

# 74LVC157A

## Quad 2-input multiplexer

Rev. 8 — 11 October 2017

Product data sheet

## 1 General description

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The 74LVC157A is a quad 2-input multiplexer which selects four bits of data from two sources under the control of a common select input (S). The four outputs present the selected data in the true (non-inverted) form. The enable input ( $\bar{E}$ ) is active LOW. When pin  $\bar{E}$  is HIGH, all of the outputs (1Y to 4Y) are forced LOW regardless of all the other input conditions. Moving the data from two groups of registers to four common output buses is a common use of the 74LVC157A. The state of the common data select input (S) determines the particular register from which the data comes. It can also be used as a function generator.

It is useful for implementing highly irregular logic by generating any 4 of the 16 different functions of two variables with one variable common.

The device is the logic implementation of a 4-pole, 2-position switch, where the position of the switch is determined by the logic levels applied to pin S.

Inputs can be driven from either 3.3 V or 5 V devices. This feature allows the use of these devices as translators in mixed 3.3 V and 5 V applications.

## 2 Features and benefits

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- 5 V tolerant inputs for interfacing with 5 V logic
- Wide supply voltage range from 1.2 V to 3.6 V
- CMOS low power consumption
- Direct interface with TTL levels
- Complies with JEDEC standard:
  - JESD8-7A (1.65 V to 1.95 V)
  - JESD8-5A (2.3 V to 2.7 V)
  - JESD8-C/JESD36 (2.7 V to 3.6 V)
- ESD protection:
  - HBM JESD22-A114F exceeds 2000 V
  - MM JESD22-A115-B exceeds 200 V
  - CDM JESD22-C101E exceeds 1000 V
- Specified from -40 °C to +85 °C and -40 °C to +125 °C

### 3 Ordering information

Table 1. Ordering information

| Type number | Package           |          |  | Version  |
|-------------|-------------------|----------|--|----------|
|             | Temperature range | Name     | Description  |          |
| 74LVC157AD  | -40 °C to +125 °C | SO16     | plastic small outline package; 16 leads; body width 3.9 mm   | SOT109-1 |
| 74LVC157ADB | -40 °C to +125 °C | SSOP16   | plastic shrink small outline package; 16 leads; body width 5.3 mm  | SOT338-1 |
| 74LVC157APW | -40 °C to +125 °C | TSSOP16  | plastic thin shrink small outline package; 16 leads; body width 4.4 mm   | SOT403-1 |
| 74LVC157ABQ | -40 °C to +125 °C | DHVQFN16 | plastic dual In-line compatible thermal enhanced very thin quad flat package; no leads; 16 terminals; body 2.5 x 3.5 x 0.85 mm | SOT763-1 |

### 4 Functional diagram

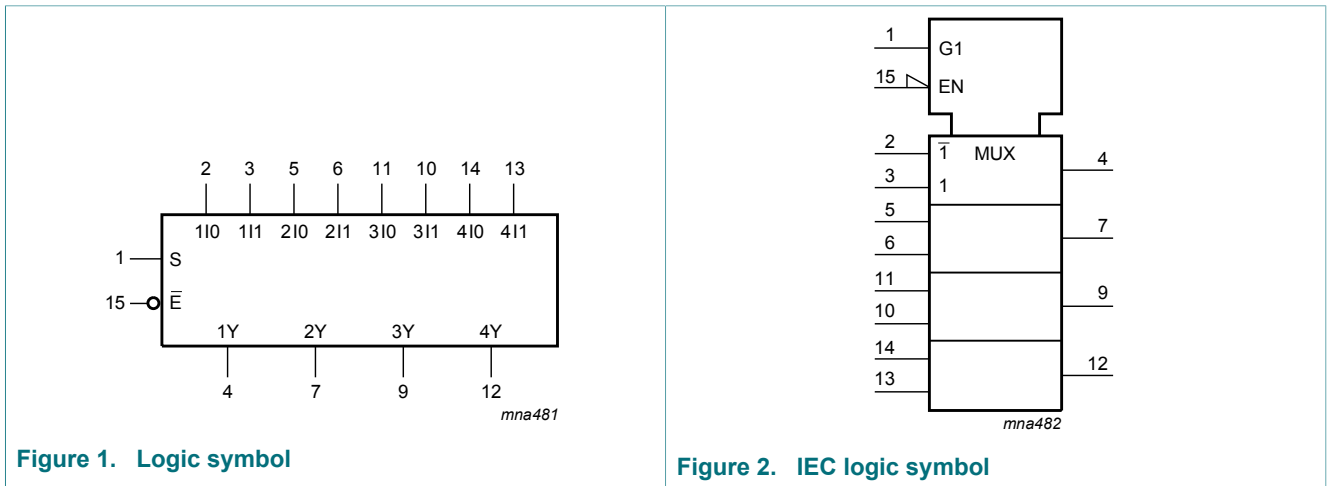


Figure 1. Logic symbol

Figure 2. IEC logic symbol

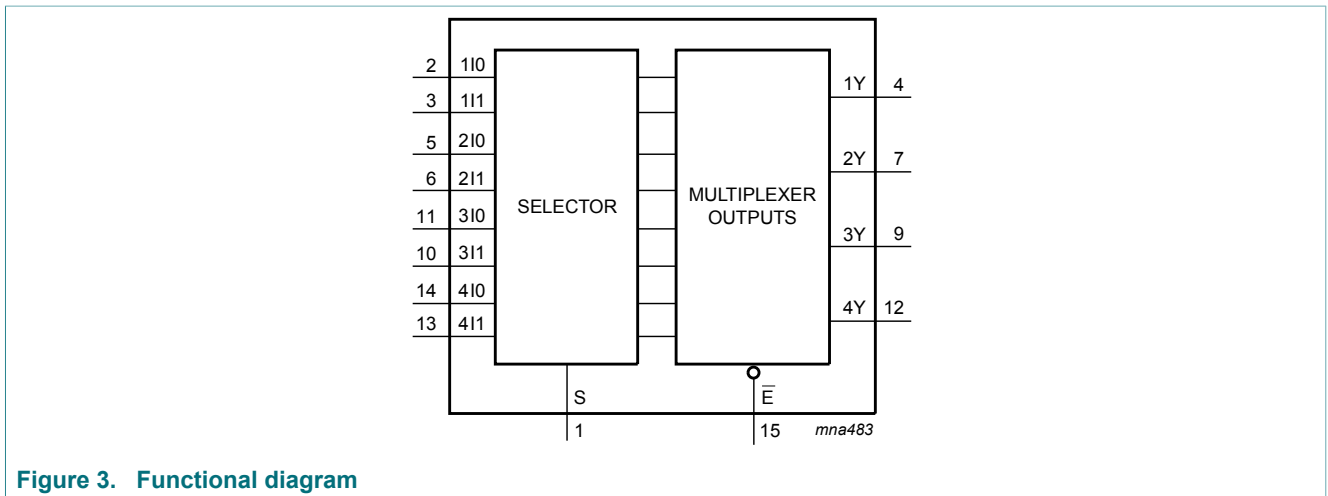


Figure 3. Functional diagram

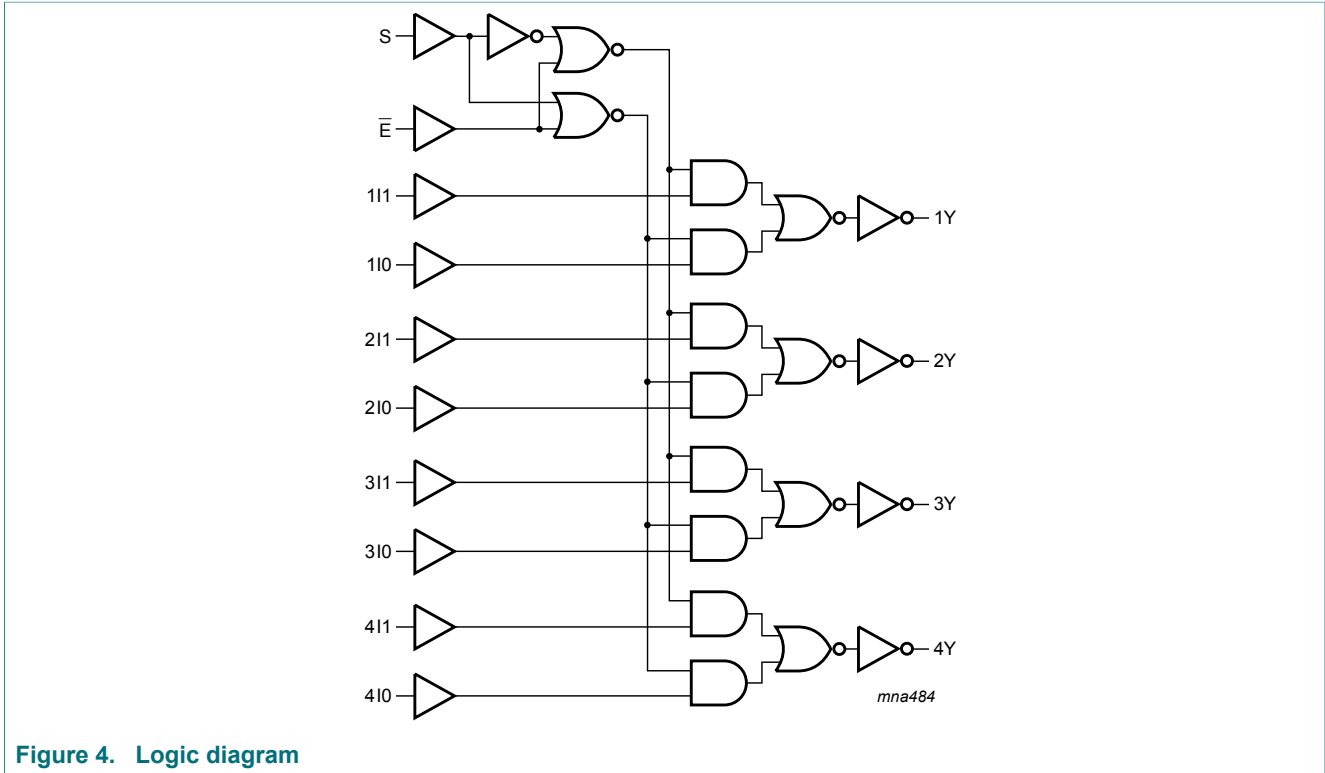
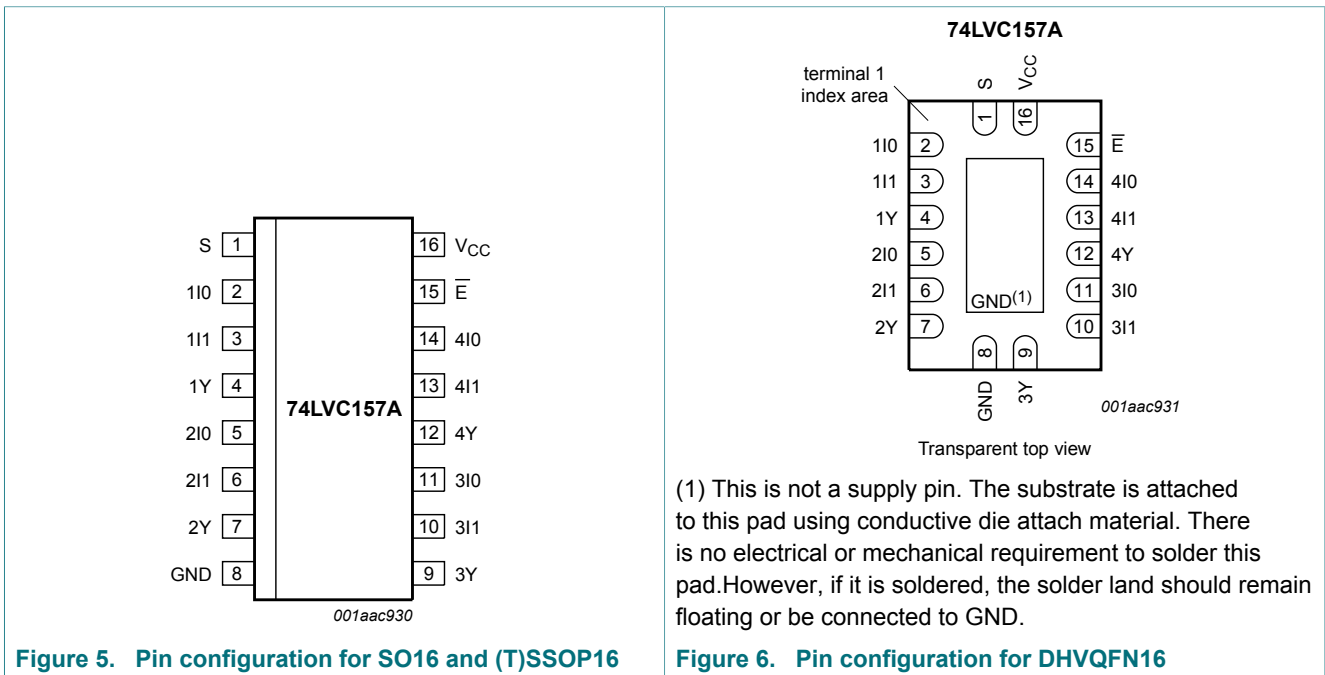


Figure 4. Logic diagram

## 5 Pinning information

### 5.1 Pinning



## 5.2 Pin description

Table 2. Pin description

| Symbol          | Pin | Description               |
|-----------------|-----|---------------------------|
| S               | 1   | common data select input  |
| 1I0             | 2   | data input from source 0  |
| 1I1             | 3   | data input from source 1  |
| 1Y              | 4   | multiplexer output        |
| 2I0             | 5   | data input from source 0  |
| 2I1             | 6   | data input from source 1  |
| 2Y              | 7   | multiplexer output        |
| GND             | 8   | ground (0 V)              |
| 3Y              | 9   | multiplexer output        |
| 3I1             | 10  | data input from source 1  |
| 3I0             | 11  | data input from source 0  |
| 4Y              | 12  | multiplexer output        |
| 4I1             | 13  | data input from source 1  |
| 4I0             | 14  | data input from source 0  |
| $\bar{E}$       | 15  | enable input (active LOW) |
| V <sub>CC</sub> | 16  | supply voltage            |

## 6 Functional description

Table 3. Function table <sup>[1]</sup>

| Input     |   |     |     | Output |
|-----------|---|-----|-----|--------|
| $\bar{E}$ | S | nI0 | nI1 | nY     |
| H         | X | X   | X   | L      |
| L         | L | L   | X   | L      |
| L         | L | H   | X   | H      |
| L         | H | X   | L   | L      |
| L         | H | X   | H   | H      |

[1] H = HIGH voltage level; L = LOW voltage level; X = don't care

## 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 | +6.5           | V    |
| $I_{IK}$  | input clamping current  | $V_I < 0$                         | -50  | -              | mA   |
| $V_I$     | input voltage           | [1]                               | -0.5 | +6.5           | V    |
| $I_{OK}$  | output clamping current | $V_O > V_{CC}$ or $V_O < 0$       | -    | $\pm 50$       | mA   |
| $V_O$     | output voltage          | [2]                               | -0.5 | $V_{CC} + 0.5$ | V    |
| $I_O$     | output current          | $V_O = 0$ V to $V_{CC}$           | -    | $\pm 50$       | mA   |
| $I_{CC}$  | supply current          |                                   | -    | 100            | mA   |
| $I_{GND}$ | ground current          |                                   | -100 | -              | mA   |
| $T_{stg}$ | storage temperature     |                                   | -65  | +150           | °C   |
| $P_{tot}$ | total power dissipation | $T_{amb} = -40$ °C to +125 °C [3] | -    | 500            | mW   |

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

[2] The output voltage ratings may be exceeded if the output current ratings are observed.

[3] For SO16 packages: above 70 °C the value of  $P_D$  derates linearly with 8 mW/K.

For (T)SSOP16 packages: above 60 °C the value of  $P_D$  derates linearly with 5.5 mW/K.

For DHVQFN16 packages: above 60 °C the value of  $P_D$  derates linearly with 4.5 mW/K.

## 8 Recommended operating conditions

**Table 5. Recommended operating conditions**

| Symbol              | Parameter                           | Conditions                 | Min  | Typ | Max      | Unit |
|---------------------|-------------------------------------|----------------------------|------|-----|----------|------|
| $V_{CC}$            | supply voltage                      |                            | 1.65 | -   | 3.6      | V    |
|                     |                                     | functional                 | 1.2  | -   | -        | V    |
| $V_I$               | input voltage                       |                            | 0    | -   | 5.5      | V    |
| $V_O$               | output voltage                      |                            | 0    | -   | $V_{CC}$ | V    |
| $T_{amb}$           | ambient temperature                 |                            | -40  | -   | +125     | °C   |
| $\Delta t/\Delta V$ | input transition rise and fall rate | $V_{CC} = 1.65$ V to 2.7 V | 0    | -   | 20       | ns/V |
|                     |                                     | $V_{CC} = 2.7$ V to 3.6 V  | 0    | -   | 10       | ns/V |

## 9 Static characteristics

**Table 6. Static characteristics**

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

| Symbol           | Parameter                 | Conditions   | -40 °C to +85 °C       |                    |                        | -40 °C to +125 °C      |                        | Unit |
|------------------|---------------------------|--|------------------------|--------------------|------------------------|------------------------|------------------------|------|
|                  |                           |  | Min                    | Typ <sup>[1]</sup> | Max                    | Min                    | Max                    |      |
| V <sub>IH</sub>  | HIGH-level input voltage  | V <sub>CC</sub> = 1.2 V  | 1.08                   | -                  | -                      | 1.08                   | -                      | V    |
|                  |                           | V <sub>CC</sub> = 1.65 V to 1.95 V   | 0.65 x V <sub>CC</sub> | -                  | -                      | 0.65 x V <sub>CC</sub> | -                      | V    |
|                  |                           | V <sub>CC</sub> = 2.3 V to 2.7 V   | 1.7                    | -                  | -                      | 1.7                    | -                      | V    |
|                  |                           | V <sub>CC</sub> = 2.7 V to 3.6 V   | 2.0                    | -                  | -                      | 2.0                    | -                      | V    |
| V <sub>IL</sub>  | LOW-level input voltage   | V <sub>CC</sub> = 1.2 V  | -                      | -                  | 0.12                   | -                      | 0.12                   | V    |
|                  |                           | V <sub>CC</sub> = 1.65 V to 1.95 V   | -                      | -                  | 0.35 x V <sub>CC</sub> | -                      | 0.35 x V <sub>CC</sub> | V    |
|                  |                           | V <sub>CC</sub> = 2.3 V to 2.7 V   | -                      | -                  | 0.7                    | -                      | 0.7                    | V    |
|                  |                           | V <sub>CC</sub> = 2.7 V to 3.6 V   | -                      | -                  | 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>  |                        |                    |                        |                        |                        |      |
|                  |                           | I <sub>O</sub> = -100 μA;<br>V <sub>CC</sub> = 1.65 V to 3.6 V   | V <sub>CC</sub> - 0.2  | -                  | -                      | V <sub>CC</sub> - 0.3  | -                      | V    |
|                  |                           | I <sub>O</sub> = -4 mA; V <sub>CC</sub> = 1.65 V   | 1.2                    | -                  | -                      | 1.05                   | -                      | V    |
|                  |                           | I <sub>O</sub> = -8 mA; V <sub>CC</sub> = 2.3 V  | 1.8                    | -                  | -                      | 1.65                   | -                      | V    |
|                  |                           | I <sub>O</sub> = -12 mA; V <sub>CC</sub> = 2.7 V   | 2.2                    | -                  | -                      | 2.05                   | -                      | V    |
|                  |                           | I <sub>O</sub> = -18 mA; V <sub>CC</sub> = 3.0 V   | 2.4                    | -                  | -                      | 2.25                   | -                      | 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> = 100 μA;<br>V <sub>CC</sub> = 1.65 V to 3.6 V  | -                      | -                  | 0.2                    | -                      | 0.3                    | V    |
|                  |                           | I <sub>O</sub> = 4 mA; V <sub>CC</sub> = 1.65 V  | -                      | -                  | 0.45                   | -                      | 0.65                   | V    |
|                  |                           | I <sub>O</sub> = 8 mA; V <sub>CC</sub> = 2.3 V   | -                      | -                  | 0.6                    | -                      | 0.8                    | V    |
|                  |                           | I <sub>O</sub> = 12 mA; V <sub>CC</sub> = 2.7 V  | -                      | -                  | 0.4                    | -                      | 0.6                    | V    |
|                  |                           | I <sub>O</sub> = 24 mA; V <sub>CC</sub> = 3.0 V  | -                      | -                  | 0.55                   | -                      | 0.8                    | V    |
| I <sub>I</sub>   | input leakage current     | V <sub>CC</sub> = 3.6 V; V <sub>I</sub> = 5.5 V or GND   | -                      | ±0.1               | ±5                     | -                      | ±20                    | μA   |
| I <sub>CC</sub>  | supply current            | V <sub>CC</sub> = 3.6 V; V <sub>I</sub> = V <sub>CC</sub> or GND;<br>I <sub>O</sub> = 0 A                          | -                      | 0.1                | 10                     | -                      | 40                     | μA   |
| ΔI <sub>CC</sub> | additional supply current | per input pin; V <sub>I</sub> = V <sub>CC</sub> - 0.6 V;<br>V <sub>CC</sub> = 2.7 V to 3.6 V; I <sub>O</sub> = 0 A | -                      | 5                  | 500                    | -                      | 5000                   | μA   |
| C <sub>I</sub>   | input capacitance         | V <sub>CC</sub> = 0 V to 3.6 V;<br>V <sub>I</sub> = GND to V <sub>CC</sub>   | -                      | 5.0                | -                      | -                      | -                      | pF   |

[1] All typical values are measured at V<sub>CC</sub> = 3.3 V (unless stated otherwise) and T<sub>amb</sub> = 25 °C.

## 10 Dynamic characteristics

**Table 7. Dynamic characteristics**

Voltages are referenced to GND (ground = 0 V). For test circuit see [Figure 9](#).

| Symbol                           | Parameter                     | Conditions  | -40 °C to +85 °C |                    |      | -40 °C to +125 °C |      | Unit |
|----------------------------------|-------------------------------|---|------------------|--------------------|------|-------------------|------|------|
|                                  |                               |   | Min              | Typ <sup>[1]</sup> | Max  | Min               | Max  |      |
| t <sub>pd</sub>                  | propagation delay             | nI0, nI1 to nY; see <a href="#">Figure 7</a> <sup>[2]</sup>       |                  |                    |      |                   |      |      |
|                                  |                               | V <sub>CC</sub> = 1.2 V   | -                | 16                 | -    | -                 | -    | ns   |
|                                  |                               | V <sub>CC</sub> = 1.65 V to 1.95 V                                | 1.0              | 4.8                | 10.2 | 1.0               | 11.8 | ns   |
|                                  |                               | V <sub>CC</sub> = 2.3 V to 2.7 V                                  | 1.5              | 2.8                | 5.8  | 1.5               | 6.7  | ns   |
|                                  |                               | V <sub>CC</sub> = 2.7 V   | 1.0              | 2.9                | 5.9  | 1.0               | 7.5  | ns   |
|                                  |                               | V <sub>CC</sub> = 3.0 V to 3.6 V                                  | 1.0              | 2.5                | 5.2  | 1.0               | 6.5  | ns   |
|                                  |                               | $\bar{E}$ to nY; see <a href="#">Figure 8</a> <sup>[2]</sup>      |                  |                    |      |                   |      |      |
|                                  |                               | V <sub>CC</sub> = 1.2 V   | -                | 17                 | -    | -                 | -    | ns   |
|                                  |                               | V <sub>CC</sub> = 1.65 V to 1.95 V                                | 0.5              | 4.8                | 12.8 | 0.5               | 14.7 | ns   |
|                                  |                               | V <sub>CC</sub> = 2.3 V to 2.7 V                                  | 1.5              | 2.8                | 7.2  | 1.5               | 8.3  | ns   |
|                                  |                               | V <sub>CC</sub> = 2.7 V   | 1.0              | 2.9                | 7.8  | 1.0               | 10.0 | ns   |
|                                  |                               | V <sub>CC</sub> = 3.0 V to 3.6 V                                  | 1.0              | 2.6                | 6.5  | 1.0               | 8.5  | ns   |
|                                  |                               | S to nY; see <a href="#">Figure 7</a> <sup>[2]</sup>              |                  |                    |      |                   |      |      |
|                                  |                               | V <sub>CC</sub> = 1.2 V   | -                | 16                 | -    | -                 | -    | ns   |
|                                  |                               | V <sub>CC</sub> = 1.65 V to 1.95 V                                | 1.0              | 5.1                | 12.4 | 1.0               | 14.3 | ns   |
| V <sub>CC</sub> = 2.3 V to 2.7 V | 1.5                           | 3.0   | 7.0              | 1.5                | 8.1  | ns                |      |      |
| V <sub>CC</sub> = 2.7 V          | 1.0                           | 3.1   | 7.3              | 1.0                | 9.5  | ns                |      |      |
| V <sub>CC</sub> = 3.0 V to 3.6 V | 1.0                           | 2.7   | 6.3              | 1.0                | 8.0  | ns                |      |      |
| t <sub>sk(o)</sub>               | output skew time              | V <sub>CC</sub> = 3.0 V to 3.6 V <sup>[3]</sup>                   | -                | -                  | 1.0  | -                 | 1.5  | ns   |
| C <sub>PD</sub>                  | power dissipation capacitance | per input; V <sub>I</sub> = GND to V <sub>CC</sub> <sup>[4]</sup> |                  |                    |      |                   |      |      |
|                                  |                               | V <sub>CC</sub> = 1.65 V to 1.95 V                                | -                | 9.4                | -    | -                 | -    | pF   |
|                                  |                               | V <sub>CC</sub> = 2.3 V to 2.7 V                                  | -                | 12.8               | -    | -                 | -    | pF   |
|                                  |                               | V <sub>CC</sub> = 3.0 V to 3.6 V                                  | -                | 15.9               | -    | -                 | -    | pF   |

[1] Typical values are measured at T<sub>amb</sub> = 25 °C and V<sub>CC</sub> = 1.2 V, 1.8 V, 2.5 V, 2.7 V, and 3.3 V respectively.

[2] t<sub>pd</sub> is the same as t<sub>PLH</sub> and t<sub>PHL</sub>.

[3] Skew between any two outputs of the same package switching in the same direction. This parameter is guaranteed by design.

[4] C<sub>PD</sub> is used to determine the dynamic power dissipation (P<sub>D</sub> in μW).

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

f<sub>i</sub> = input frequency in MHz; f<sub>o</sub> = output frequency in MHz

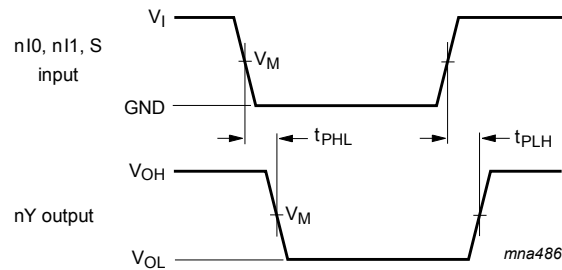
C<sub>L</sub> = output load capacitance in pF

V<sub>CC</sub> = supply voltage in V

N = number of inputs switching

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

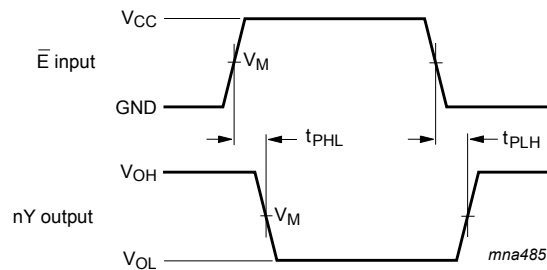
## 10.1 Waveforms and test circuit



$V_M = 1.5 \text{ V}$  at  $V_{CC} \geq 2.7 \text{ V}$ ;  $V_M = 0.5 \times V_{CC}$  at  $V_{CC} < 2.7 \text{ V}$ .

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

**Figure 7. Data inputs (nI0, nI1) and common data select input (S) to output (nY) propagation delays**

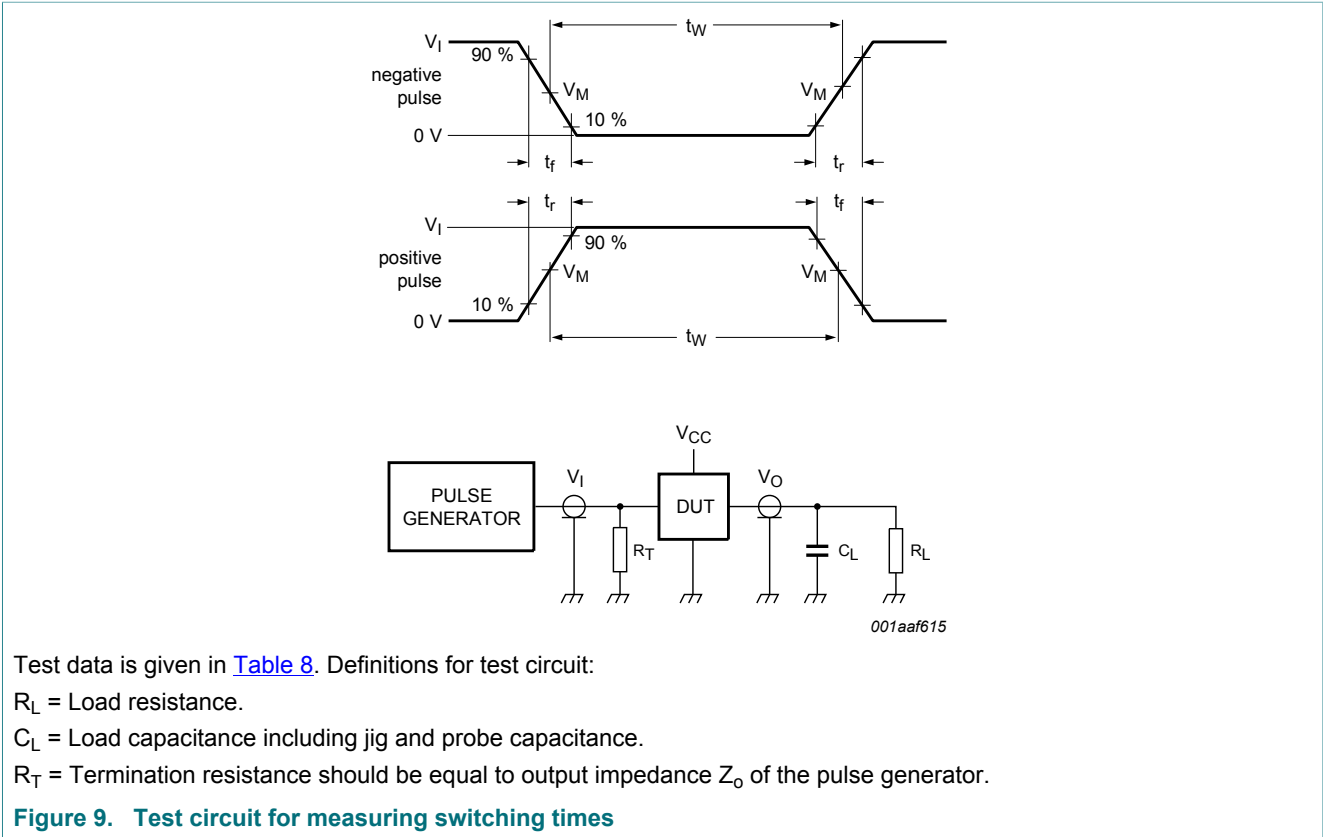


$V_M = 1.5 \text{ V}$  at  $V_{CC} \geq 2.7 \text{ V}$ ;  $V_M = 0.5 \times V_{CC}$  at  $V_{CC} < 2.7 \text{ V}$ .

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

**Figure 8. Enable input (E) to output (nY) propagation delays**





Test data is given in [Table 8](#). Definitions for test circuit:

$R_L$  = Load resistance.

$C_L$  = Load capacitance including jig and probe capacitance.

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

**Figure 9. Test circuit for measuring switching times**

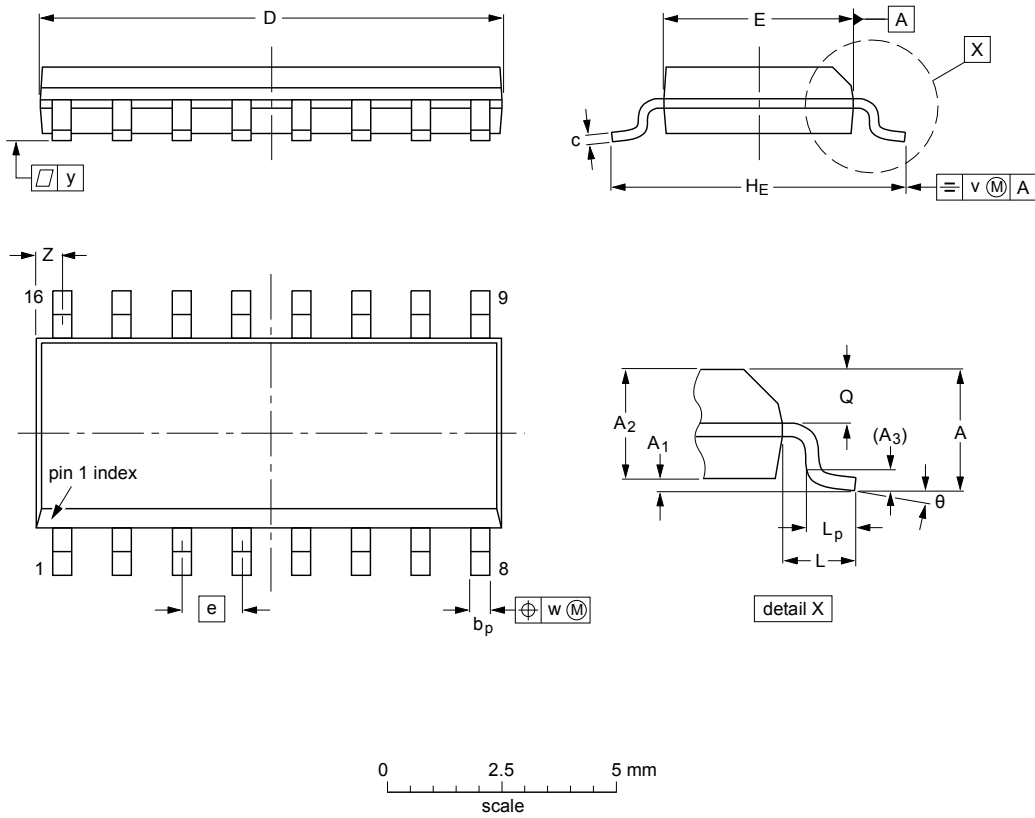
**Table 8. Test data**

| Supply voltage   | Input    |               | Load  |              |
|------------------|----------|---------------|-------|--------------|
|                  | $V_I$    | $t_r, t_f$    | $C_L$ | $R_L$        |
| 1.2 V            | $V_{CC}$ | $\leq 2$ ns   | 30 pF | 1 k $\Omega$ |
| 1.65 V to 1.95 V | $V_{CC}$ | $\leq 2$ ns   | 30 pF | 1 k $\Omega$ |
| 2.3 V to 2.7 V   | $V_{CC}$ | $\leq 2$ ns   | 30 pF | 500 $\Omega$ |
| 2.7 V            | 2.7 V    | $\leq 2.5$ ns | 50 pF | 500 $\Omega$ |
| 3.0 V to 3.6 V   | 2.7 V    | $\leq 2.5$ ns | 50 pF | 500 $\Omega$ |

11 Package outline

SO16: plastic small outline package; 16 leads; body width 3.9 mm

SOT109-1



DIMENSIONS (inch dimensions are derived from the original mm dimensions)

| UNIT   | A max. | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> | b <sub>p</sub> | c                | D <sup>(1)</sup> | E <sup>(1)</sup> | e    | H <sub>E</sub> | L     | L <sub>p</sub> | Q              | v    | w    | y     | Z <sup>(1)</sup> | θ        |
|--------|--------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------|----------------|-------|----------------|----------------|------|------|-------|------------------|----------|
| mm     | 1.75   | 0.25<br>0.10   | 1.45<br>1.25   | 0.25           | 0.49<br>0.36   | 0.25<br>0.19     | 10.0<br>9.8      | 4.0<br>3.8       | 1.27 | 6.2<br>5.8     | 1.05  | 1.0<br>0.4     | 0.7<br>0.6     | 0.25 | 0.25 | 0.1   | 0.7<br>0.3       | 8°<br>0° |
| inches | 0.069  | 0.010<br>0.004 | 0.057<br>0.049 | 0.01           | 0.019<br>0.014 | 0.0100<br>0.0075 | 0.39<br>0.38     | 0.16<br>0.15     | 0.05 | 0.244<br>0.228 | 0.041 | 0.039<br>0.016 | 0.028<br>0.020 | 0.01 | 0.01 | 0.004 | 0.028<br>0.012   |          |

Note

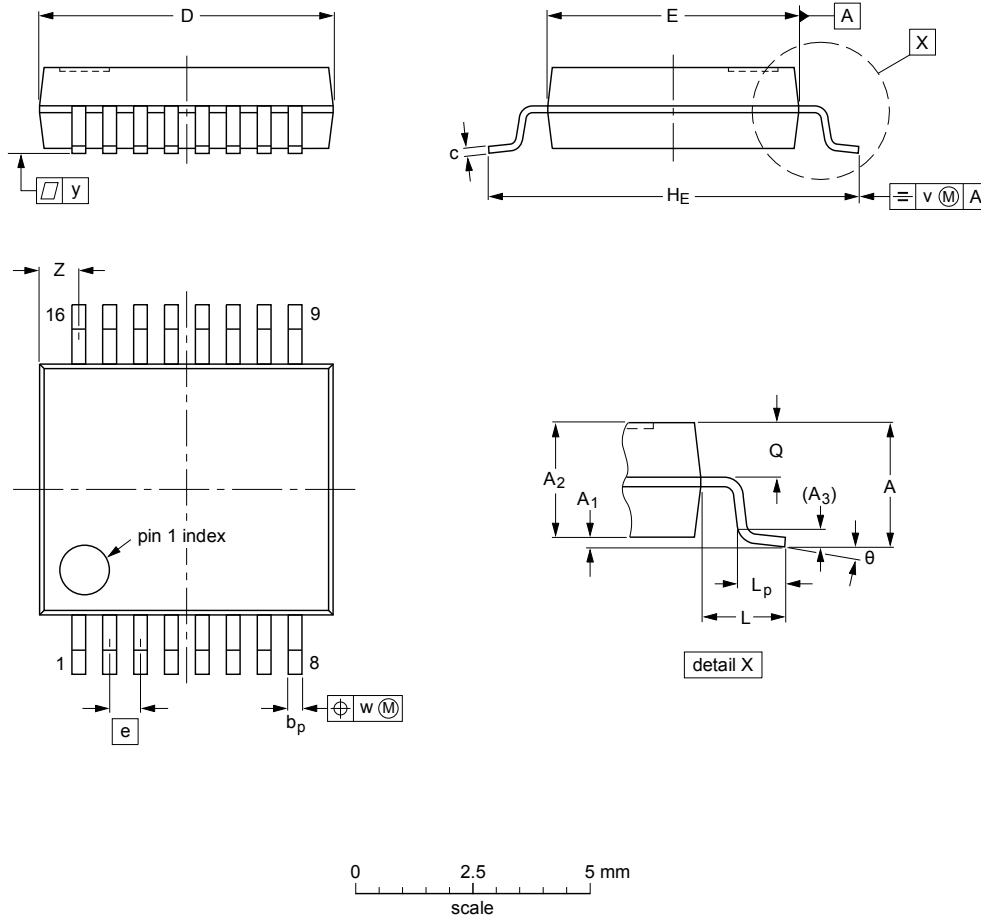
1. Plastic or metal protrusions of 0.15 mm (0.006 inch) maximum per side are not included.

| OUTLINE VERSION | REFERENCES |        |       | EUROPEAN PROJECTION | ISSUE DATE           |
|-----------------|------------|--------|-------|---------------------|----------------------|
|                 | IEC        | JEDEC  | JEITA |                     |                      |
| SOT109-1        | 076E07     | MS-012 |       |                     | 99-12-27<br>03-02-19 |

Figure 10. Package outline SOT109-1 (SO16)

SSOP16: plastic shrink small outline package; 16 leads; body width 5.3 mm

SOT338-1



**DIMENSIONS (mm are the original dimensions)**

| UNIT | A<br>max. | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> | b <sub>p</sub> | c            | D <sup>(1)</sup> | E <sup>(1)</sup> | e    | H <sub>E</sub> | L    | L <sub>p</sub> | Q          | v   | w    | y   | Z <sup>(1)</sup> | θ        |
|------|-----------|----------------|----------------|----------------|----------------|--------------|------------------|------------------|------|----------------|------|----------------|------------|-----|------|-----|------------------|----------|
| mm   | 2         | 0.21<br>0.05   | 1.80<br>1.65   | 0.25           | 0.38<br>0.25   | 0.20<br>0.09 | 6.4<br>6.0       | 5.4<br>5.2       | 0.65 | 7.9<br>7.6     | 1.25 | 1.03<br>0.63   | 0.9<br>0.7 | 0.2 | 0.13 | 0.1 | 1.00<br>0.55     | 8°<br>0° |

**Note**

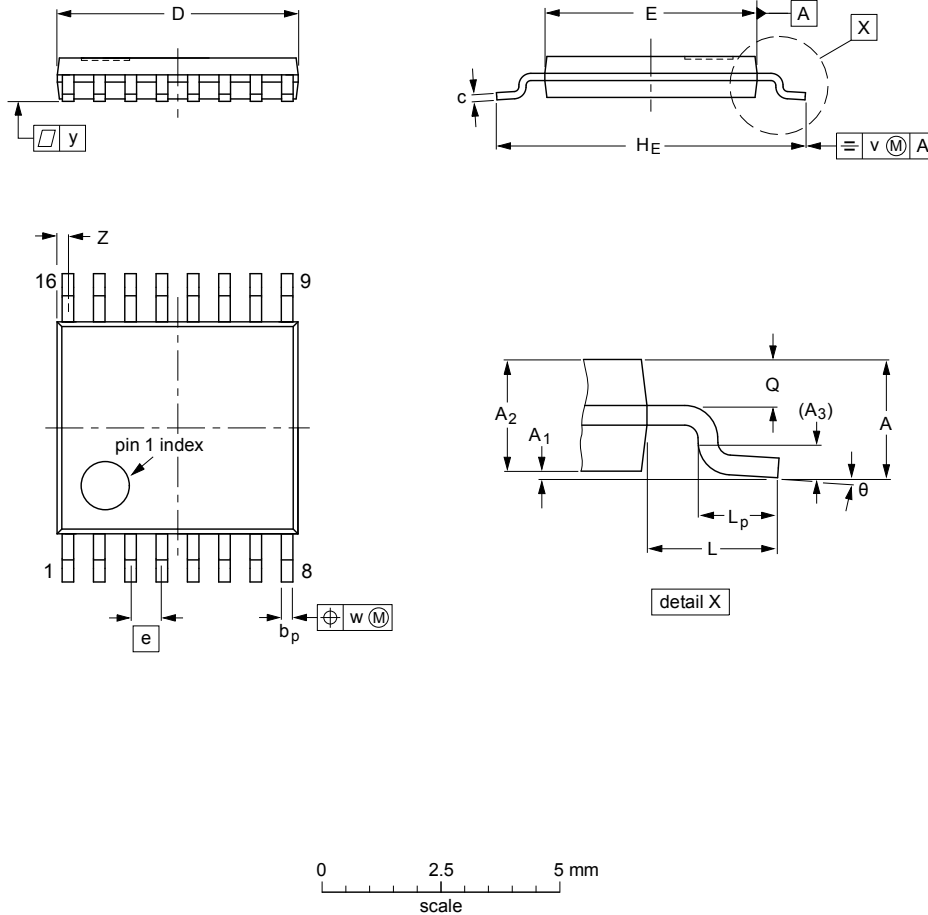
1. Plastic or metal protrusions of 0.25 mm maximum per side are not included.

| OUTLINE<br>VERSION | REFERENCES |        |       |  | EUROPEAN<br>PROJECTION | ISSUE DATE           |
|--------------------|------------|--------|-------|--|------------------------|----------------------|
|                    | IEC        | JEDEC  | JEITA |  |                        |                      |
| SOT338-1           |            | MO-150 |       |  |                        | 99-12-27<br>03-02-19 |

Figure 11. Package outline SOT338-1 (SSOP16)

TSSOP16: plastic thin shrink small outline package; 16 leads; body width 4.4 mm

SOT403-1



**DIMENSIONS (mm are the original dimensions)**

| UNIT | A max. | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> | b <sub>p</sub> | c          | D <sup>(1)</sup> | E <sup>(2)</sup> | e    | H <sub>E</sub> | L | L <sub>p</sub> | Q          | v   | w    | y   | Z <sup>(1)</sup> | θ        |
|------|--------|----------------|----------------|----------------|----------------|------------|------------------|------------------|------|----------------|---|----------------|------------|-----|------|-----|------------------|----------|
| mm   | 1.1    | 0.15<br>0.05   | 0.95<br>0.80   | 0.25           | 0.30<br>0.19   | 0.2<br>0.1 | 5.1<br>4.9       | 4.5<br>4.3       | 0.65 | 6.6<br>6.2     | 1 | 0.75<br>0.50   | 0.4<br>0.3 | 0.2 | 0.13 | 0.1 | 0.40<br>0.06     | 8°<br>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 VERSION | REFERENCES |        |       |  | EUROPEAN PROJECTION | ISSUE DATE           |
|-----------------|------------|--------|-------|--|---------------------|----------------------|
|                 | IEC        | JEDEC  | JEITA |  |                     |                      |
| SOT403-1        |            | MO-153 |       |  |                     | 99-12-27<br>03-02-18 |

Figure 12. Package outline SOT403-1 (TSSOP16)

DHVQFN16: plastic dual in-line compatible thermal enhanced very thin quad flat package; no leads; 16 terminals; body 2.5 x 3.5 x 0.85 mm

SOT763-1

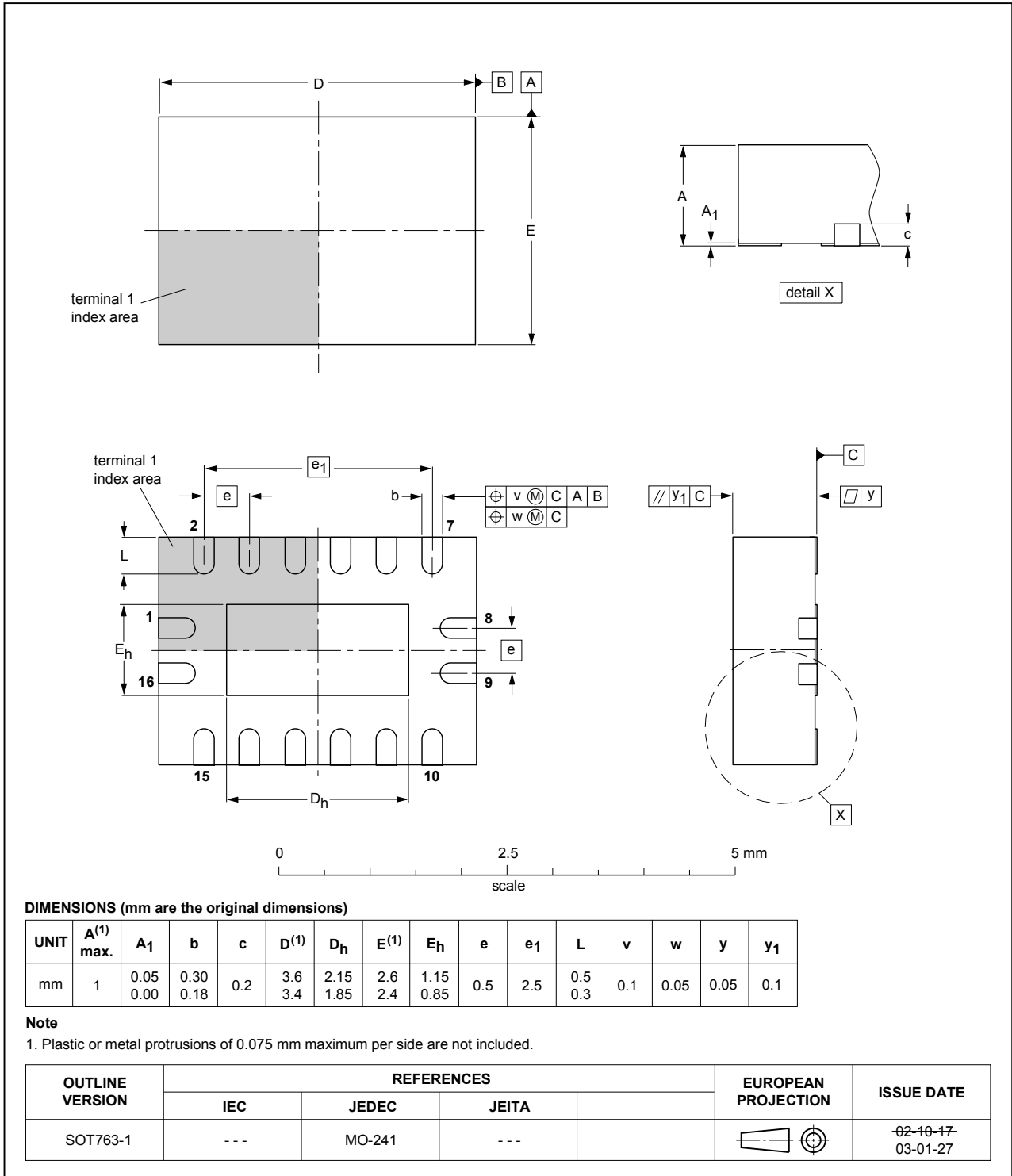


Figure 13. Package outline SOT763-1 (DHVQFN16)

## 12 Abbreviations

Table 9. Abbreviations

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

## 13 Revision history

Table 10. Revision history

| Document ID    | Release date   | Data sheet status     | Change notice | Supersedes    |
|----------------|--|-----------------------|---------------|---------------|
| 74LVC157A v.8  | 20171011   | Product data sheet    | -             | 74LVC157A v.7 |
| Modifications: | <ul style="list-style-type: none"> <li>The format of this data sheet has been redesigned to comply with the identity guidelines of Nexperia.</li> <li>Legal texts have been adapted to the new company name where appropriate.</li> </ul>  |                       |               |               |
| 74LVC157A v.7  | 20111125   | Product data sheet    | -             | 74LVC157A v.6 |
| Modifications: | <ul style="list-style-type: none"> <li><a href="#">Table 7</a>: maximum values for lower voltage ranges changed (errata).</li> </ul>   |                       |               |               |
| 74LVC157A v.6  | 20111027   | Product data sheet    | -             | 74LVC157A v.5 |
| Modifications: | <ul style="list-style-type: none"> <li>The format of this document has been redesigned to comply with the new identity guidelines of NXP Semiconductors.</li> <li>Legal texts have been adapted to the new company name where appropriate.</li> <li><a href="#">Table 4</a>, <a href="#">Table 5</a>, <a href="#">Table 6</a>, <a href="#">Table 7</a>, and <a href="#">Table 8</a>: values added for lower voltage ranges.</li> </ul> |                       |               |               |
| 74LVC157A v.5  | 031202   | Product specification | -             | 74LVC157A v.4 |
| 74LVC157A v.4  | 030617   | Product specification | -             | 74LVC157A v.3 |
| 74LVC157A v.3  | 020315   | Product specification | -             | 74LVC157A v.2 |
| 74LVC157A v.2  | 980729   | Product specification | -             | -             |

## 14 Legal information

### 14.1 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".

[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.nexperia.com>.

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