74AHC125; 74AHCT125

Quad buffer/line driver; 3-state

Rev. 04 — 11 January 2008

Product data sheet

1. General description

The 74AHC125; 74AHCT125 is a high-speed Si-gate CMOS device and is pin compatible with Low-power Schottky TTL (LSTTL). They are specified in compliance with JEDEC standard JESD7-A.

The 74AHC125; 74AHCT125 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 HIGH at nOE causes the outputs to assume a high-impedance OFF-state.

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

2. Features

- Balanced propagation delays
- All inputs have a Schmitt-trigger action
- Inputs accepts voltages higher than V_{CC}
- For 74AHC125 only: operates with CMOS input levels
- For 74AHCT125 only: operates with TTL input levels
- 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

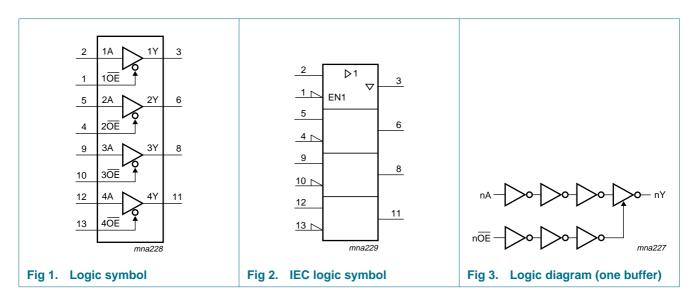
3. Ordering information

Table 1. Ordering information

| Type number | Package | | | | | | | | | | |
|-------------|-------------------|----------|--|----------|--|--|--|--|--|--|--|
| | Temperature range | Name | Description | Version | | | | | | | |
| 74AHC125D | –40 °C to +125 °C | SO14 | plastic small outline package; 14 leads; | SOT108-1 | | | | | | | |
| 74AHCT125D | | | body width 3.9 mm | | | | | | | | |
| 74AHC125PW | –40 °C to +125 °C | TSSOP14 | plastic thin shrink small outline package; 14 leads; | SOT402-1 | | | | | | | |
| 74AHCT125PW | | | body width 4.4 mm | | | | | | | | |
| 74AHC125BQ | –40 °C to +125 °C | DHVQFN14 | 1 | SOT762-1 | | | | | | | |
| 74AHCT125BQ | _ | | thin quad flat package; no leads; 14 terminals; body $2.5 \times 3 \times 0.85$ mm | | | | | | | | |

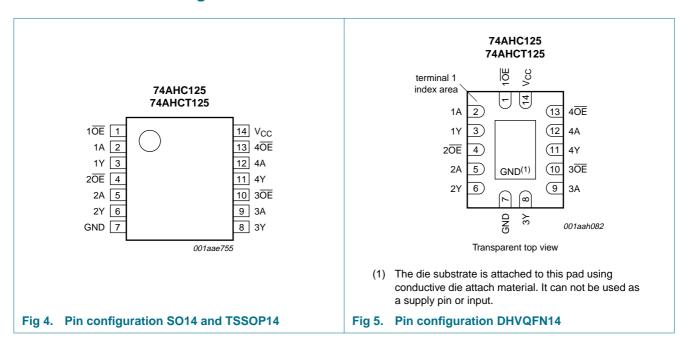


4. Functional diagram



5. Pinning information

5.1 Pinning



5.2 Pin description

Table 2. Pin description

| Symbol | Pin | Description |
|-----------------|-----|----------------------------------|
| 1 OE | 1 | output enable input (active LOW) |
| 1A | 2 | data input |
| 1Y | 3 | data output |
| 2 OE | 4 | output enable input (active LOW) |
| 2A | 5 | data input |
| 2Y | 6 | data output |
| GND | 7 | ground (0 V) |
| 3Y | 8 | data output |
| 3A | 9 | data input |
| 3 OE | 10 | output enable input (active LOW) |
| 4Y | 11 | data output |
| 4A | 12 | data input |
| 4 OE | 13 | output enable input (active LOW) |
| V_{CC} | 14 | supply voltage |
| | | |

6. Functional description

Table 3. Function table [1]

| Control | Input | Output |
|---------|-------|--------|
| nŌĒ | nA | nY |
| L | L | L |
| | Н | Н |
| Н | X | Z |

^[1] H = HIGH voltage level;

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 V | <u>[1]</u> –20 | - | mA |
| I _{OK} | output clamping current | $V_O < -0.5 \text{ V or } V_O > V_{CC} + 0.5 \text{ V}$ | [1] _ | ±20 | mA |
| I _O | output current | $V_{O} = -0.5 \text{ V to } (V_{CC} + 0.5 \text{ V})$ | - | ±25 | mA |
| I _{CC} | supply current | | - | 75 | mA |
| I_{GND} | ground current | | -75 | - | mA |

L = LOW voltage level;

X = don't care;

Z = high-impedance OFF-state.

 Table 4.
 Limiting values ...continued

In accordance with the Absolute Maximum Rating System (IEC 60134). Voltages are referenced to GND (ground = 0 V).

| Symbol | Parameter | Conditions | Min | Max | Unit |
|------------------|-------------------------|-------------------------------|--------------|------|------|
| T _{stg} | storage temperature | | -65 | +150 | °C |
| P _{tot} | total power dissipation | T_{amb} = -40 °C to +125 °C | | | |
| | SO14 package | | [2] - | 500 | mW |
| | TSSOP14 package | | <u>[3]</u> - | 500 | mW |
| | DHVQFN14 package | | <u>[4]</u> _ | 500 | mW |

- [1] The input and output voltage ratings may be exceeded if the input and output current ratings are observed.
- [2] P_{tot} derates linearly with 8 mW/K above 70 °C.
- [3] Ptot derates linearly with 5.5 mW/K above 60 °C.
- [4] Ptot derates linearly with 4.5 mW/K above 60 °C.

8. Recommended operating conditions

Table 5. Recommended operating conditions

Voltages are referenced to GND (ground = 0 V).

| Symbol | ol Parameter Conditions | | 74AHC125 | | | 74AHCT125 | | | Unit |
|------------------|-------------------------|--|----------|-----|----------|-----------|-----|----------|------|
| | | | Min | Тур | Max | Min | Тур | Max | |
| V_{CC} | supply voltage | | 2.0 | 5.0 | 5.5 | 4.5 | 5.0 | 5.5 | V |
| V_{I} | input voltage | | 0 | - | 5.5 | 0 | - | 5.5 | V |
| Vo | output voltage | | 0 | - | V_{CC} | 0 | - | V_{CC} | V |
| T _{amb} | ambient temperature | | -40 | +25 | +125 | -40 | +25 | +125 | °C |
| Δt/ΔV | input transition rise | V_{CC} = 3.3 V \pm 0.3 V | - | - | 100 | - | - | - | ns/V |
| | and fall rate | $V_{CC} = 5.0 \text{ V} \pm 0.5 \text{ V}$ | - | - | 20 | - | - | 20 | ns/V |

9. Static characteristics

Table 6. Static characteristics

Voltages are referenced to GND (ground = 0 V).

| Symbol Parameter | | Conditions | | 25 °C | | -40 °C to +85 °C | | -40 °C to | Unit | |
|------------------|---------------|--------------------------|------|-------|------|------------------|------|-----------|------|---|
| | | | Min | Тур | Max | Min | Max | Min | Max | |
| For type | 74AHC125 | | | | | | | | | |
| V_{IH} | HIGH-level | $V_{CC} = 2.0 \text{ V}$ | 1.5 | - | - | 1.5 | - | 1.5 | - | V |
| | input voltage | $V_{CC} = 3.0 \text{ V}$ | 2.1 | - | - | 2.1 | - | 2.1 | - | V |
| | | $V_{CC} = 5.5 \text{ V}$ | 3.85 | - | - | 3.85 | - | 3.85 | - | V |
| V_{IL} | LOW-level | $V_{CC} = 2.0 \text{ V}$ | - | - | 0.5 | - | 0.5 | - | 0.5 | V |
| | input voltage | $V_{CC} = 3.0 \text{ V}$ | - | - | 0.9 | - | 0.9 | - | 0.9 | V |
| | | V _{CC} = 5.5 V | - | - | 1.65 | - | 1.65 | - | 1.65 | V |

Table 6. Static characteristics ...continued 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 | |
| V _{OH} | HIGH-level | $V_I = V_{IH}$ or V_{IL} | | | | | ' | | | |
| | output voltage | $I_O = -50 \mu\text{A}; V_{CC} = 2.0 \text{V}$ | 1.9 | 2.0 | - | 1.9 | - | 1.9 | - | V |
| | | $I_O = -50 \mu A; V_{CC} = 3.0 V$ | 2.9 | 3.0 | - | 2.9 | - | 2.9 | - | V |
| | | $I_O = -50 \mu A; V_{CC} = 4.5 V$ | 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 | - | - | 3.8 | - | 3.70 | - | V |
| V_{OL} | LOW-level | $V_I = V_{IH}$ or V_{IL} | | | | | | | | |
| | output voltage | $I_O = 50 \mu A; V_{CC} = 2.0 \text{ V}$ | - | 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 |
| | | $I_O = 50 \mu A; V_{CC} = 4.5 V$ | - | 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 |
| | | $I_{O} = 8.0 \text{ mA}; V_{CC} = 4.5 \text{ V}$ | - | - | 0.36 | - | 0.44 | - | 0.55 | V |
| 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 |
| lı | input leakage current | $V_{I} = 5.5 \text{ V or GND};$ $V_{CC} = 0 \text{ V to } 5.5 \text{ V}$ | - | - | 0.1 | - | 1.0 | - | 2.0 | μΑ |
| СС | 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 | | - | 3.0 | 10 | - | 10 | - | 10 | pF |
| Co | output capacitance | | - | 4.0 | - | - | - | - | - | pF |
| For type | 74AHCT125 | | | | | | | | | |
| 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 |
| √ _{OH} | HIGH-level | $V_I = V_{IH}$ or V_{IL} ; $V_{CC} = 4.5 \text{ V}$ | | | | | | | | |
| | output voltage | $I_{O} = -50 \mu A$ | 4.4 | 4.5 | - | 4.4 | - | 4.4 | - | V |
| | | $I_0 = -8.0 \text{ mA}$ | 3.94 | - | - | 3.8 | - | 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 |
| OZ | OFF-state output current | per input pin; $V_I = V_{IH}$ or V_{IL} ; $V_{CC} = 5.5 \text{ V}$; $I_O = 0 \text{ A}$ | - | - | ±0.25 | - | ±2.5 | - | ±10.0 | μΑ |
| | | $V_O = V_{CC}$ or GND; other pins at V_{CC} or GND | | | | | | | | |
| I | input leakage current | $V_I = 5.5 \text{ V or GND};$ $V_{CC} = 0 \text{ V to } 5.5 \text{ V}$ | - | - | 0.1 | - | 1.0 | - | 2.0 | μΑ |
| lcc | supply current | $V_I = V_{CC}$ or GND; $I_O = 0$ A; $V_{CC} = 5.5 \text{ V}$ | - | - | 2.0 | - | 20 | - | 40 | μΑ |

Table 6. Static characteristics ...continued Voltages are referenced to GND (ground = 0 V).

| Symbol Parameter | | Conditions | | 25 °C | | -40 °C to +85 °C | | -40 °C to +125 °C | | Unit |
|------------------|---------------------------|--|-----|-------|------|------------------|-----|-------------------|-----|------|
| | | | Min | Тур | Max | Min | Max | Min | Max | |
| ΔI_{CC} | additional supply current | per input pin; $V_{I} = V_{CC} - 2.1 \text{ V}; I_{O} = 0 \text{ A};$ other pins at V_{CC} or GND; $V_{CC} = 4.5 \text{ V}$ to 5.5 V | - | - | 1.35 | - | 1.5 | - | 1.5 | mA |
| C _I | input capacitance | | - | 3.0 | 10 | - | 10 | - | 10 | pF |
| Co | output capacitance | | - | 4.0 | - | - | - | - | - | pF |

10. Dynamic characteristics

Table 7. Dynamic characteristics *GND = 0 V; For test circuit see Figure 8.*

| Symbol | Parameter | Conditions | | | 25 °C | | -40 °C | to +85 °C | -40 °C t | o +125 °C | Unit |
|------------------|-------------------------------------|--|-----|-----|--------|------|--------|-----------|----------|-----------|------|
| | | | | Min | Typ[1] | Max | Min | Max | Min | Max | |
| For type | 74AHC125 | ' | | | | | | | | ' | |
| t _{pd} | propagation | nA to nY; see Figure 6 | [2] | | | | | | | | |
| | delay | $V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$ | | | | | | | | | |
| | | $C_{L} = 15 \text{ pF}$ | | - | 4.4 | 8.0 | 1.0 | 9.5 | 1.0 | 11.5 | ns |
| | | $C_L = 50 pF$ | | - | 6.2 | 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 | | - | 3.0 | 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 | [2] | | | | | | | | |
| | | $V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$ | | | | | | | | | |
| | | C _L = 15 pF | | - | 4.7 | 8.0 | 1.0 | 9.5 | 1.0 | 11.5 | ns |
| | | $C_L = 50 pF$ | | - | 6.8 | 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 | 5.1 | 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 | [2] | | | | | | | | |
| | | $V_{CC} = 3.0 \text{ V to } 3.6 \text{ V}$ | | | | | | | | | |
| | | C _L = 15 pF | | - | 6.7 | 9.7 | 1.0 | 11.5 | 1.0 | 12.5 | ns |
| | | $C_L = 50 pF$ | | - | 9.6 | 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 | | - | 4.8 | 6.8 | 1.0 | 8.0 | 1.0 | 8.5 | ns |
| | | $C_L = 50 pF$ | | - | 6.8 | 8.8 | 1.0 | 10.0 | 1.0 | 11.0 | ns |
| C_{PD} | power dissipation capacitance | C_L = 50 pF; f_i = 1 MHz; V_I = GND to V_{CC} | [3] | - | 10 | - | - | - | - | - | pF |

Table 7. Dynamic characteristics ...continued GND = 0 V; For test circuit see Figure 8.

| Symbol | Parameter | Conditions | | | 25 °C | | -40 °C | to +85 °C | -40 °C t | o +125 °C | Unit |
|------------------|-------------------------------------|--|-----|-----|--------|-----|--------|-----------|----------|-----------|------|
| | | | | Min | Typ[1] | Max | Min | Max | Min | Max | |
| For type | 74AHCT125 | | | | | | | | ı | | |
| t _{pd} | propagation | nA to nY; see Figure 6 | [2] | | | | | | | | |
| | delay | $V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$ | | | | | | | | | |
| | | $C_{L} = 15 \text{ pF}$ | | - | 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 | | | | | | | | | |
| | | $V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$ | | | | | | | | | |
| | | $C_{L} = 15 \text{ pF}$ | | - | 3.4 | 5.1 | 1.0 | 6.0 | 1.0 | 6.5 | ns |
| | | $C_L = 50 pF$ | | - | 4.9 | 7.3 | 1.0 | 8.3 | 1.0 | 9.5 | ns |
| t _{dis} | disable time | nOE to nY; see Figure 7 | [2] | | | | | | | | |
| | | $V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$ | | | | | | | | | |
| | | $C_{L} = 15 \text{ pF}$ | | - | 4.5 | 6.8 | 1.0 | 8.0 | 1.0 | 8.5 | ns |
| | | $C_{L} = 50 \text{ pF}$ | | - | 6.5 | 8.8 | 1.0 | 10.0 | 1.0 | 11.0 | ns |
| C_{PD} | power dissipation capacitance | $C_L = 50 \text{ pF}; f_i = 1 \text{ MHz};$ $V_I = \text{GND to } V_{CC}$ | [3] | - | 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} .

 t_{en} is the same as t_{PZL} and t_{PZH} .

 t_{dis} is the same as t_{PLZ} and t_{PHZ} .

[3] C_{PD} is used to determine the dynamic power dissipation (P_D in μW).

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

 f_i = input frequency in MHz, f_o = output frequency in MHz

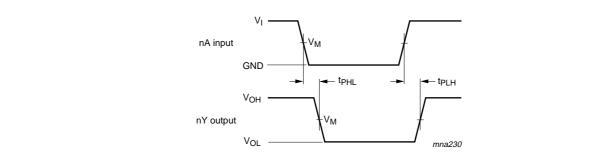
 C_L = output load capacitance in pF

V_{CC} = supply voltage in Volts

N = number of inputs switching

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

11. Waveforms



Measurement points are given in Table 8.

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

Fig 6. Propagation delay input (nA) to output (nY)

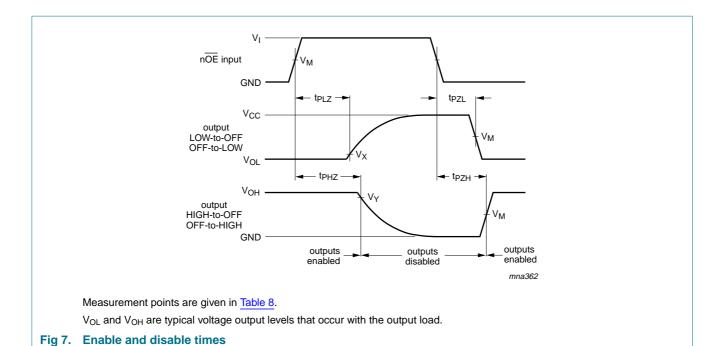
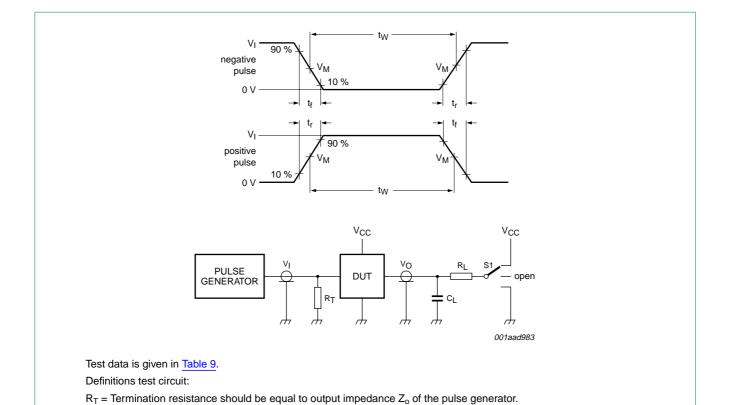


Table 8. Measurement points

| Туре | Input | Output | Output | | | | | | |
|-----------|--------------------|--------------------|-------------------------|-------------------------|--|--|--|--|--|
| | V _M | V _M | V _X | V _Y | | | | | |
| 74AHC125 | 0.5V _{CC} | 0.5V _{CC} | V _{OL} + 0.3 V | V _{OL} – 0.3 V | | | | | |
| 74AHCT125 | 1.5 V | 0.5V _{CC} | V _{OL} + 0.3 V | V _{OL} – 0.3 V | | | | | |



R_L = Load resistance. S1 = Test selection switch.

Fig 8. Load circuit for switching times

C_L = Load capacitance including jig and probe capacitance.

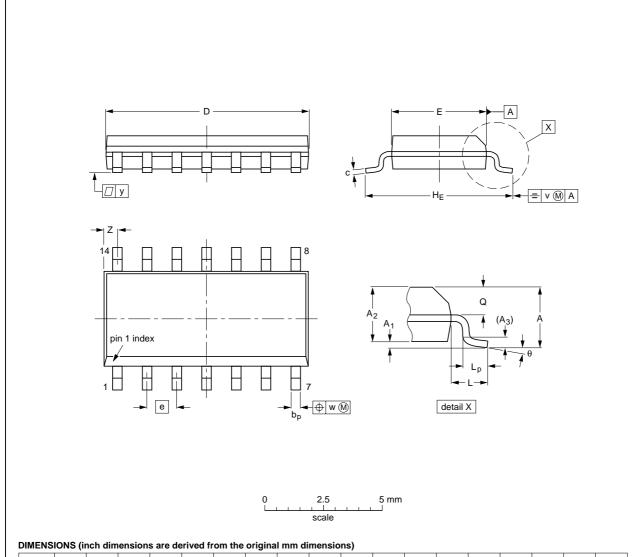
Table 9. Test data

| Туре | Input | | Load | | S1 position | S1 position | | | | |
|-----------|----------|---------------------------------|----------------|----------------|-------------------------------------|-------------------------------------|-------------------------------------|--|--|--|
| | VI | t _r , t _f | C _L | R _L | t _{PHL} , t _{PLH} | t _{PZH} , t _{PHZ} | t _{PZL} , t _{PLZ} | | | |
| 74AHC125 | V_{CC} | ≤ 3.0 ns | 15 pF, 50 pF | 1 kΩ | open | GND | V_{CC} | | | |
| 74AHCT125 | 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 | 1 | 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

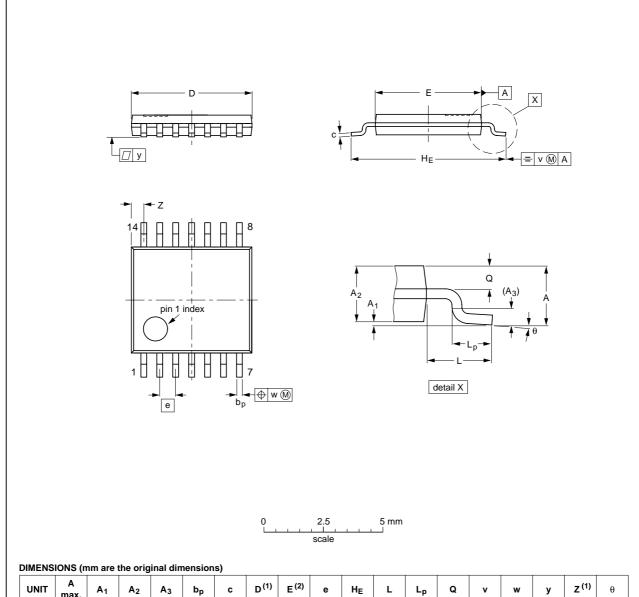
1. Plastic or metal protrusions of 0.15 mm (0.006 inch) maximum per side are not included.

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

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

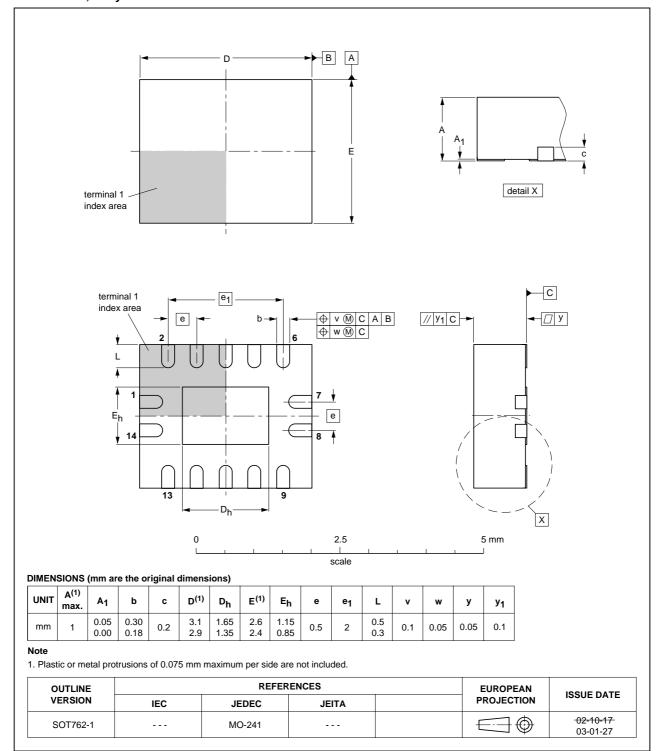


Fig 11. Package outline SOT762-1 (DHVQFN14)

13. Abbreviations

Table 10. Abbreviations

| Acronym | Description |
|---------|--|
| CMOS | Complementary Metal Oxide Semiconductor |
| LSTTL | Low-power Schottky Transistor-Transistor Logic |
| ESD | ElectroStatic Discharge |
| HBM | Human Body Model |
| MM | Machine Model |
| CDM | Charge-Device Model |
| TTL | Transistor-Transistor Logic |

14. Revision history

Table 11. Revision history

| Document ID | Release date | Data sheet status | Change notice | Supersedes |
|-------------------|-----------------------------------|---|------------------------|-----------------------|
| 74AHC_AHCT125_4 | 20080111 | Product data sheet | - | 74AHC_AHCT125_3 |
| Modifications: | | of this data sheet has been f NXP Semiconductors. | redesigned to comply v | vith the new identity |
| | Legal texts I | have been adapted to the n | ew company name whe | re appropriate. |
| | Section 3: D | HVQFN14 package added | | |
| | • Section 7: d | erating values added for DI | HVQFN14 package. | |
| | • Section 12: | outline drawing added for D | HVQFN14 package. | |
| 74AHC_AHCT125_3 | 20060324 | Product data sheet | - | 74AHC_AHCT125_2 |
| 74AHC_AHCT125_2 | 19990927 | Product specification | - | 74AHC_AHCT125_N_1 |
| 74AHC_AHCT125_N_1 | 19990111 | Product specification | - | - |
| | | | | |

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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.

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