

# 74AHC1G126; 74AHCT1G126

Bus buffer/line driver; 3-state

Rev. 8 — 23 August 2012

Product data sheet

## 1. General description

74AHC1G126 and 74AHCT1G126 are high-speed Si-gate CMOS devices. They provide one non-inverting buffer/line driver with 3-state output. The 3-state output is controlled by the output enable input pin (OE). A LOW at pin OE 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-A114F: exceeds 2000 V
  - ◆ MM JESD22-A115-A: exceeds 200 V
  - ◆ CDM JESD22-C101E: exceeds 1000 V
- Specified from -40 °C to +125 °C

## 3. Ordering information

Table 1. Ordering information

| Type number                   | Package           |        |   |          |
|-------------------------------|-------------------|--------|---|----------|
|                               | Temperature range | Name   | Description   | Version  |
| 74AHC1G126GW<br>74AHCT1G126GW | -40 °C to +125 °C | TSSOP5 | plastic thin shrink small outline package; 5 leads; body width 1.25 mm                      | SOT353-1 |
| 74AHC1G126GV<br>74AHCT1G126GV | -40 °C to +125 °C | SC-74A | plastic surface-mounted package; 5 leads  | SOT753   |
| 74AHC1G126GM<br>74AHCT1G126GM | -40 °C to +125 °C | XSON6  | plastic extremely thin small outline package; no leads; 6 terminals; body 1 × 1.45 × 0.5 mm | SOT886   |
| 74AHC1G126GF<br>74AHCT1G126GF | -40 °C to +125 °C | XSON6  | plastic extremely thin small outline package; no leads; 6 terminals; body 1 × 1 × 0.5 mm    | SOT891   |

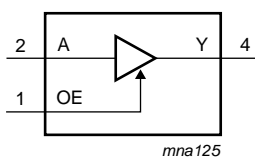
## 4. Marking

Table 2. Marking codes

| Type number   | Marking <sup>[1]</sup> |
|---------------|------------------------|
| 74AHC1G126GW  | AN                     |
| 74AHCT1G126GW | CN                     |
| 74AHC1G126GV  | A26                    |
| 74AHCT1G126GV | C26                    |
| 74AHC1G126GM  | AN                     |
| 74AHCT1G126GM | CN                     |
| 74AHC1G126GF  | AN                     |
| 74AHCT1G126GF | CN                     |

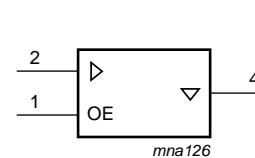
[1] The pin 1 indicator is located on the lower left corner of the device, below the marking code.

## 5. Functional diagram



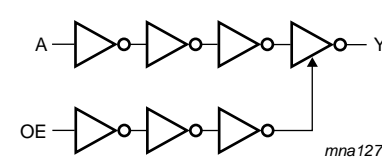
*mna125*

**Fig 1. Logic symbol**



*mna126*

**Fig 2. IEC logic symbol**

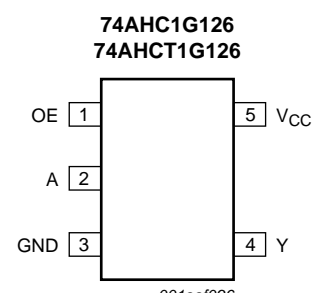


*mna127*

**Fig 3. Logic diagram**

## 6. Pinning information

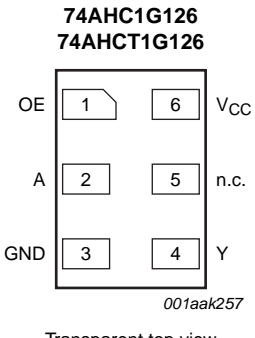
### 6.1 Pinning



**74AHC1G126**  
**74AHCT1G126**

*001aaf096*

**Fig 4. Pin configuration SOT353-1 and SOT753**

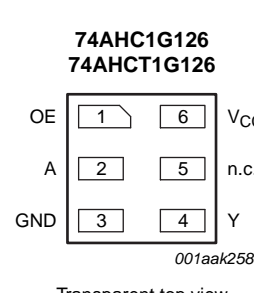


**74AHC1G126**  
**74AHCT1G126**

*001aak257*

Transparent top view

**Fig 5. Pin configuration SOT886**



**74AHC1G126**  
**74AHCT1G126**

*001aak258*

Transparent top view

**Fig 6. Pin configuration SOT891**

## 6.2 Pin description

Table 3. Pin description

| Symbol          | Pin             |               | Description         |
|-----------------|-----------------|---------------|---------------------|
|                 | SOT353-1/SOT753 | SOT886/SOT891 |                     |
| OE              | 1               | 1             | output enable input |
| A               | 2               | 2             | data input A        |
| GND             | 3               | 3             | ground (0 V)        |
| Y               | 4               | 4             | data output Y       |
| n.c.            | -               | 5             | not connected       |
| V <sub>CC</sub> | 5               | 6             | supply voltage      |

## 7. Functional description

Table 4. Function table

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

| Input |   | Output |  |
|-------|---|--------|--|
| OE    | A | Y      |  |
| H     | L | L      |  |
| H     | H | H      |  |
| L     | X | Z      |  |

## 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   | [1] -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 | [1] -   | ±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                                | [2] -   | 250  | mW   |

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

[2] For TSSOP5 and SC-74A packages: above 87.5 °C the value of P<sub>tot</sub> derates linearly with 4.0 mW/K.  
For XSON6 packages: 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                      | 74AHC1G126 |     |                 | 74AHCT1G126 |     |                 | 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>74AHC1G126</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>IH</sub> or V <sub>IL</sub> ; V <sub>O</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                                 | -     | -   | 2.0   | -                | 20   | -                 | 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         |   | -     | 3   | 10    | -                | 10   | -                 | 10   | pF   |
| <b>74AHCT1G126</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>IH</sub> or V <sub>IL</sub> ; V <sub>O</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  | -     | -   | 2.0   | -                | 20   | -                 | 40   | μA   |
| ΔI <sub>CC</sub>   | additional supply current | per input pin; V <sub>I</sub> = V <sub>CC</sub> – 2.1 V; other inputs at V <sub>CC</sub> or GND; I <sub>O</sub> = 0 A; V <sub>CC</sub> = 4.5 V to 5.5 V | -     | -   | 1.35  | -                | 1.5  | -                 | 1.5  | mA   |
| C <sub>I</sub>     | input capacitance         |   | -     | 3   | 10    | -                | 10   | -                 | 10   | pF   |

## 11. Dynamic characteristics

**Table 8. Dynamic characteristics**  
 GND = 0 V; For test circuit see [Figure 9](#).

| Symbol            | Parameter         | Conditions                           | 25 °C |     |      | –40 °C to +85 °C |      | –40 °C to +125 °C |      | Unit |
|-------------------|-------------------|--------------------------------------|-------|-----|------|------------------|------|-------------------|------|------|
|                   |                   |                                      | Min   | Typ | Max  | Min              | Max  | Min               | Max  |      |
| <b>74AHC1G126</b> |                   |                                      |       |     |      |                  |      |                   |      |      |
| t <sub>pd</sub>   | propagation delay | A to Y; see <a href="#">Figure 7</a> |       |     |      |                  |      |                   |      |      |
|                   |                   | V <sub>CC</sub> = 3.0 V to 3.6 V     |       |     |      |                  |      |                   |      |      |
|                   |                   | C <sub>L</sub> = 15 pF               | -     | 4.4 | 8.0  | 1.0              | 9.5  | 1.0               | 10.0 | ns   |
|                   |                   | C <sub>L</sub> = 50 pF               | -     | 6.3 | 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               | -     | 4.7 | 7.5  | 1.0              | 8.5  | 1.0               | 9.5  | ns   |

**Table 8. Dynamic characteristics ...continued**  
*GND = 0 V; For test circuit see Figure 9.*

| Symbol             | Parameter                     | Conditions   | 25 °C               |     |      | –40 °C to +85 °C |      | –40 °C to +125 °C |      | Unit |
|--------------------|-------------------------------|--|---------------------|-----|------|------------------|------|-------------------|------|------|
|                    |                               |  | Min                 | Typ | Max  | Min              | Max  | Min               | Max  |      |
| $t_{en}$           | enable time                   | OE to Y; see Figure 8 <a href="#">[1]</a>  |                     |     |      |                  |      |                   |      |      |
|                    |                               | $V_{CC} = 3.0\text{ V to }3.6\text{ V}$ <a href="#">[2]</a>                                |                     |     |      |                  |      |                   |      |      |
|                    |                               | $C_L = 15\text{ pF}$   | -                   | 4.9 | 8.0  | 1.0              | 9.5  | 1.0               | 10.0 | ns   |
|                    |                               | $C_L = 50\text{ pF}$   | -                   | 7.0 | 11.5 | 1.0              | 13.0 | 1.0               | 14.5 | ns   |
|                    |                               | $V_{CC} = 4.5\text{ V to }5.5\text{ V}$ <a href="#">[3]</a>                                |                     |     |      |                  |      |                   |      |      |
|                    |                               | $C_L = 15\text{ pF}$   | -                   | 3.6 | 5.6  | 1.0              | 6.3  | 1.0               | 7.0  | ns   |
| $t_{dis}$          | disable time                  | OE to Y; see Figure 8 <a href="#">[1]</a>  |                     |     |      |                  |      |                   |      |      |
|                    |                               | $V_{CC} = 3.0\text{ V to }3.6\text{ V}$ <a href="#">[2]</a>                                |                     |     |      |                  |      |                   |      |      |
|                    |                               | $C_L = 15\text{ pF}$   | -                   | 6.3 | 9.7  | 1.0              | 11.5 | 1.0               | 12.5 | ns   |
|                    |                               | $C_L = 50\text{ pF}$   | -                   | 9.0 | 13.2 | 1.0              | 15.0 | 1.0               | 16.5 | ns   |
|                    |                               | $V_{CC} = 4.5\text{ V to }5.5\text{ V}$ <a href="#">[3]</a>                                |                     |     |      |                  |      |                   |      |      |
|                    |                               | $C_L = 15\text{ pF}$   | -                   | 4.3 | 6.8  | 1.0              | 8.0  | 1.0               | 8.5  | ns   |
| $C_{PD}$           | power dissipation capacitance | per buffer;<br>$C_L = 50\text{ pF}$ ; $f = 1\text{ MHz}$ ;<br>$V_I = \text{GND to }V_{CC}$ | <a href="#">[4]</a> | -   | 9    | -                | -    | -                 | -    | pF   |
|                    |                               |  |                     |     |      |                  |      |                   |      |      |
| <b>74AHCT1G126</b> |                               |  |                     |     |      |                  |      |                   |      |      |
| $t_{pd}$           | propagation delay             | A to Y; see Figure 7 <a href="#">[1]</a>   |                     |     |      |                  |      |                   |      |      |
|                    |                               | $V_{CC} = 4.5\text{ V to }5.5\text{ V}$ <a href="#">[3]</a>                                |                     |     |      |                  |      |                   |      |      |
|                    |                               | $C_L = 15\text{ pF}$   | -                   | 3.4 | 5.5  | 1.0              | 6.5  | 1.0               | 7.0  | ns   |
| $t_{en}$           | enable time                   | $\overline{\text{OE}}$ to Y; see Figure 8 <a href="#">[1]</a>                              |                     |     |      |                  |      |                   |      |      |
|                    |                               | $V_{CC} = 4.5\text{ V to }5.5\text{ V}$ <a href="#">[3]</a>                                |                     |     |      |                  |      |                   |      |      |
|                    |                               | $C_L = 15\text{ pF}$   | -                   | 3.4 | 5.6  | 1.0              | 6.3  | 1.0               | 6.5  | ns   |
| $t_{dis}$          | disable time                  | $\overline{\text{OE}}$ to Y; see Figure 8 <a href="#">[1]</a>                              |                     |     |      |                  |      |                   |      |      |
|                    |                               | $V_{CC} = 4.5\text{ V to }5.5\text{ V}$ <a href="#">[3]</a>                                |                     |     |      |                  |      |                   |      |      |
|                    |                               | $C_L = 15\text{ pF}$   |                     | 4.0 | 6.8  | 1.0              | 8.0  | 1.0               | 8.5  | ns   |
|                    |                               | $C_L = 50\text{ pF}$   |                     | 5.7 | 8.8  | 1.0              | 10.0 | 1.0               | 11.5 | ns   |

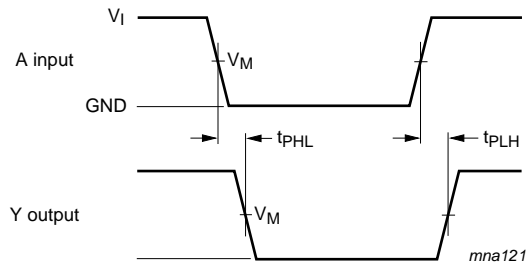
**Table 8. Dynamic characteristics ...continued**

$GND = 0\text{ V}$ ; For test circuit see [Figure 9](#).

| 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>$C_L = 50\text{ pF}$ ; $f = 1\text{ MHz}$ ;<br>$V_I = GND\text{ to }V_{CC}$ | [4] - | 11  | -   | -                | -   | -                 | -   | pF   |

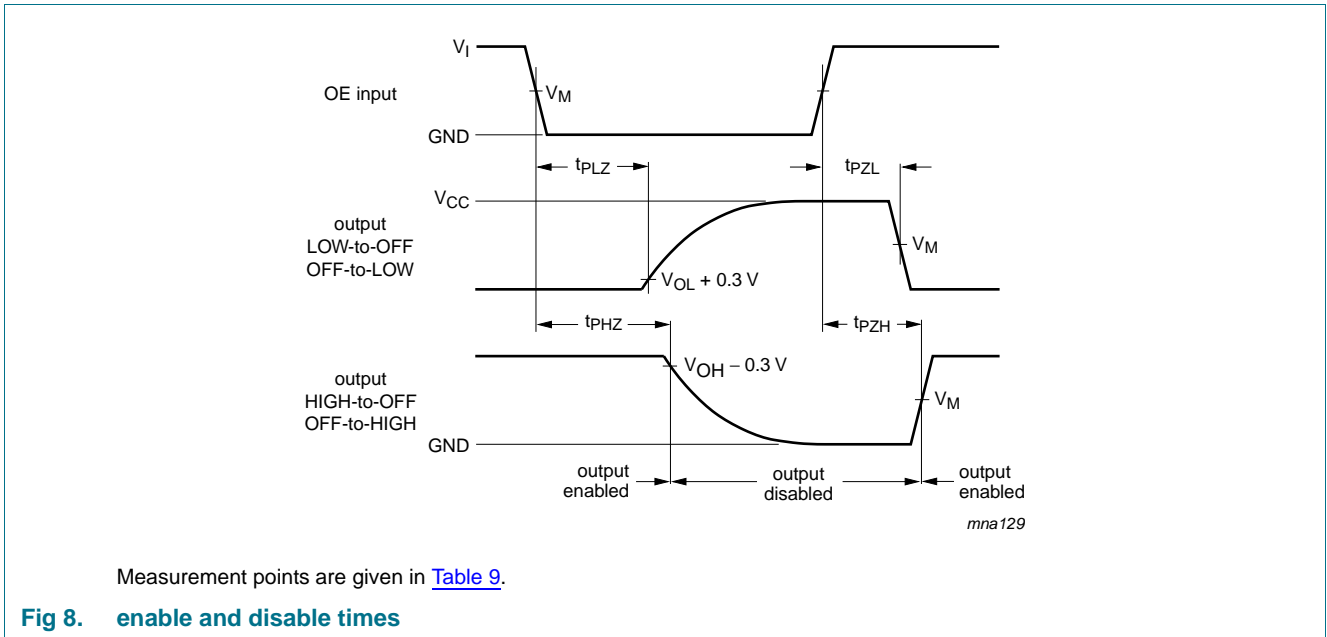
- [1]  $t_{pd}$  is the same as  $t_{PLH}$  and  $t_{PHL}$ .  
 $t_{en}$  is the same as  $t_{PZL}$  and  $t_{PZH}$ .  
 $t_{dis}$  is the same as  $t_{PLZ}$  and  $t_{PHZ}$ .
- [2] Typical values are measured at  $V_{CC} = 3.3\text{ V}$ .
- [3] Typical values are measured at  $V_{CC} = 5.0\text{ V}$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

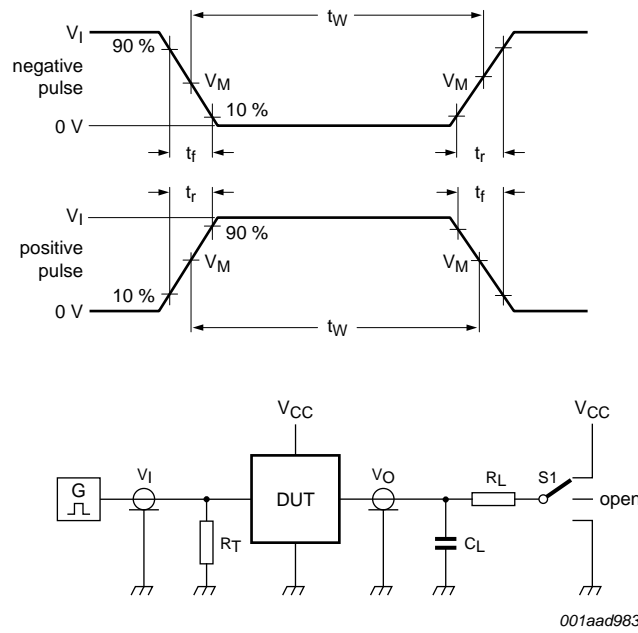
**Fig 7. Input (A) to output (Y) propagation delays**



**Table 9. Measurement points**

| Type        | Input               |                 | Output              |
|-------------|---------------------|-----------------|---------------------|
|             | $V_M$               | $V_I$           | $V_M$               |
| 74AHC1G126  | $0.5 \times V_{CC}$ | GND to $V_{CC}$ | $0.5 \times V_{CC}$ |
| 74AHCT1G126 | 1.5 V               | GND to 3.0 V    | $0.5 \times V_{CC}$ |





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 9. Test circuit for measuring switching times**

**Table 10. Test data**

| Type        | Input    |             | Load         |              | S1 position        |                    |                    |
|-------------|----------|-------------|--------------|--------------|--------------------|--------------------|--------------------|
|             | $V_I$    | $t_r, t_f$  | $C_L$        | $R_L$        | $t_{PHL}, t_{PLH}$ | $t_{PZH}, t_{PHZ}$ | $t_{PZL}, t_{PLZ}$ |
| 74AHC1G126  | $V_{CC}$ | $\leq 3$ ns | 15 pF, 50 pF | 1 k $\Omega$ | open               | GND                | $V_{CC}$           |
| 74AHCT1G126 | 3 V      | $\leq 3$ ns | 15 pF, 50 pF | 1 k $\Omega$ | open               | GND                | $V_{CC}$           |

## 13. Package outline

TSSOP5: plastic thin shrink small outline package; 5 leads; body width 1.25 mm

SOT353-1

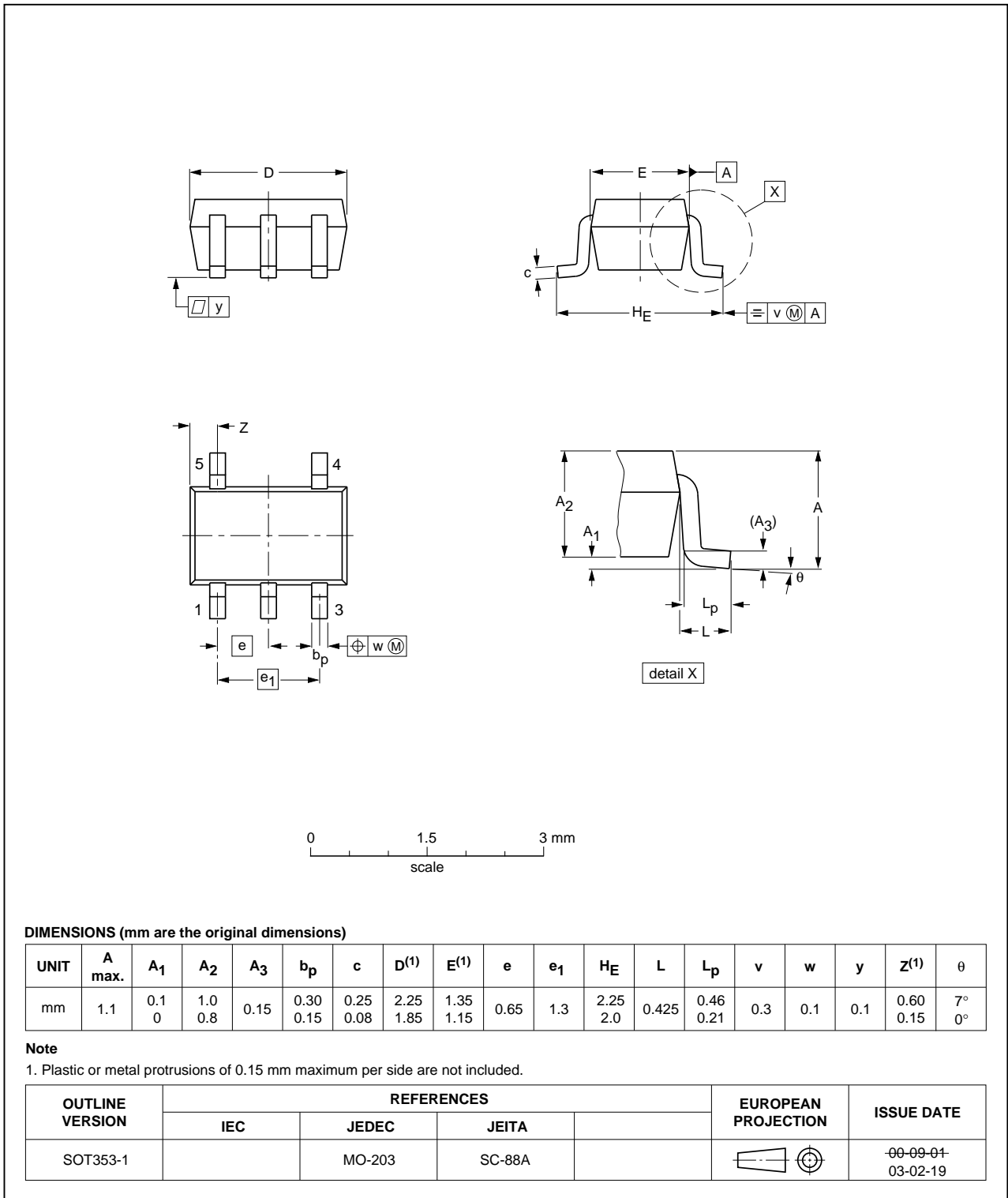


Fig 10. Package outline SOT353-1 (TSSOP5)

Plastic surface-mounted package; 5 leads

SOT753



Fig 11. Package outline SOT753 (SC-74A)

XSON6: plastic extremely thin small outline package; no leads; 6 terminals; body 1 x 1.45 x 0.5 mm

SOT886



Fig 12. Package outline SOT886 (XSON6)

XSON6: plastic extremely thin small outline package; no leads; 6 terminals; body 1 x 1 x 0.5 mm

SOT891

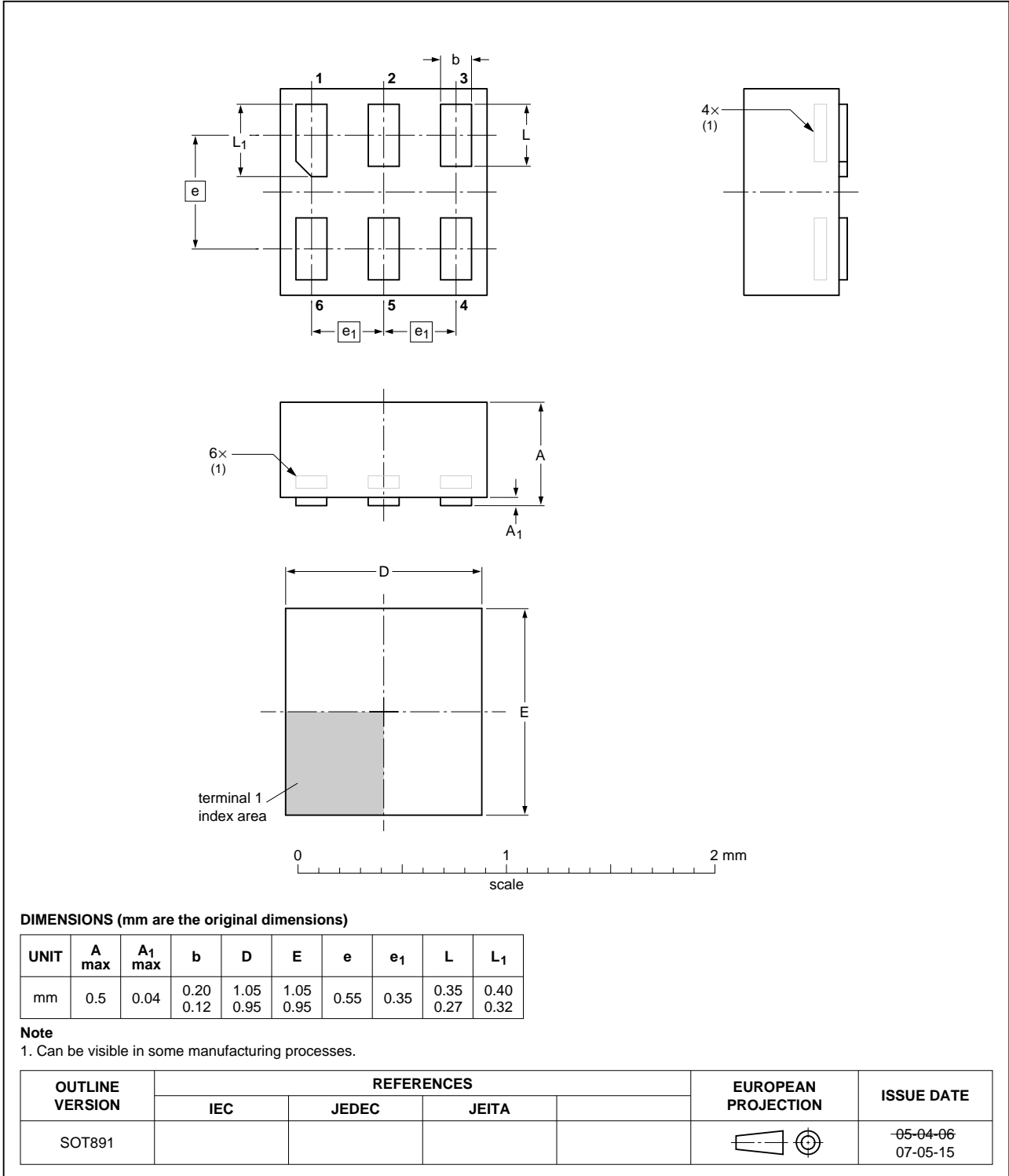


Fig 13. Package outline SOT891 (XSON6)

## 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_AHCT1G126 v.8   | 20120823  | Product data sheet    | -             | 74AHC_AHCT1G126 v.7   |
| Modifications:        | <ul style="list-style-type: none"> <li>Package outline drawing of SOT886 (<a href="#">Figure 12</a>) modified.</li> </ul> |                       |               |                       |
| 74AHC_AHCT1G126 v.7   | 20090617  | Product data sheet    | -             | 74AHC_AHCT1G126 v.6   |
| 74AHC_AHCT1G126 v.6   | 20070525  | Product data sheet    | -             | 74AHC_AHCT1G126 v.5   |
| 74AHC_AHCT1G126 v.5   | 20070514  | Product data sheet    | -             | 74AHC_AHCT1G126 v.4   |
| 74AHC_AHCT1G126 v.4   | 20020606  | Product specification | -             | 74AHC_AHCT1G126 v.3   |
| 74AHC_AHCT1G126 v.3   | 20020215  | Product specification | -             | 74AHC_AHCT1G126 v.2   |
| 74AHC_AHCT1G126 v.2   | 20010406  | Product specification | -             | 74AHC1G_AHCT1G126 v.1 |
| 74AHC1G_AHCT1G126 v.1 | 19990920  | 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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