet.

18.3 Disclaimers

Limited warranty and liability — Information in this document is believed to be accurate and reliable. However, NXP Semiconductors does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information. NXP Semiconductors takes no responsibility for the content in this document if provided by an information source outside of NXP Semiconductors.

In no event shall NXP Semiconductors be liable for any indirect, incidental, punitive, special or consequential damages (including - without limitation - lost profits, lost savings, business interruption, costs related to the removal or replacement of any products or rework charges) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory.

Notwithstanding any damages that customer might incur for any reason whatsoever, NXP Semiconductors' aggregate and cumulative liability towards customer for the products described herein shall be limited in accordance with the *Terms and conditions of commercial sale* of NXP Semiconductors.

Right to make changes — NXP Semiconductors reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.

Suitability for use — NXP Semiconductors products are not designed, authorized or warranted to be suitable for use in life support, life-critical or safety-critical systems or equipment, nor in applications where failure or malfunction of an NXP Semiconductors product can reasonably be expected to result in personal injury, death or severe property or environmental damage. NXP Semiconductors and its suppliers accept no liability for inclusion and/or use of NXP Semiconductors products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

Applications — Applications that are described herein for any of these products are for illustrative purposes only. NXP Semiconductors makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

Customers are responsible for the design and operation of their applications and products using NXP Semiconductors products, and NXP Semiconductors accepts no liability for any assistance with applications or customer product design. It is customer's sole responsibility to determine whether the NXP Semiconductors product is suitable and fit for the customer's applications and products planned, as well as for the planned application and use of customer's third party customer(s). Customers should provide appropriate design and operating safeguards to minimize the risks associated with their applications and products.

NXP Semiconductors does not accept any liability related to any default, damage, costs or problem which is based on any weakness or default in the customer's applications or products, or the application or use by customer's third party customer(s). Customer is responsible for doing all necessary testing for the customer's applications and products using NXP Semiconductors products in order to avoid a default of the applications and the products or of the application or use by customer's third party customer(s). NXP does not accept any liability in this respect.

Limiting values — Stress above one or more limiting values (as defined in the Absolute Maximum Ratings System of IEC 60134) will cause permanent damage to the device. Limiting values are stress ratings only and (proper) operation of the device at these or any other conditions above those given in the Recommended operating conditions section (if present) or the Characteristics sections of this document is not warranted. Constant or repeated exposure to limiting values will permanently and irreversibly affect the quality and reliability of the device.

Terms and conditions of commercial sale — NXP Semiconductors products are sold subject to the general terms and conditions of commercial sale, as published at http://www.nxp.com/profile/terms, unless otherwise agreed in a valid written individual agreement. In case an individual agreement is concluded only the terms and conditions of the respective agreement shall apply. NXP Semiconductors hereby expressly objects to applying the customer's general terms and conditions with regard to the purchase of NXP Semiconductors products by customer.

No offer to sell or license — Nothing in this document may be interpreted or construed as an offer to sell products that is open for acceptance or the grant, conveyance or implication of any license under any copyrights, patents or other industrial or intellectual property rights.

74LVC1G58

All information provided in this document is subject to legal disclaimers.

Low-power configurable multiple function gate

Export control — This document as well as the item(s) described herein may be subject to export control regulations. Export might require a prior authorization from competent authorities.

Non-automotive qualified products — Unless this data sheet expressly states that this specific NXP Semiconductors product is automotive qualified, the product is not suitable for automotive use. It is neither qualified nor tested in accordance with automotive testing or application requirements. NXP Semiconductors accepts no liability for inclusion and/or use of non-automotive qualified products in automotive equipment or applications.

In the event that customer uses the product for design-in and use in automotive applications to automotive specifications and standards, customer (a) shall use the product without NXP Semiconductors' warranty of the product for such automotive applications, use and specifications, and (b) whenever customer uses the product for automotive applications beyond

NXP Semiconductors' specifications such use shall be solely at customer's own risk, and (c) customer fully indemnifies NXP Semiconductors for any liability, damages or failed product claims resulting from customer design and use of the product for automotive applications beyond NXP Semiconductors' standard warranty and NXP Semiconductors' product specifications.

Translations — A non-English (translated) version of a document is for reference only. The English version shall prevail in case of any discrepancy between the translated and English versions.

18.4 Trademarks

Notice: All referenced brands, product names, service names and trademarks are the property of their respective owners.

19. Contact information

For more information, please visit: http://www.nxp.com

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

74LVC1G58 **NXP Semiconductors** Low-power configurable multiple function gate

20. Contents

1	General description
2	Features and benefits
3	Ordering information 2
4	Marking 2
5	Functional diagram 2
6	Pinning information 3
6.1	Pinning
6.2	Pin description
7	Functional description 3
7.1	Logic configurations 4
8	Limiting values 5
9	Recommended operating conditions 5
10	Static characteristics 6
11	Dynamic characteristics
12	Waveforms
13	Transfer characteristics 9
14	Waveforms transfer characteristics 10
15	Package outline
16	Abbreviations
17	Revision history
18	Legal information
18.1	Data sheet status
18.2	Definitions
18.3	Disclaimers
18.4	Trademarks 20
19	Contact information 20
20	Contents 21

Please be aware that important notices concerning this document and the product(s) described herein, have been included in section 'Legal information'.

AMEYA360 Components Supply Platform

Authorized Distribution Brand:

























Website:

Welcome to visit www.ameya360.com

Contact Us:

Address:

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd Minhang District, Shanghai , China

> Sales:

Direct +86 (21) 6401-6692

Email amall@ameya360.com

QQ 800077892

Skype ameyasales1 ameyasales2

Customer Service :

Email service@ameya360.com

Partnership :

Tel +86 (21) 64016692-8333

Email mkt@ameya360.com