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Kind regards,

Team Nexperia

# 74AHC2G126; 74AHCT2G126

Dual buffer/line driver; 3-state

Rev. 7 — 6 May 2013

Product data sheet

## 1. General description

The 74AHC2G126 and 74AHCT2G126 are high-speed Si-gate CMOS devices. They provide a dual non-inverting buffer/line driver with 3-state output. The 3-state output is controlled by the output enable input (nOE). A LOW at nOE causes the output to assume a high-impedance OFF-state.

The AHC device has CMOS input switching levels and supply voltage range 2 V to 5.5 V.

The AHCT device has TTL input switching levels and supply voltage range 4.5 V to 5.5 V.

## 2. Features and benefits

- Symmetrical output impedance
- High noise immunity
- Low power dissipation
- Balanced propagation delays
- Multiple package options
- ESD protection:
  - ◆ HBM JESD22-A114E: exceeds 2000 V
  - ◆ MM JESD22-A115-A: exceeds 200 V
  - ◆ CDM JESD22-C101C: exceeds 1000 V
- Specified from -40 °C to +125 °C

## 3. Ordering information

Table 1. Ordering information

| Type number                   | Package           |        |  | Version  |
|-------------------------------|-------------------|--------|--|----------|
|                               | Temperature range | Name   | Description  |          |
| 74AHC2G126DP<br>74AHCT2G126DP | -40 °C to +125 °C | TSSOP8 | plastic thin shrink small outline package; 8 leads; body width 3 mm; lead length 0.5 mm  | SOT505-2 |
| 74AHC2G126DC<br>74AHCT2G126DC | -40 °C to +125 °C | VSSOP8 | plastic very thin shrink small outline package; 8 leads; body width 2.3 mm               | SOT765-1 |
| 74AHC2G126GD<br>74AHCT2G126GD | -40 °C to +125 °C | XSON8  | plastic extremely thin small outline package; no leads; 8 terminals; body 3 × 2 × 0.5 mm | SOT996-2 |



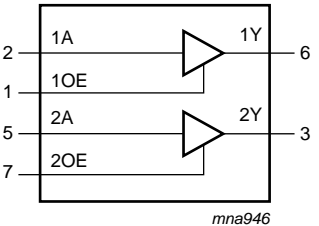
## 4. Marking

Table 2. Marking codes

| Type number   | Marking <sup>[1]</sup> |
|---------------|------------------------|
| 74AHC2G126DP  | A26                    |
| 74AHCT2G126DP | C26                    |
| 74AHC2G126DC  | A26                    |
| 74AHCT2G126DC | C26                    |
| 74AHC2G126GD  | A26                    |
| 74AHCT2G126GD | C26                    |

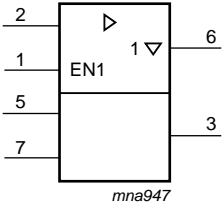
[1] The pin 1 indicator is located on the lower left corner of the device, below the marking code.

## 5. Functional diagram



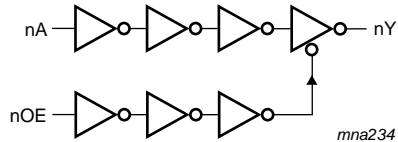
*mna946*

**Fig 1. Logic symbol**



*mna947*

**Fig 2. IEC logic symbol**

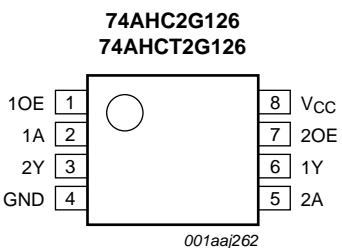


*mna234*

**Fig 3. Logic diagram (one buffer)**

## 6. Pinning information

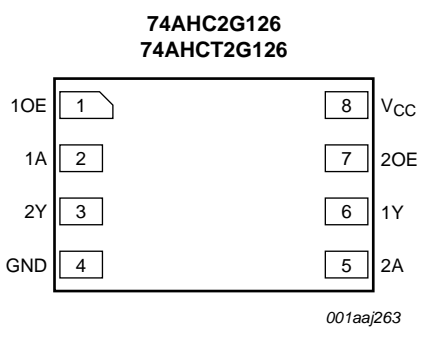
### 6.1 Pinning



**74AHC2G126**  
**74AHCT2G126**

*001aaaj262*

**Fig 4. Pin configuration SOT505-2 (TSSOP8) and SOT765-1 (VSSOP8)**



**74AHC2G126**  
**74AHCT2G126**

*001aaaj263*

Transparent top view

**Fig 5. Pin configuration SOT996-2 (XSON8)**

## 6.2 Pin description

**Table 3.** Pin description

| Symbol          | Pin  | Description                       |
|-----------------|------|-----------------------------------|
| 1OE, 2OE        | 1, 7 | output enable input (active HIGH) |
| 1A, 2A          | 2, 5 | data input                        |
| GND             | 4    | ground (0 V)                      |
| 1Y, 2Y          | 6, 3 | data output                       |
| V <sub>CC</sub> | 8    | supply voltage                    |

## 7. Functional description

**Table 4.** Function table<sup>[1]</sup>

| Control | Input | Output |
|---------|-------|--------|
| nOE     | nA    | nY     |
| H       | L     | L      |
| H       | H     | H      |
| L       | X     | Z      |

[1] H = HIGH voltage level; L = LOW voltage level; X = don't care; Z = high-impedance OFF-state.

## 8. Limiting values

**Table 5.** 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 <sub>CC</sub>  | supply voltage          |   | -0.5               | +7.0 | V    |
| V <sub>I</sub>   | input voltage           |   | -0.5               | +7.0 | V    |
| I <sub>IK</sub>  | input clamping current  | V <sub>I</sub> < -0.5 V   | <sup>[1]</sup> -20 | -    | mA   |
| I <sub>OK</sub>  | output clamping current | V <sub>O</sub> < -0.5 V or V <sub>O</sub> > V <sub>CC</sub> + 0.5 V | <sup>[1]</sup> -   | ±20  | mA   |
| I <sub>O</sub>   | output current          | -0.5 V < V <sub>O</sub> < V <sub>CC</sub> + 0.5 V                   | -                  | ±25  | mA   |
| I <sub>CC</sub>  | supply current          |   | -                  | 75   | mA   |
| I <sub>GND</sub> | ground current          |   | -75                | -    | mA   |
| T <sub>stg</sub> | storage temperature     |   | -65                | +150 | °C   |
| P <sub>tot</sub> | total power dissipation | T <sub>amb</sub> = -40 °C to +125 °C                                | <sup>[2]</sup> -   | 250  | mW   |

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

[2] For TSSOP8 package: above 55 °C the value of P<sub>tot</sub> derates linearly with 2.5 mW/K.  
 For VSSOP8 package: above 110 °C the value of P<sub>tot</sub> derates linearly with 8 mW/K.  
 For XSON8 package: above 118 °C the value of P<sub>tot</sub> derates linearly with 7.8 mW/K.

## 9. Recommended operating conditions

**Table 6. Recommended operating conditions**

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

| Symbol           | Parameter                           | Conditions                      | 74AHC2G126 |     |                 | 74AHCT2G126 |     |                 | Unit |
|------------------|-------------------------------------|---------------------------------|------------|-----|-----------------|-------------|-----|-----------------|------|
|                  |                                     |                                 | Min        | Typ | Max             | Min         | Typ | Max             |      |
| V <sub>CC</sub>  | supply voltage                      |                                 | 2.0        | 5.0 | 5.5             | 4.5         | 5.0 | 5.5             | V    |
| V <sub>I</sub>   | input voltage                       |                                 | 0          | -   | 5.5             | 0           | -   | 5.5             | V    |
| V <sub>O</sub>   | output voltage                      |                                 | 0          | -   | V <sub>CC</sub> | 0           | -   | V <sub>CC</sub> | V    |
| T <sub>amb</sub> | ambient temperature                 |                                 | -40        | +25 | +125            | -40         | +25 | +125            | °C   |
| Δt/ΔV            | input transition rise and fall rate | V <sub>CC</sub> = 3.3 V ± 0.3 V | -          | -   | 100             | -           | -   | -               | ns/V |
|                  |                                     | V <sub>CC</sub> = 5.0 V ± 0.5 V | -          | -   | 20              | -           | -   | 20              | ns/V |

## 10. Static characteristics

**Table 7. Static characteristics**

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   | Typ | Max  | Min              | Max  | Min               | Max  |      |
| <b>74AHC2G126</b> |                           |  |       |     |      |                  |      |                   |      |      |
| V <sub>IH</sub>   | HIGH-level input voltage  | V <sub>CC</sub> = 2.0 V  | 1.5   | -   | -    | 1.5              | -    | 1.5               | -    | V    |
|                   |                           | V <sub>CC</sub> = 3.0 V  | 2.1   | -   | -    | 2.1              | -    | 2.1               | -    | V    |
|                   |                           | V <sub>CC</sub> = 5.5 V  | 3.85  | -   | -    | 3.85             | -    | 3.85              | -    | V    |
| V <sub>IL</sub>   | LOW-level input voltage   | V <sub>CC</sub> = 2.0 V  | -     | -   | 0.5  | -                | 0.5  | -                 | 0.5  | V    |
|                   |                           | V <sub>CC</sub> = 3.0 V  | -     | -   | 0.9  | -                | 0.9  | -                 | 0.9  | V    |
|                   |                           | V <sub>CC</sub> = 5.5 V  | -     | -   | 1.65 | -                | 1.65 | -                 | 1.65 | V    |
| V <sub>OH</sub>   | HIGH-level output voltage | V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>                                    |       |     |      |                  |      |                   |      |      |
|                   |                           | I <sub>O</sub> = -50 μA; V <sub>CC</sub> = 2.0 V                                       | 1.9   | 2.0 | -    | 1.9              | -    | 1.9               | -    | V    |
|                   |                           | I <sub>O</sub> = -50 μA; V <sub>CC</sub> = 3.0 V                                       | 2.9   | 3.0 | -    | 2.9              | -    | 2.9               | -    | V    |
|                   |                           | I <sub>O</sub> = -50 μA; V <sub>CC</sub> = 4.5 V                                       | 4.4   | 4.5 | -    | 4.4              | -    | 4.4               | -    | V    |
|                   |                           | I <sub>O</sub> = -4.0 mA; V <sub>CC</sub> = 3.0 V                                      | 2.58  | -   | -    | 2.48             | -    | 2.40              | -    | V    |
|                   |                           | I <sub>O</sub> = -8.0 mA; V <sub>CC</sub> = 4.5 V                                      | 3.94  | -   | -    | 3.8              | -    | 3.70              | -    | V    |
| V <sub>OL</sub>   | LOW-level output voltage  | V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>                                    |       |     |      |                  |      |                   |      |      |
|                   |                           | I <sub>O</sub> = 50 μA; V <sub>CC</sub> = 2.0 V  | -     | 0   | 0.1  | -                | 0.1  | -                 | 0.1  | V    |
|                   |                           | I <sub>O</sub> = 50 μA; V <sub>CC</sub> = 3.0 V  | -     | 0   | 0.1  | -                | 0.1  | -                 | 0.1  | V    |
|                   |                           | I <sub>O</sub> = 50 μA; V <sub>CC</sub> = 4.5 V  | -     | 0   | 0.1  | -                | 0.1  | -                 | 0.1  | V    |
|                   |                           | I <sub>O</sub> = 4.0 mA; V <sub>CC</sub> = 3.0 V                                       | -     | -   | 0.36 | -                | 0.44 | -                 | 0.55 | V    |
|                   |                           | I <sub>O</sub> = 8.0 mA; V <sub>CC</sub> = 4.5 V                                       | -     | -   | 0.36 | -                | 0.44 | -                 | 0.55 | V    |
| I <sub>OZ</sub>   | OFF-state output current  | V <sub>I</sub> = V <sub>CC</sub> or GND; V <sub>CC</sub> = 5.5 V                       | -     | -   | 0.25 | -                | 2.5  | -                 | 10   | μA   |
| I <sub>I</sub>    | input leakage current     | V <sub>I</sub> = 5.5 V or GND; V <sub>CC</sub> = 0 V to 5.5 V                          | -     | -   | 0.1  | -                | 1.0  | -                 | 2.0  | μA   |
| I <sub>CC</sub>   | supply current            | V <sub>I</sub> = V <sub>CC</sub> or GND; I <sub>O</sub> = 0 A; V <sub>CC</sub> = 5.5 V | -     | -   | 1.0  | -                | 10   | -                 | 40   | μA   |

**Table 7. 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   | Typ | Max  | Min              | Max  | Min               | Max  |      |
| C <sub>I</sub>     | input capacitance         |  | -     | 1.5 | 10   | -                | 10   | -                 | 10   | pF   |
| <b>74AHCT2G126</b> |                           |  |       |     |      |                  |      |                   |      |      |
| V <sub>IH</sub>    | HIGH-level input voltage  | V <sub>CC</sub> = 4.5 V to 5.5 V   | 2.0   | -   | -    | 2.0              | -    | 2.0               | -    | V    |
| V <sub>IL</sub>    | LOW-level input voltage   | V <sub>CC</sub> = 4.5 V to 5.5 V   | -     | -   | 0.8  | -                | 0.8  | -                 | 0.8  | V    |
| V <sub>OH</sub>    | HIGH-level output voltage | V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub> ; V <sub>CC</sub> = 4.5 V  |       |     |      |                  |      |                   |      |      |
|                    |                           | I <sub>O</sub> = -50 μA  | 4.4   | 4.5 | -    | 4.4              | -    | 4.4               | -    | V    |
|                    |                           | I <sub>O</sub> = -8.0 mA   | 3.94  | -   | -    | 3.8              | -    | 3.70              | -    | V    |
| V <sub>OL</sub>    | LOW-level output voltage  | V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub> ; V <sub>CC</sub> = 4.5 V  |       |     |      |                  |      |                   |      |      |
|                    |                           | I <sub>O</sub> = 50 μA   | -     | 0   | 0.1  | -                | 0.1  | -                 | 0.1  | V    |
|                    |                           | I <sub>O</sub> = 8.0 mA  | -     | -   | 0.36 | -                | 0.44 | -                 | 0.55 | V    |
| I <sub>OZ</sub>    | OFF-state output current  | V <sub>I</sub> = V <sub>CC</sub> or GND;<br>V <sub>CC</sub> = 5.5 V  | -     | -   | 0.25 | -                | 2.5  | -                 | 10   | μA   |
| I <sub>I</sub>     | input leakage current     | V <sub>I</sub> = 5.5 V or GND;<br>V <sub>CC</sub> = 0 V to 5.5 V   | -     | -   | 0.1  | -                | 1.0  | -                 | 2.0  | μA   |
| I <sub>CC</sub>    | supply current            | V <sub>I</sub> = V <sub>CC</sub> or GND; I <sub>O</sub> = 0 A;<br>V <sub>CC</sub> = 5.5 V  | -     | -   | 1.0  | -                | 10   | -                 | 40   | μA   |
| ΔI <sub>CC</sub>   | additional supply current | per input pin; V <sub>I</sub> = 3.4 V;<br>other inputs at V <sub>CC</sub> or GND;<br>I <sub>O</sub> = 0 A; V <sub>CC</sub> = 5.5 V | -     | -   | 1.35 | -                | 1.5  | -                 | 1.5  | mA   |
| C <sub>I</sub>     | input capacitance         |  | -     | 1.5 | 10   | -                | 10   | -                 | 10   | pF   |

## 11. Dynamic characteristics

**Table 8. Dynamic characteristics**  
 GND = 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 | Max  | Min              | Max  | Min               | Max  |      |
| <b>74AHC2G126</b> |                   |  |       |     |      |                  |      |                   |      |      |
| t <sub>pd</sub>   | propagation delay | nA to nY; see <a href="#">Figure 6</a> |       |     |      |                  |      |                   |      |      |
|                   |                   | V <sub>CC</sub> = 3.0 V to 3.6 V       |       |     |      |                  |      |                   |      |      |
|                   |                   | C <sub>L</sub> = 15 pF                 | -     | 4.7 | 8.0  | 1.0              | 9.5  | 1.0               | 11.5 | ns   |
|                   |                   | C <sub>L</sub> = 50 pF                 | -     | 6.6 | 11.5 | 1.0              | 13.0 | 1.0               | 14.5 | ns   |
|                   |                   | V <sub>CC</sub> = 4.5 V to 5.5 V       |       |     |      |                  |      |                   |      |      |
|                   |                   | C <sub>L</sub> = 15 pF                 | -     | 3.4 | 5.5  | 1.0              | 6.5  | 1.0               | 7.0  | ns   |
|                   |                   | C <sub>L</sub> = 50 pF                 | -     | 4.8 | 7.5  | 1.0              | 8.5  | 1.0               | 9.5  | ns   |

**Table 8. Dynamic characteristics ...continued**  
*GND = 0 V; for test circuit see [Figure 8](#).*

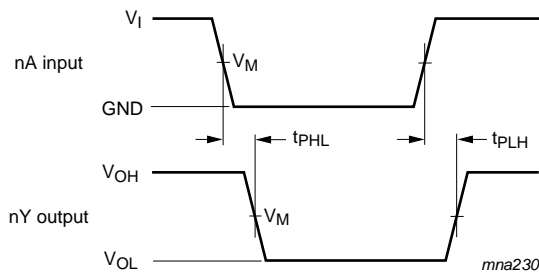
| Symbol             | Parameter                     | Conditions  | 25 °C |     |      | −40 °C to +85 °C |      | −40 °C to +125 °C |      | Unit |
|--------------------|-------------------------------|---|-------|-----|------|------------------|------|-------------------|------|------|
|                    |                               |   | Min   | Typ | Max  | Min              | Max  | Min               | Max  |      |
| t <sub>en</sub>    | enable time                   | nOE to nY; see <a href="#">Figure 7</a> <a href="#">[1]</a>   |       |     |      |                  |      |                   |      |      |
|                    |                               | V <sub>CC</sub> = 3.0 V to 3.6 V <a href="#">[2]</a>  |       |     |      |                  |      |                   |      |      |
|                    |                               | C <sub>L</sub> = 15 pF  | -     | 5.0 | 8.0  | 1.0              | 9.5  | 1.0               | 11.5 | ns   |
|                    |                               | C <sub>L</sub> = 50 pF  | -     | 6.9 | 11.5 | 1.0              | 13.0 | 1.0               | 14.5 | ns   |
|                    |                               | V <sub>CC</sub> = 4.5 V to 5.5 V <a href="#">[3]</a>  |       |     |      |                  |      |                   |      |      |
|                    |                               | C <sub>L</sub> = 15 pF  | -     | 3.6 | 5.1  | 1.0              | 6.0  | 1.0               | 6.5  | ns   |
|                    |                               | C <sub>L</sub> = 50 pF  | -     | 4.9 | 7.5  | 1.0              | 9.0  | 1.0               | 9.5  | ns   |
| t <sub>dis</sub>   | disable time                  | nOE to nY; see <a href="#">Figure 7</a> <a href="#">[1]</a>   |       |     |      |                  |      |                   |      |      |
|                    |                               | V <sub>CC</sub> = 3.0 V to 3.6 V <a href="#">[2]</a>  |       |     |      |                  |      |                   |      |      |
|                    |                               | C <sub>L</sub> = 15 pF  | -     | 6.0 | 9.7  | 1.0              | 11.5 | 1.0               | 12.5 | ns   |
|                    |                               | C <sub>L</sub> = 50 pF  | -     | 8.3 | 13.2 | 1.0              | 15.0 | 1.0               | 16.5 | ns   |
|                    |                               | V <sub>CC</sub> = 4.5 V to 5.5 V <a href="#">[3]</a>  |       |     |      |                  |      |                   |      |      |
|                    |                               | C <sub>L</sub> = 15 pF  | -     | 4.1 | 6.8  | 1.0              | 8.0  | 1.0               | 8.5  | ns   |
|                    |                               | C <sub>L</sub> = 50 pF  | -     | 5.7 | 8.8  | 1.0              | 10.0 | 1.0               | 11.0 | ns   |
| C <sub>PD</sub>    | power dissipation capacitance | per buffer;<br>C <sub>L</sub> = 50 pF; f <sub>i</sub> = 1 MHz;<br>V <sub>I</sub> = GND to V <sub>CC</sub> <a href="#">[4]</a> | -     | 10  | -    | -                | -    | -                 | -    | pF   |
| <b>74AHCT2G126</b> |                               |   |       |     |      |                  |      |                   |      |      |
| t <sub>pd</sub>    | propagation delay             | nA to nY; see <a href="#">Figure 6</a> <a href="#">[1]</a>  |       |     |      |                  |      |                   |      |      |
|                    |                               | V <sub>CC</sub> = 4.5 V to 5.5 V <a href="#">[3]</a>  |       |     |      |                  |      |                   |      |      |
|                    |                               | C <sub>L</sub> = 15 pF  | -     | 3.4 | 5.5  | 1.0              | 6.5  | 1.0               | 7.0  | ns   |
|                    |                               | C <sub>L</sub> = 50 pF  | -     | 4.8 | 7.5  | 1.0              | 8.5  | 1.0               | 9.5  | ns   |
| t <sub>en</sub>    | enable time                   | nOE to nY; see <a href="#">Figure 7</a> <a href="#">[1]</a>   |       |     |      |                  |      |                   |      |      |
|                    |                               | V <sub>CC</sub> = 4.5 V to 5.5 V <a href="#">[3]</a>  |       |     |      |                  |      |                   |      |      |
|                    |                               | C <sub>L</sub> = 15 pF  | -     | 3.9 | 5.1  | 1.0              | 6.0  | 1.0               | 6.5  | ns   |
|                    |                               | C <sub>L</sub> = 50 pF  | -     | 5.1 | 7.5  | 1.0              | 9.0  | 1.0               | 9.5  | ns   |
| t <sub>dis</sub>   | disable time                  | nOE to nY; see <a href="#">Figure 7</a> <a href="#">[1]</a>   |       |     |      |                  |      |                   |      |      |
|                    |                               | V <sub>CC</sub> = 4.5 V to 5.5 V <a href="#">[3]</a>  |       |     |      |                  |      |                   |      |      |
|                    |                               | C <sub>L</sub> = 15 pF  | -     | 4.5 | 6.8  | 1.0              | 8.0  | 1.0               | 8.5  | ns   |
|                    |                               | C <sub>L</sub> = 50 pF  | -     | 6.1 | 8.8  | 1.0              | 10.0 | 1.0               | 11.0 | ns   |

**Table 8. Dynamic characteristics ...continued**  
*GND = 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 | Max | Min              | Max | Min               | Max |      |
| $C_{PD}$ | power dissipation capacitance | per buffer;<br>$C_L = 50 \text{ pF}$ ; $f_i = 1 \text{ MHz}$ ;<br>$V_i = \text{GND to } V_{CC}$ | [4]   | -   | 10  | -                | -   | -                 | -   | pF   |

- [1]  $t_{pd}$  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  $t_{PHZ}$ .
- [2] Typical values are measured at  $V_{CC} = 3.3 \text{ V}$ .
- [3] Typical values are measured at  $V_{CC} = 5.0 \text{ V}$ .
- [4]  $C_{PD}$  is used to determine the dynamic power dissipation  $P_D$  ( $\mu\text{W}$ ).  
 $P_D = C_{PD} \times V_{CC}^2 \times f_i + \sum (C_L \times V_{CC}^2 \times f_o)$  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.

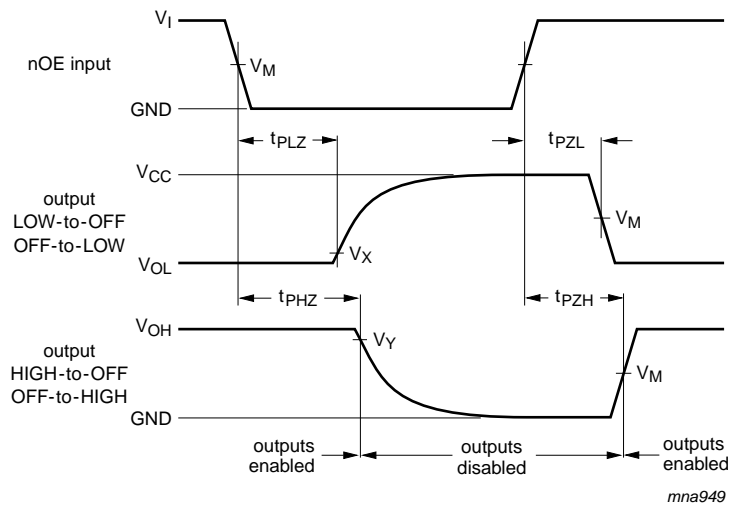
## 12. Waveforms



Measurement points are given in [Table 9](#).  
 Logic levels:  $V_{OL}$  and  $V_{OH}$  are typical output voltage levels that occur with the output load.

**Fig 6. Input (nA) to output (nY) propagation delays**





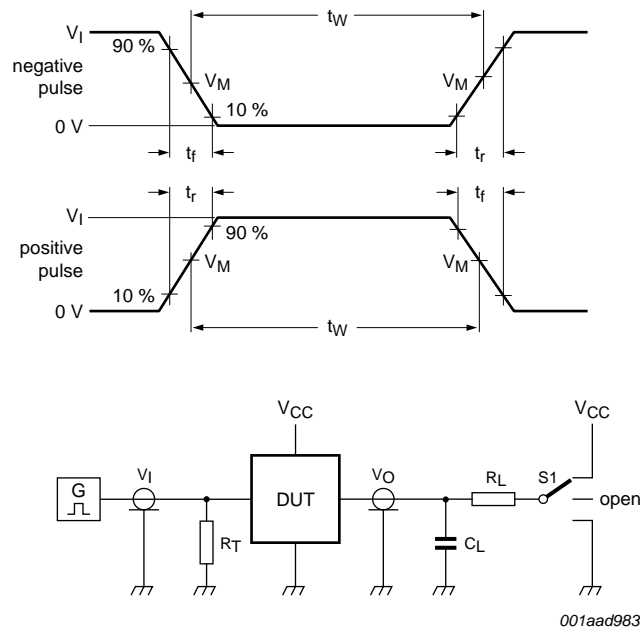
Measurement points are given in [Table 9](#).

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

**Fig 7. Enable and disable times**

**Table 9. Measurement points**

| Type        | Input       | Output      |                  |                  |
|-------------|-------------|-------------|------------------|------------------|
|             | $V_M$       | $V_M$       | $V_X$            | $V_Y$            |
| 74AHC2G126  | $0.5V_{CC}$ | $0.5V_{CC}$ | $V_{OL} + 0.3 V$ | $V_{OH} - 0.3 V$ |
| 74AHCT2G126 | 1.5 V       | $0.5V_{CC}$ | $V_{OL} + 0.3 V$ | $V_{OH} - 0.3 V$ |



Test data is given in [Table 10](#).

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 circuit for measuring switching times**

**Table 10. Test data**

| Type        | Input    |             | Load         |              | S1 position        |                    |                    |
|-------------|----------|-------------|--------------|--------------|--------------------|--------------------|--------------------|
|             | $V_I$    | $t_r, t_f$  | $C_L$        | $R_L$        | $t_{PHL}, t_{PLH}$ | $t_{PZH}, t_{PHZ}$ | $t_{PZL}, t_{PLZ}$ |
| 74AHC2G126  | $V_{CC}$ | $\leq 3$ ns | 15 pF, 50 pF | 1 k $\Omega$ | open               | GND                | $V_{CC}$           |
| 74AHCT2G126 | 3 V      | $\leq 3$ ns | 15 pF, 50 pF | 1 k $\Omega$ | open               | GND                | $V_{CC}$           |

## 13. Package outline

TSSOP8: plastic thin shrink small outline package; 8 leads; body width 3 mm; lead length 0.5 mm SOT505-2

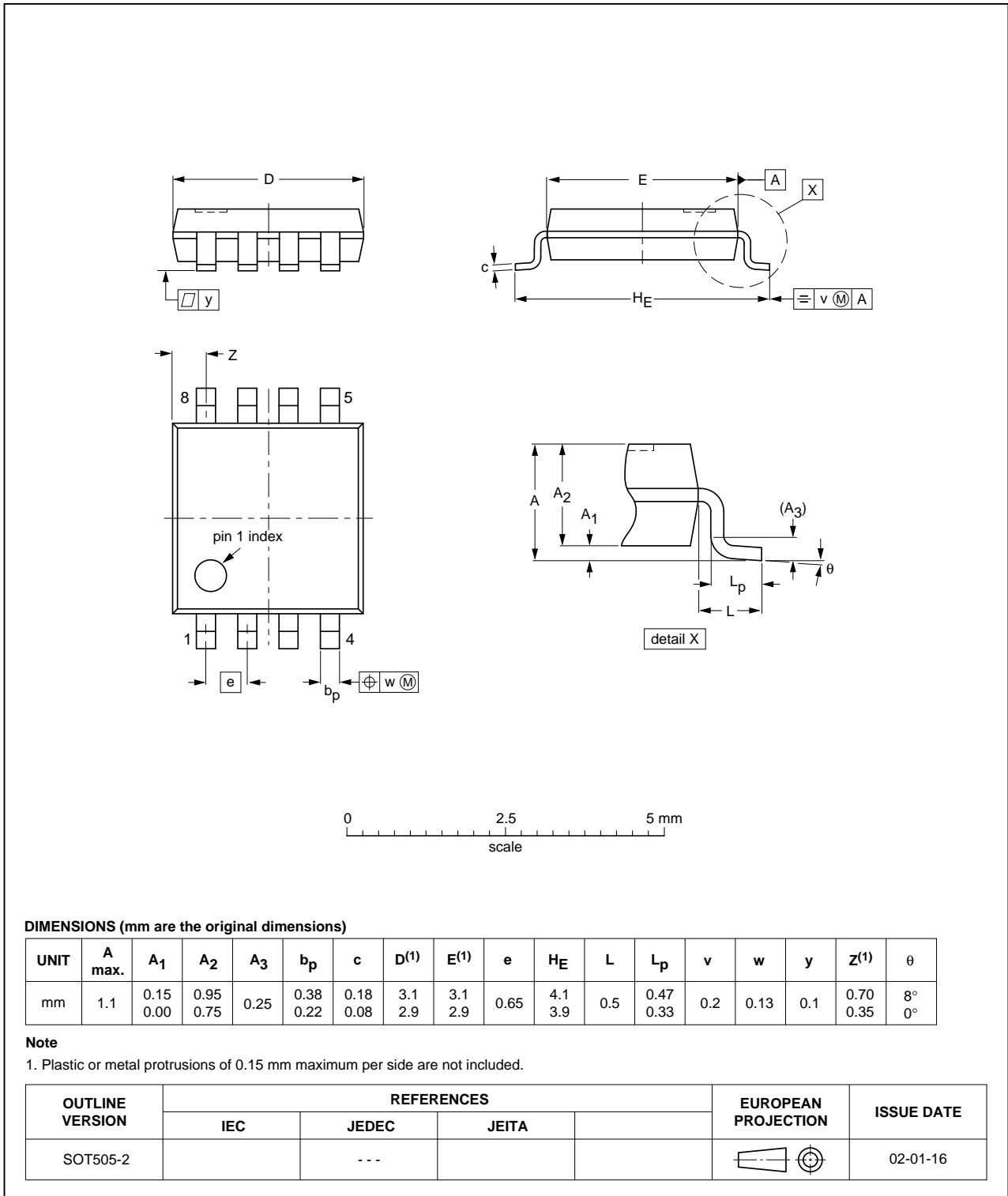


Fig 9. Package outline SOT505-2 (TSSOP8)

VSSOP8: plastic very thin shrink small outline package; 8 leads; body width 2.3 mm

SOT765-1

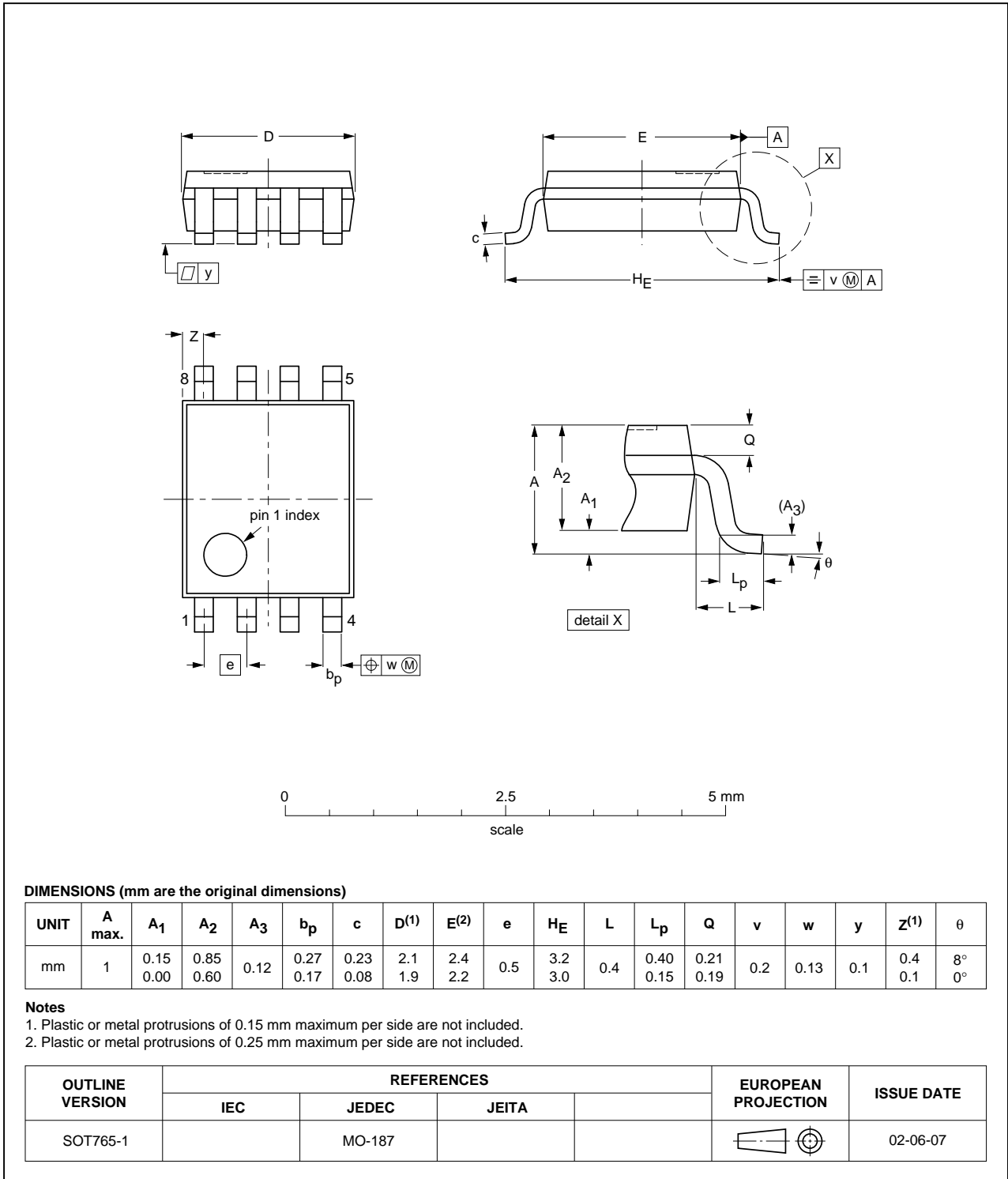


Fig 10. Package outline SOT765-1 (VSSOP8)

XSON8: plastic extremely thin small outline package; no leads;  
8 terminals; body 3 x 2 x 0.5 mm

SOT996-2

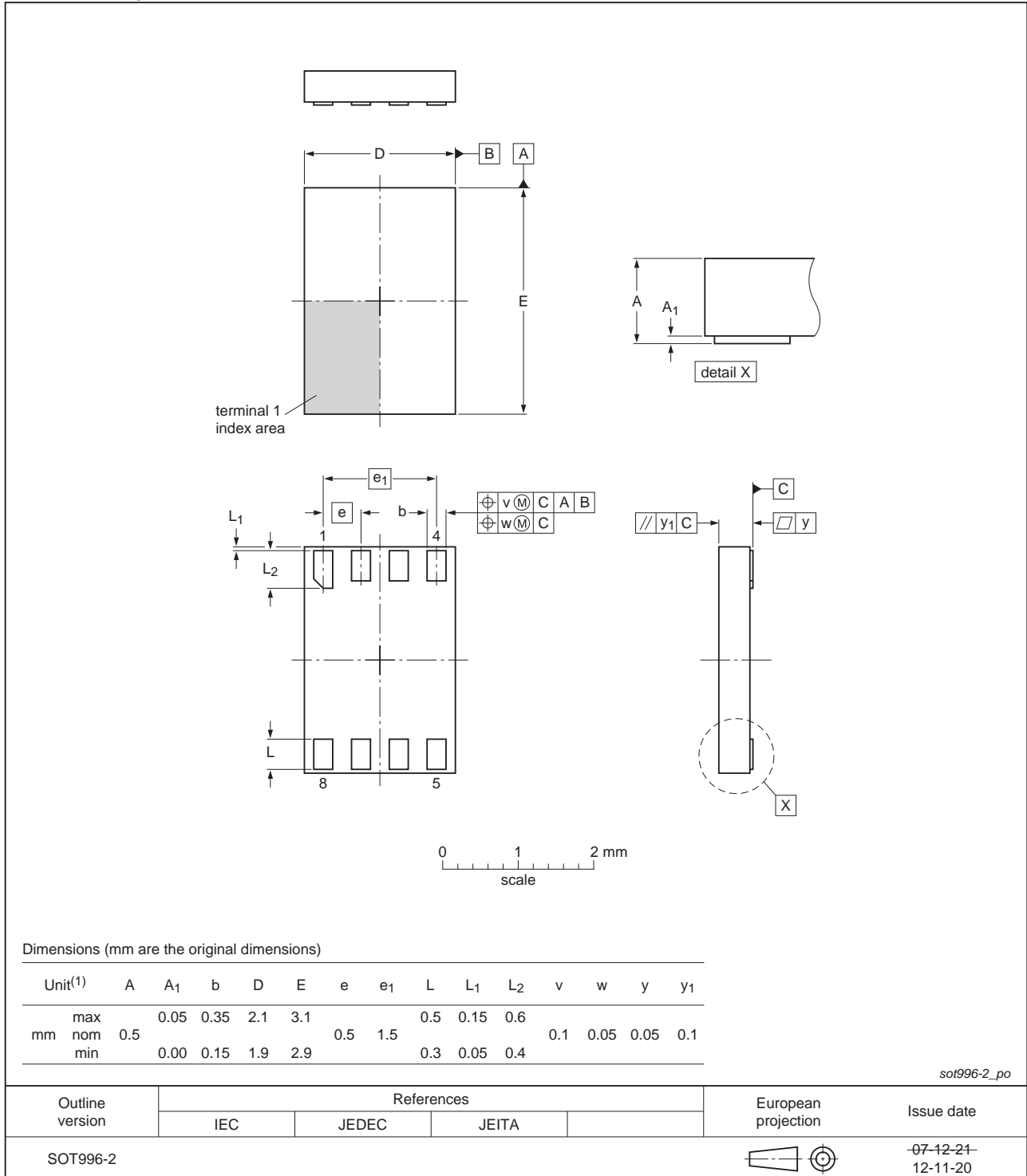


Fig 11. Package outline SOT996-2 (XSON8)

## 14. Abbreviations

Table 11. Abbreviations

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

## 15. Revision history

Table 12. Revision history

| Document ID         | Release date  | Data sheet status     | Change notice | Supersedes          |
|---------------------|---|-----------------------|---------------|---------------------|
| 74AHC_AHCT2G126 v.7 | 20130506  | Product data sheet    | -             | 74AHC_AHCT2G126 v.6 |
| Modifications:      | <ul style="list-style-type: none"> <li>For type number 74AHC2G126GD and 74AHCT2G126GD XSON8U has changed to XSON8.</li> </ul> |                       |               |                     |
| 74AHC_AHCT2G126 v.6 | 20111108  | Product data sheet    | -             | 74AHC_AHCT2G126 v.5 |
| Modifications:      | <ul style="list-style-type: none"> <li>Legal pages updated.</li> </ul>  |                       |               |                     |
| 74AHC_AHCT2G126 v.5 | 20110324  | Product data sheet    | -             | 74AHC_AHCT2G126 v.4 |
| 74AHC_AHCT2G126 v.4 | 20090427  | Product data sheet    | -             | 74AHC_AHCT2G126 v.3 |
| 74AHC_AHCT2G126 v.3 | 20090115  | Product data sheet    | -             | 74AHC_AHCT2G126 v.2 |
| 74AHC_AHCT2G126 v.2 | 20040921  | Product data sheet    | -             | 74AHC_AHCT2G126 v.1 |
| 74AHC_AHCT2G126 v.1 | 20040113  | Product specification | -             | -                   |

## 16. Legal information

### 16.1 Data sheet status

| Document status <sup>[1][2]</sup> | Product status <sup>[3]</sup> | 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".

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