74AHC126; 74AHCT126

Quad buffer/line driver; 3-state

Rev. 04 — 12 August 2009

Product data sheet

General description 1.

The 74AHC126; 74AHCT126 is a high-speed Si-gate CMOS device and is pin compatible with Low-power Schottky TTL (LSTTL). It is specified in compliance with JEDEC standard No. 7-A.

The 74AHC126; 74AHCT126 provides four non-inverting buffer/line drivers with 3-state outputs. The 3-state outputs (nY) are controlled by the output enable input (nOE). A LOW-level at pin nOE causes the outputs to assume a high-impedance OFF-state.

The 74AHC126; 74AHCT126 is identical to the 74AHC125; 74AHCT125 but has active HIGH output enable inputs.

2. **Features**

- Balanced propagation delays
- All inputs have Schmitt-trigger action
- Inputs accept voltages higher than V_{CC}
- Input levels:
 - ◆ For 74AHC126: CMOS level
 - ◆ For 74AHCT126: TTL level
- ESD protection:
 - ◆ HBM JESD22-A114E exceeds 2000 V
 - ◆ MM JESD22-A115-A exceeds 200 V
 - CDM JESD22-C101C exceeds 1000 V
- Multiple package options
- Specified from -40 °C to +85 °C and from -40 °C to +125 °C

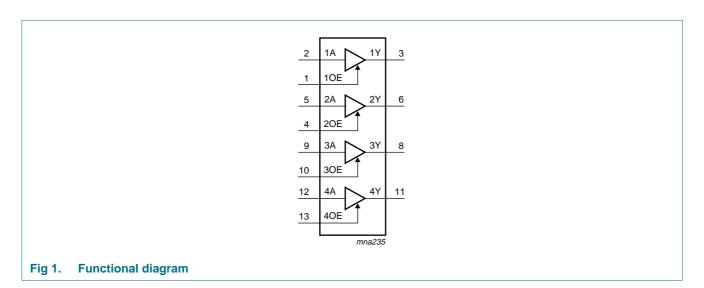


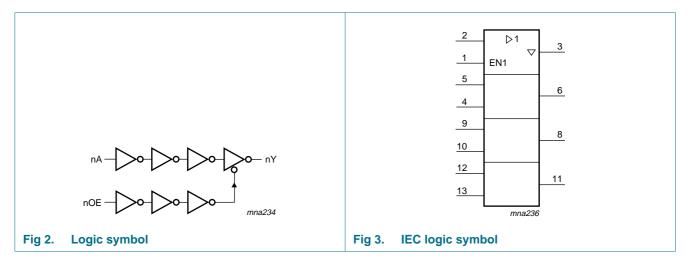
3. Ordering information

Table 1. Ordering information

Type number	Package										
	Temperature range	Name	Description	Version							
74AHC126D	–40 °C to +125 °C	SO14	plastic small outline package; 14 leads;	SOT108-1							
74AHCT126D			body width 3.9 mm								
74AHC126PW	–40 °C to +125 °C	TSSOP14	plastic thin shrink small outline package; 14 leads;	SOT402-1							
74AHCT126PW			body width 4.4 mm								
74AHC126BQ	–40 °C to +125 °C	DHVQFN14	plastic dual in-line compatible thermal enhanced very	SOT762-1							
74AHCT126BQ			thin quad flat package; no leads; 14 terminals; body $2.5 \times 3 \times 0.85$ mm								

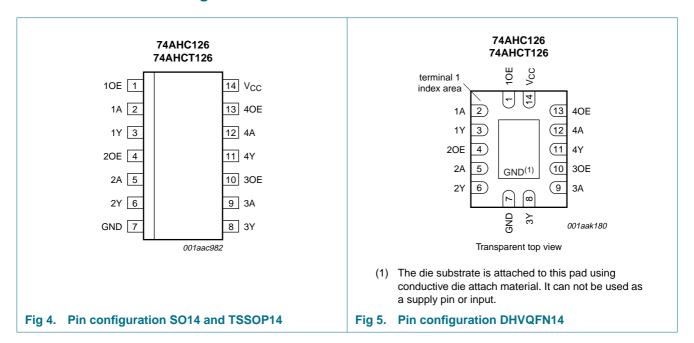
4. Functional diagram





5. Pinning information

5.1 Pinning



5.2 Pin description

Table 2. Pin description

I GIDIO E.	i iii decemption	
Symbol	Pin	Description
10E	1	output enable input 1 (active HIGH)
1A	2	data input 1
1Y	3	data output 1
20E	4	output enable input 2 (active HIGH)
2A	5	data input 2
2Y	6	data output 2
GND	7	ground (0 V)
3Y	8	data output 3
3A	9	data input 3
30E	10	output enable input 3 (active HIGH)
4Y	11	data output 4
4A	12	data input 4
40E	13	output enable input 4 (active HIGH)
V_{CC}	14	supply voltage

6. Functional description

Table 3. Function table [1]

Control	Input	Output
nOE	nA	nY
Н	L	L
Н	Н	Н
L	X	Z

^[1] H = HIGH voltage state;

L = LOW voltage state;

X = don't care;

Z = high-impedance OFF-state.

7. Limiting values

Table 4. 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	+7.0	V
V_{I}	input voltage		-0.5	+7.0	V
I _{IK}	input clamping current	$V_{I} < -0.5 \text{ V}$	<u>[1]</u> –20	-	mA
I _{OK}	output clamping current	$V_O < -0.5 \text{ V or } V_O > V_{CC} + 0.5 \text{ V}$	<u>[1]</u> –20	+20	mA
Io	output current	$V_{O} = -0.5 \text{ V to } (V_{CC} + 0.5 \text{ V})$	-25	+25	mA
I _{CC}	supply current		-	+75	mA
I_{GND}	ground current		-75	-	mA
T _{stg}	storage temperature		-65	+150	°C
P _{tot}	total power dissipation	$T_{amb} = -40 ^{\circ}\text{C} \text{ to } +125 ^{\circ}\text{C}$	[2] _	500	mW

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

^[2] For SO14 packages: above 70 °C the value of P_{tot} derates linearly at 8 mW/K. For TSSOP14 packages: above 60 °C the value of P_{tot} derates linearly at 5.5 mW/K. For DHVQFN14 packages: above 60 °C the value of P_{tot} derates linearly at 4.5 mW/K.

8. Recommended operating conditions

Table 5. Operating conditions

-	Peremeter	Conditions	NA:	T	Max	I Incia
Symbol	Parameter	Conditions	Min	Тур	Max	Unit
74AHC126						
V_{CC}	supply voltage		2.0	5.0	5.5	V
VI	input voltage		0	-	5.5	V
Vo	output voltage		0	-	V_{CC}	V
T _{amb}	ambient temperature		-40	+25	+125	°C
Δt/ΔV	input transition rise and fall rate	$V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$	-	-	100	ns/V
		$V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$	-	-	20	ns/V
74AHCT126						
V _{CC}	supply voltage		4.5	5.0	5.5	V
VI	input voltage		0	-	5.5	V
Vo	output voltage		0	-	V_{CC}	V
T _{amb}	ambient temperature		-40	+25	+125	°C
Δt/ΔV	input transition rise and fall rate	$V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$	-	-	20	ns/V

9. Static characteristics

Table 6. Static characteristics

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

Symbol	Parameter	Conditions		25 °C		-40 °C 1	o +85 °C	–40 °C t	o +125 °C	Unit
			Min	Тур	Max	Min	Max	Min	Max	
74AHC1	26	'								
V_{IH}	HIGH-level	V _{CC} = 2.0 V	1.5	-	-	1.5	-	1.5	-	V
	input voltage	V _{CC} = 3.0 V	2.1	-	-	2.1	-	2.1	-	V
		V _{CC} = 5.5 V	3.85	-	-	3.85	-	3.85	-	V
V_{IL}	LOW-level	V _{CC} = 2.0 V	-	-	0.5	-	0.5	-	0.5	V
	input voltage	V _{CC} = 3.0 V	-	-	0.9	-	0.9	-	0.9	V
		V _{CC} = 5.5 V	-	-	1.65	-	1.65	-	1.65	V
V _{OH}	HIGH-level	$V_I = V_{IH}$ or V_{IL}								
	output voltage	$I_O = -50 \mu A$; $V_{CC} = 2.0 \text{ V}$	1.9	2.0	-	1.9	-	1.9	-	V
		$I_O = -50 \mu A; V_{CC} = 3.0 \text{ V}$	2.9	3.0	-	2.9	-	2.9	-	V
		$I_O = -50 \mu A$; $V_{CC} = 4.5 \text{ V}$	4.4	4.5	-	4.4	-	4.4	-	V
		$I_{O} = -4.0 \text{ mA}; V_{CC} = 3.0 \text{ V}$	2.58	-	-	2.48	-	2.40	-	V
		$I_{O} = -8.0 \text{ mA}; V_{CC} = 4.5 \text{ V}$	3.94	-	-	3.80	-	3.70	-	V
V_{OL}	LOW-level	$V_I = V_{IH}$ or V_{IL}								
	output voltage	$I_O = 50 \mu A; V_{CC} = 2.0 V$	-	0	0.1	-	0.1	-	0.1	V
		$I_O = 50 \mu A; V_{CC} = 3.0 \text{ V}$	-	0	0.1	-	0.1	-	0.1	V
		$I_O = 50 \mu A$; $V_{CC} = 4.5 \text{ V}$	-	0	0.1	-	0.1	-	0.1	V
		$I_O = 4.0 \text{ mA}; V_{CC} = 3.0 \text{ V}$	-	-	0.36	-	0.44	-	0.55	V
		I_{O} = 8.0 mA; V_{CC} = 4.5 V	-	-	0.36	-	0.44	-	0.55	V

 Table 6.
 Static characteristics ...continued

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

Symbol	Parameter	Conditions		25 °C		-40 °C	to +85 °C	–40 °C t	o +125 °C	Unit
			Min	Тур	Max	Min	Max	Min	Max	
I _I	input leakage current	V _I = 5.5 V or GND; V _{CC} = 0 V to 5.5 V	-	-	0.1	-	1.0	-	2.0	μΑ
l _{OZ}	OFF-state output current	$V_I = V_{IH}$ or V_{IL} ; $V_O = V_{CC}$ or GND; $V_{CC} = 5.5 \text{ V}$	-	-	±0.25	-	±2.5	-	±10.0	μΑ
I _{CC}	supply current	$V_I = V_{CC}$ or GND; $I_O = 0$ A; $V_{CC} = 5.5 \text{ V}$	-	-	2.0	-	20	-	40	μΑ
Cı	input capacitance	$V_I = V_{CC}$ or GND	-	3	10	-	10	-	10	pF
Co	output capacitance		-	4	-	-	-	-	-	pF
74AHCT	126									
V_{IH}	HIGH-level input voltage	$V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$	2.0	-	-	2.0	-	2.0	-	V
V_{IL}	LOW-level input voltage	$V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$	-	-	8.0	-	0.8	-	0.8	V
V_{OH}	HIGH-level	$V_I = V_{IH}$ or V_{IL} ; $V_{CC} = 4.5 \text{ V}$								
	output voltage	$I_{O} = -50 \mu\text{A}$	4.4	4.5	-	4.4	-	4.4	-	V
		$I_{O} = -8.0 \text{ mA}$	3.94	-	-	3.80	-	3.70	-	V
V_{OL}	LOW-level	$V_I = V_{IH}$ or V_{IL} ; $V_{CC} = 4.5 \text{ V}$								
	output voltage	Ι _Ο = 50 μΑ	-	0	0.1	-	0.1	-	0.1	V
		$I_0 = 8.0 \text{ mA}$	-	-	0.36	-	0.44	-	0.55	V
l _l	input leakage current	$V_1 = 5.5 \text{ V or GND};$ $V_{CC} = 0 \text{ V to } 5.5 \text{ V}$	-	-	0.1	-	1.0	-	2.0	μΑ
l _{OZ}	OFF-state output current	$V_I = V_{IH}$ or V_{IL} ; $V_O = V_{CC}$ or GND per input pin; other inputs at V_{CC} or GND; $I_O = 0$ A; $V_{CC} = 5.5 \text{ V}$	-	-	±0.25	-	±2.5	-	±10.0	μА
I _{CC}	supply current	$V_I = V_{CC}$ or GND; $I_O = 0$ A; $V_{CC} = 5.5 \text{ V}$	-	-	2.0	-	20	-	40	μΑ
Δl _{CC}	additional supply current	per input pin; $V_I = V_{CC} - 2.1 \text{ V}$; other pins at V_{CC} or GND; $I_O = 0 \text{ A}$; $V_{CC} = 4.5 \text{ V}$ to 5.5 V	-	-	1.35	-	1.5	-	1.5	mA
C _I	input capacitance	$V_I = V_{CC}$ or GND	-	3	10	-	10	-	10	pF
Co	output capacitance		-	4	-	-	-	-	-	pF

10. Dynamic characteristics

Table 7. Dynamic characteristics

Voltages are referenced to GND (ground = 0 V); for test circuit see Figure 8.

Symbol	Parameter	Conditions			25 °C		-40 °C	to +85 °C	-40 °C	to +125 °C	Unit
				Min	Typ[1]	Max	Min	Max	Min	Max	
74AHC1	26										
t _{pd}	propagation	nA to nY; see Figure 6	[2]								
	delay	$V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$									
		C _L = 15 pF		-	4.7	8.0	1.0	9.5	1.0	10.0	ns
		C _L = 50 pF		-	6.7	11.5	1.0	13.0	1.0	14.5	ns
		$V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$									
		C _L = 15 pF		-	3.3	5.5	1.0	6.5	1.0	7.0	ns
		$C_L = 50 \text{ pF}$		-	4.7	7.5	1.0	8.5	1.0	9.5	ns
t _{en}	enable time	nOE to nY; see Figure 7	[3]								
		$V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$									
		C _L = 15 pF		-	5.3	8.0	1.0	9.5	1.0	10.0	ns
		$C_L = 50 \text{ pF}$		-	7.6	11.5	1.0	13.0	1.0	14.5	ns
		$V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$									
		C _L = 15 pF		-	3.6	5.3	1.0	6.1	1.0	7.0	ns
		$C_{L} = 50 \text{ pF}$		-	5.1	7.6	1.0	8.7	1.0	9.5	ns
t _{dis} disable time		nOE to nY; see Figure 7	[4]								
		$V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$									
		C _L = 15 pF		-	6.6	9.7	1.0	11.5	1.0	12.5	ns
		C _L = 50 pF		-	9.4	13.2	1.0	15.0	1.0	16.5	ns
		$V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$									
		C _L = 15 pF		-	4.7	6.8	1.0	8.0	1.0	8.5	ns
		$C_L = 50 \text{ pF}$		-	6.7	8.8	1.0	10.0	1.0	11.0	ns
C _{PD}	power dissipation capacitance	$f_i = 1 \text{ MHz};$ $V_I = \text{GND to } V_{CC}$	<u>[5]</u>	-	10	-	-	-	-	-	pF
74AHCT	126; $V_{CC} = 4.5$	5 V to 5.5 V									
t_{pd}		nA to nY; see Figure 6	[2]								
	delay	$C_L = 15 pF$		-	3.0	5.5	1.0	6.5	1.0	7.0	ns
		$C_L = 50 pF$		-	4.3	7.5	1.0	8.5	1.0	9.5	ns
t _{en}	enable time	nOE to nY; see Figure 7	[3]								
		C _L = 15 pF		-	3.3	5.1	1.0	6.0	1.0	6.5	ns
		C _L = 50 pF		-	4.7	7.1	1.0	8.0	1.0	9.0	ns
t _{dis}	disable time	nOE to nY; see Figure 7	<u>[4]</u>								
		$C_L = 15 pF$		-	4.8	6.8	1.0	8.0	1.0	8.5	ns
		$C_L = 50 \text{ pF}$		-	6.9	8.9	1.0	10.0	1.0	11.5	ns
C_{PD}	power dissipation capacitance	f_i = 1 MHz; V_I = GND to V_{CC}	[5]	-	12	-	-	-	-	-	pF

- [1] Typical values are measured at nominal supply voltage ($V_{CC} = 3.3 \text{ V}$ and $V_{CC} = 5.0 \text{ V}$).
- [2] t_{pd} is the same as t_{PLH} and t_{PHL}.
- [3] t_{en} is the same as t_{PZL} and t_{PZH} .
- [4] t_{dis} is the same as t_{PLZ} and t_{PHZ} .
- [5] 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;

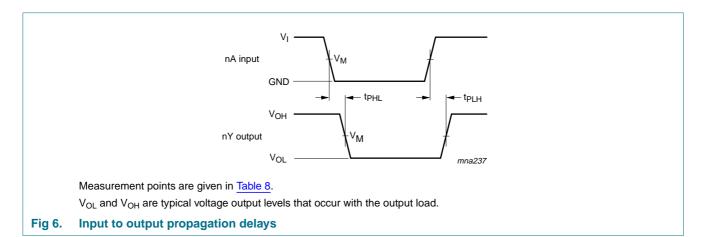
C_L = output load capacitance in pF;

V_{CC} = supply voltage in V;

N = number of inputs switching;

 $\Sigma(C_L \times V_{CC}^2 \times f_o)$ = sum of the outputs.

11. Waveforms



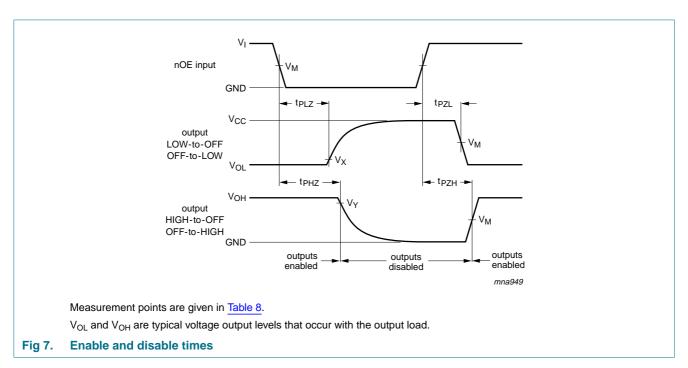
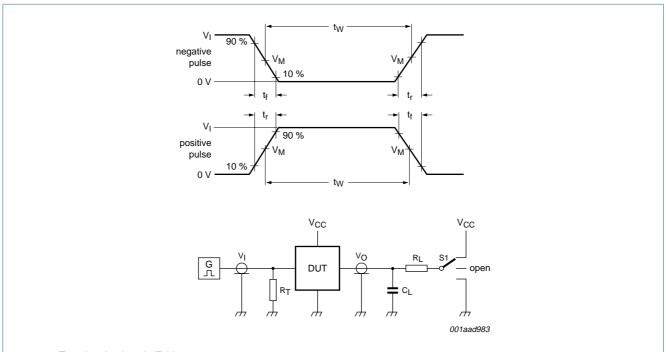


Table 8. Measurement points

Туре	Input	Output		
	V _M	V _M	V _X	V _Y
74AHC126	$0.5 \times V_{CC}$	$0.5 \times V_{CC}$	$V_{OL} + 0.3 V$	V _{OH} – 0.3 V
74AHCT126	1.5 V	$0.5 \times V_{CC}$	V _{OL} + 0.3 V	V _{OH} – 0.3 V



Test data is given in Table 9.

Definitions test circuit:

 R_T = termination resistance should be equal to output impedance Z_o of the pulse generator.

 C_L = load capacitance including jig and probe capacitance.

R_L = load resistance.

S1 = test selection switch.

Fig 8. Test circuitry for measuring switching times

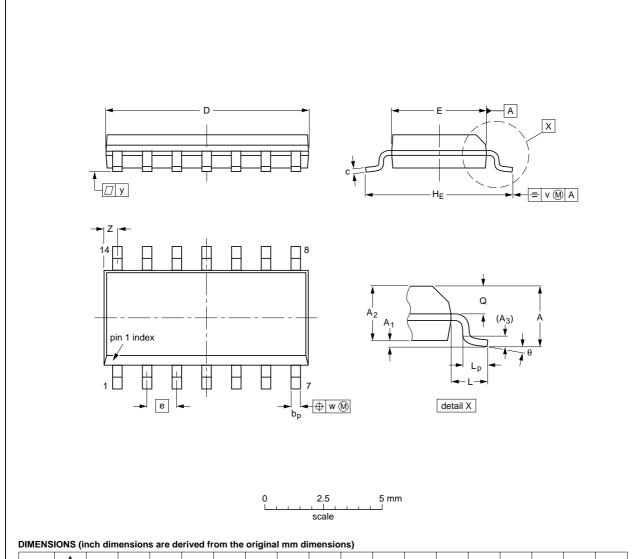
Table 9. Test data

Туре	Input		Load		S1 position			
	VI	t _r , t _f	CL	R _L	t _{PHL} , t _{PLH}	t _{PZH} , t _{PHZ}	t _{PZL} , t _{PLZ}	
74AHC126	V_{CC}	≤ 3.0 ns	15 pF, 50 pF	1 kΩ	open	GND	V _{CC}	
74AHCT126	3.0 V	≤ 3.0 ns	15 pF, 50 pF	1 kΩ	open	GND	V _{CC}	

12. Package outline

SO14: plastic small outline package; 14 leads; body width 3.9 mm

SOT108-1



UNIT	A max.	A ₁	A ₂	A ₃	bp	С	D ⁽¹⁾	E ⁽¹⁾	е	HE	L	Lp	Q	v	w	у	z ⁽¹⁾	θ
mm	1.75	0.25 0.10	1.45 1.25	0.25	0.49 0.36	0.25 0.19	8.75 8.55	4.0 3.8	1.27	6.2 5.8	1.05	1.0 0.4	0.7 0.6	0.25	0.25	0.1	0.7 0.3	8°
inches	0.069	0.010 0.004	0.057 0.049	0.01		0.0100 0.0075	0.35 0.34	0.16 0.15	0.05	0.244 0.228	0.041	0.039 0.016	0.028 0.024	0.01	0.01	0.004	0.028 0.012	0°

Note

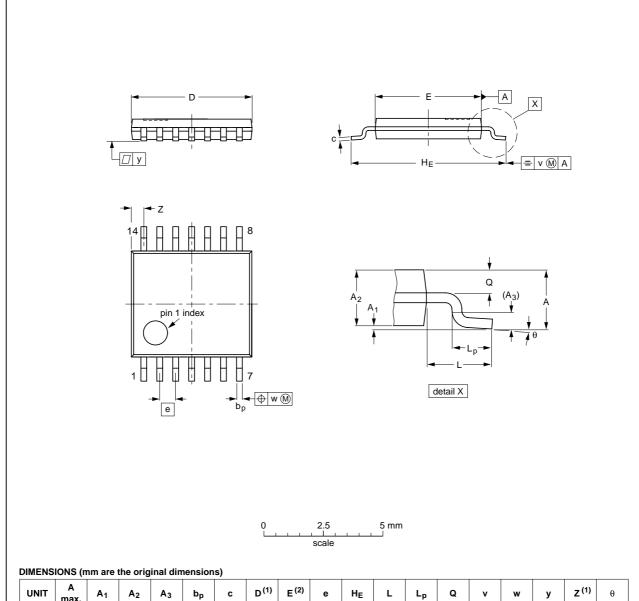
1. Plastic or metal protrusions of 0.15 mm (0.006 inch) maximum per side are not included.

OUTLINE		EUROPEAN	ISSUE DATE			
VERSION	IEC	JEDEC	JEITA		PROJECTION	ISSUE DATE
SOT108-1	076E06	MS-012				99-12-27 03-02-19

Fig 9. Package outline SOT108-1 (SO14)

TSSOP14: plastic thin shrink small outline package; 14 leads; body width 4.4 mm

SOT402-1



UNIT	A max.	A ₁	A ₂	A ₃	bp	С	D ⁽¹⁾	E ⁽²⁾	е	HE	L	Lp	Q	v	w	у	z ⁽¹⁾	θ
mm	1.1	0.15 0.05	0.95 0.80	0.25	0.30 0.19	0.2 0.1	5.1 4.9	4.5 4.3	0.65	6.6 6.2	1	0.75 0.50	0.4 0.3	0.2	0.13	0.1	0.72 0.38	8° 0°

Notes

- 1. Plastic or metal protrusions of 0.15 mm maximum per side are not included.
- 2. Plastic interlead protrusions of 0.25 mm maximum per side are not included.

	OUTLINE		REFER	EUROPEAN	ISSUE DATE			
	VERSION	IEC	JEDEC	JEITA		PROJECTION	ISSUE DATE	
	SOT402-1		MO-153				99-12-27 03-02-18	
- 1							00 02 10	

Fig 10. Package outline SOT402-1 (TSSOP14)

DHVQFN14: plastic dual in-line compatible thermal enhanced very thin quad flat package; no leads; 14 terminals; body 2.5 x 3 x 0.85 mm SOT762-1

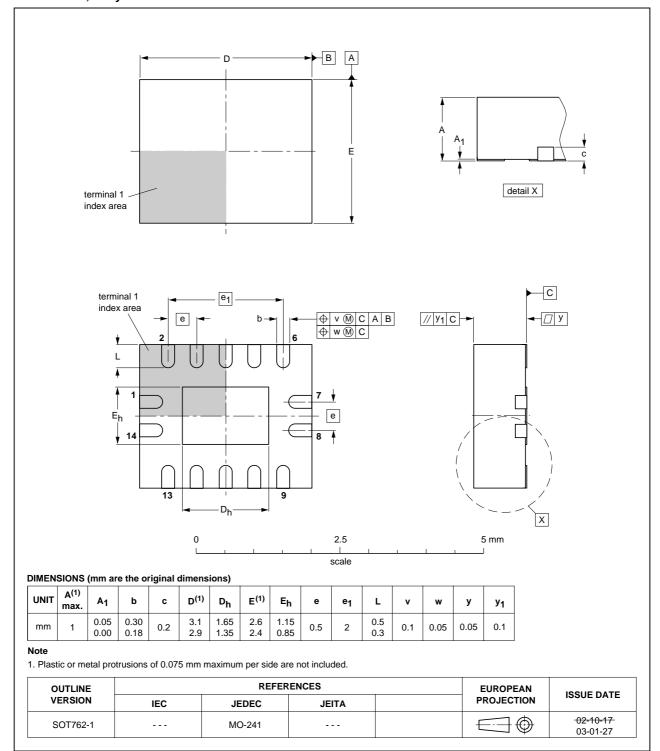


Fig 11. Package outline SOT762-1 (DHVQFN14)

13. Abbreviations

Table 10. Abbreviations

Acronym	Description
CDM	Charged Device Model
CMOS	Complementary Metal-Oxide Semiconductor
DUT	Device Under Test
ESD	ElectroStatic Discharge
HBM	Human Body Model
LSTTL	Low-power Schottky Transistor-Transistor Logic
MM	Machine Model

14. Revision history

Table 11. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
74AHC_AHCT126_4	20090812	Product data sheet	-	74AHC_AHCT126_3
Modifications:	 Added type 	numbers 74AHC126BQ and 7	4AHCT126BQ (DHV	(QFN14 package)
74AHC_AHCT126_3	20080425	Product data sheet	-	74AHC_AHCT126_2
74AHC_AHCT126_2	19990929	Product specification	-	74AHC_AHCT126_N_1
74AHC_AHCT126_N_1	19990112	Preliminary specification	-	-

15. Legal information

15.1 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.

15.2 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.

15.3 Disclaimers

General — 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.

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 medical, military, aircraft, space or life support 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 accepts 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.

Limiting values — Stress above one or more limiting values (as defined in the Absolute Maximum Ratings System of IEC 60134) may cause permanent damage to the device. Limiting values are stress ratings only and operation of the device at these or any other conditions above those given in the Characteristics sections of this document is not implied. Exposure to limiting values for extended periods may affect device reliability.

Terms and conditions of 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, including those pertaining to warranty, intellectual property rights infringement and limitation of liability, unless explicitly otherwise agreed to in writing by NXP Semiconductors. In case of any inconsistency or conflict between information in this document and such terms and conditions, the latter will prevail.

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.

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 national authorities.

15.4 Trademarks

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

16. Contact information

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

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

17. Contents

1	General description
2	Features
3	Ordering information 2
4	Functional diagram 2
5	Pinning information
5.1	Pinning
5.2	Pin description
6	Functional description 4
7	Limiting values 4
8	Recommended operating conditions 5
9	Static characteristics 5
10	Dynamic characteristics
11	Waveforms
12	Package outline
13	Abbreviations
14	Revision history
15	Legal information
15.1	Data sheet status
15.2	Definitions
15.3	Disclaimers
15.4	Trademarks14
16	Contact information 14
17	Contents

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

