



# 74HC139-Q100; 74HCT139-Q100

Dual 2-to-4 line decoder/demultiplexer

Rev. 3 — 29 February 2024

Product data sheet

## 1. General description

The 74HC139-Q100; 74HCT139-Q100 decodes two binary weighted address inputs (nA0, nA1) to four mutually exclusive outputs (nY0 to nY3). Each decoder features an enable input (nE). When nE is HIGH all outputs are forced HIGH. The enable input can be used as the data input for a 1-to-4 demultiplexer application. Inputs include clamp diodes that enable the use of current limiting resistors to interface inputs to voltages in excess of  $V_{CC}$ .

This product has been qualified to the Automotive Electronics Council (AEC) standard Q100 (Grade 1) and is suitable for use in automotive applications.

## 2. Features and benefits

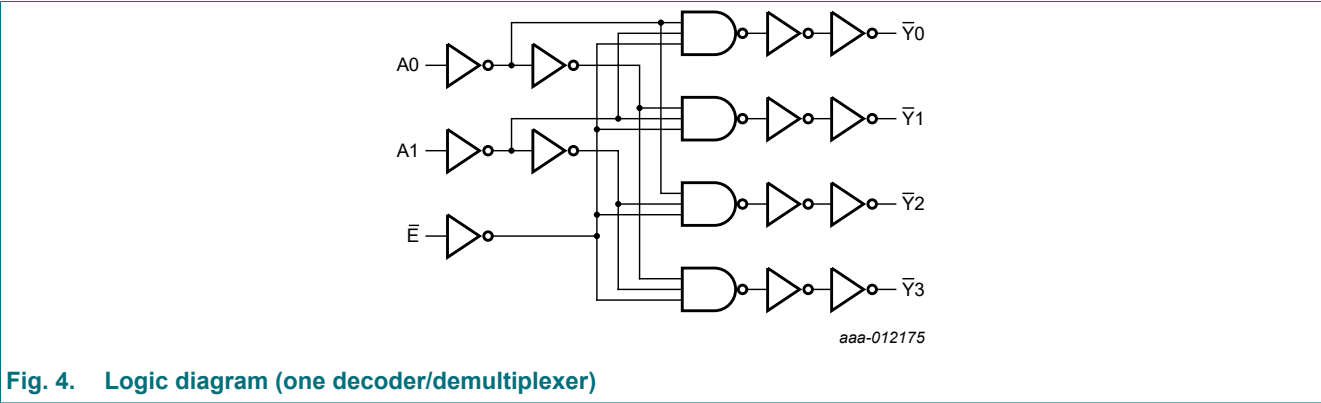
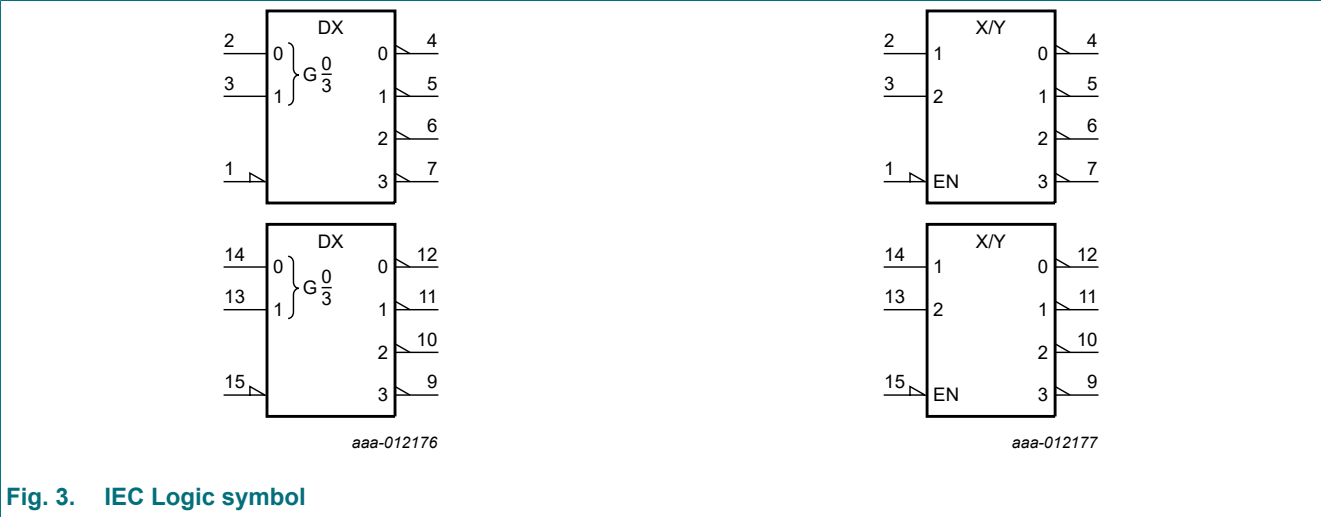
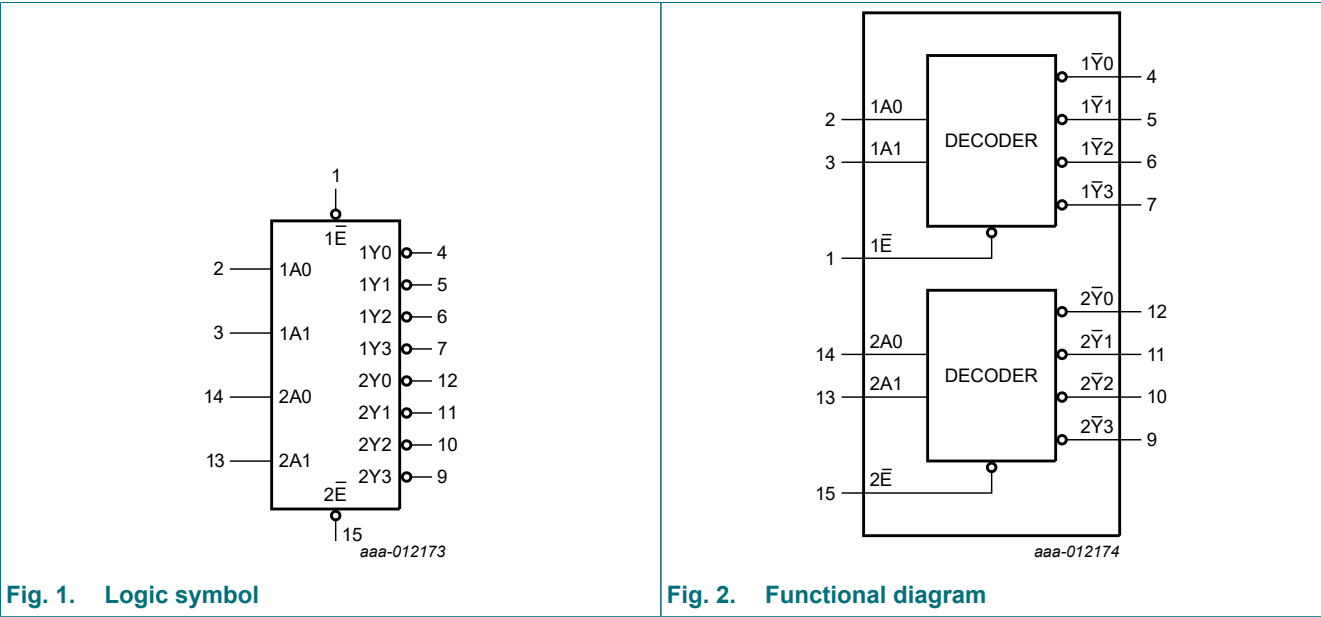
- Automotive product qualification in accordance with AEC-Q100 (Grade 1)
  - Specified from -40 °C to +85 °C and from -40 °C to +125 °C
- Input levels:
  - For 74HC139-Q100: CMOS level
  - For 74HCT139-Q100: TTL level
- Demultiplexing capability
- 2 independent 2-to-4 decoders
- Multifunction capability
- Suitable for memory decoding, data routing or code conversion
- Complies with JEDEC standard no. 7A
- Active LOW mutually exclusive outputs
- ESD protection:
  - HBM: ANSI/ESDA/JEDEC JS-001 class 2 exceeds 2000 V
  - CDM: ANSI/ESDA/JEDEC JS-002 class C3 exceeds 1000 V

## 3. Ordering information

Table 1. Ordering information

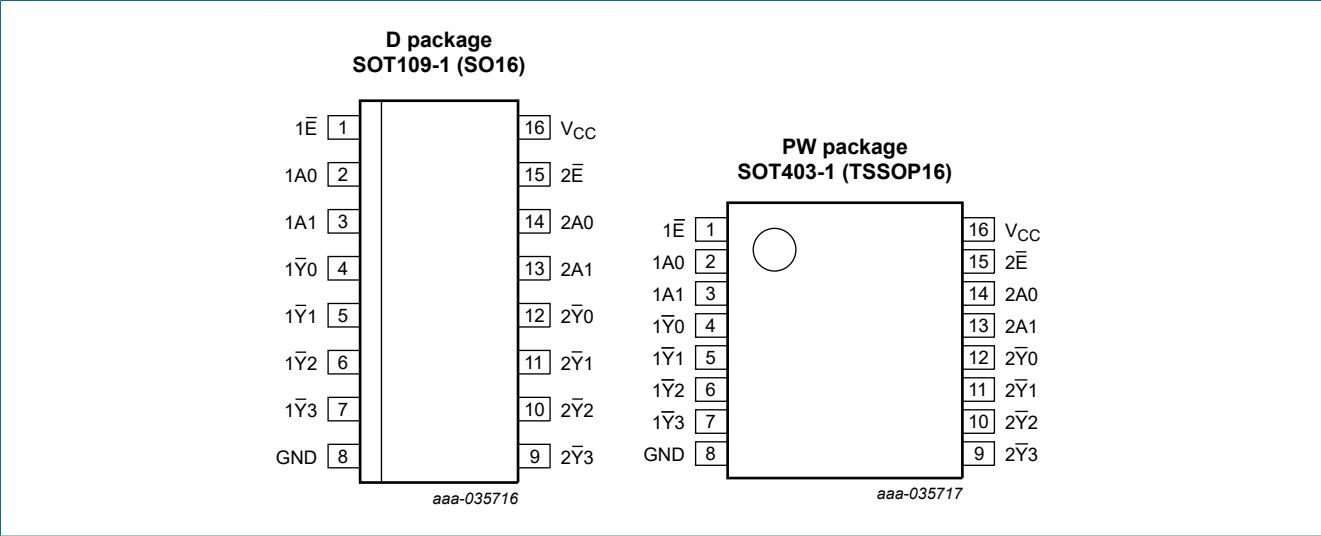
| Type number                                                       | Package           |         |                                                                           |                          |
|-------------------------------------------------------------------|-------------------|---------|---------------------------------------------------------------------------|--------------------------|
|                                                                   | Temperature range | Name    | Description                                                               | Version                  |
| <a href="#">74HC139D-Q100</a><br><a href="#">74HCT139D-Q100</a>   | -40 °C to +125 °C | SO16    | plastic small outline package; 16 leads;<br>body width 3.9 mm             | <a href="#">SOT109-1</a> |
| <a href="#">74HC139PW-Q100</a><br><a href="#">74HCT139PW-Q100</a> | -40 °C to +125 °C | TSSOP16 | plastic thin shrink small outline package;<br>16 leads; body width 4.4 mm | <a href="#">SOT403-1</a> |

4. Functional diagram



5. Pinning information

5.1. Pinning



5.2. Pin description

Table 2. Pin description

| Symbol             | Pin           | Description               |
|--------------------|---------------|---------------------------|
| 1E, 2E             | 1, 15         | enable input (active LOW) |
| 1A0, 1A1           | 2, 3          | address input             |
| 1Y0, 1Y1, 1Y2, 1Y3 | 4, 5, 6, 7    | output (active LOW)       |
| GND                | 8             | ground (0 V)              |
| 2Y0, 2Y1, 2Y2, 2Y3 | 12, 11, 10, 9 | output (active LOW)       |
| 2A0, 2A1           | 14, 13        | address input             |
| VCC                | 16            | positive supply voltage   |

6. Functional description

Table 3. Function table

H = HIGH voltage level; L = LOW voltage level; X = don't care.

| Control | Input |     | Output |     |     |     |
|---------|-------|-----|--------|-----|-----|-----|
| nE      | nA1   | nA0 | nY3    | nY2 | nY1 | nY0 |
| H       | X     | X   | H      | H   | H   | H   |
| L       | L     | L   | H      | H   | H   | L   |
| L       | L     | H   | H      | H   | L   | H   |
| L       | H     | L   | H      | L   | H   | H   |
| L       | H     | H   | L      | H   | H   | H   |

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 <sub>CC</sub>  | supply voltage           |                                                                     | -0.5 | +7   | V    |
| I <sub>IK</sub>  | input clamping current   | V <sub>I</sub> < -0.5 V or V <sub>I</sub> > V <sub>CC</sub> + 0.5 V | -    | ±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 | -    | ±20  | mA   |
| I <sub>O</sub>   | output current           | V <sub>O</sub> = -0.5 V to (V <sub>CC</sub> + 0.5 V)                | -    | ±25  | mA   |
| I <sub>CC</sub>  | quiescent supply current |                                                                     | -    | 50   | mA   |
| I <sub>GND</sub> | ground current           |                                                                     | -50  | -    | mA   |
| T <sub>stg</sub> | storage temperature      |                                                                     | -65  | +150 | °C   |
| P <sub>tot</sub> | total power dissipation  | [1]                                                                 | -    | 500  | mW   |

[1] For SOT109-1 (SO16) package: P<sub>tot</sub> derates linearly with 12.4 mW/K above 110 °C.  
For SOT403-1 (TSSOP16) package: P<sub>tot</sub> derates linearly with 8.5 mW/K above 91 °C.

8. Recommended operating conditions

Table 5. Recommended operating conditions

Voltages are referenced to GND (ground = 0 V)

| Symbol           | Parameter                           | Conditions              | 74HC139-Q100 |      |                 | 74HCT139-Q100 |      |                 | Unit |
|------------------|-------------------------------------|-------------------------|--------------|------|-----------------|---------------|------|-----------------|------|
|                  |                                     |                         | Min          | Typ  | Max             | Min           | Typ  | Max             |      |
| V <sub>CC</sub>  | supply voltage                      |                         | 2.0          | 5.0  | 6.0             | 4.5           | 5.0  | 5.5             | V    |
| V <sub>I</sub>   | input voltage                       |                         | 0            | -    | V <sub>CC</sub> | 0             | -    | V <sub>CC</sub> | 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> = 2.0 V | -            | -    | 625             | -             | -    | -               | ns/V |
|                  |                                     | V <sub>CC</sub> = 4.5 V | -            | 1.67 | 139             | -             | 1.67 | 139             | ns/V |
|                  |                                     | V <sub>CC</sub> = 6.0 V | -            | -    | 83              | -             | -    | -               | ns/V |

9. Static characteristics

Table 6. Static characteristics

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

| Symbol          | Parameter                 | Conditions                                                                                                             | 25 °C |      |      | -40 °C to +85 °C |      | -40 °C to +125 °C |       | Unit |
|-----------------|---------------------------|------------------------------------------------------------------------------------------------------------------------|-------|------|------|------------------|------|-------------------|-------|------|
|                 |                           |                                                                                                                        | Min   | Typ  | Max  | Min              | Max  | Min               | Max   |      |
| 74HC139-Q100    |                           |                                                                                                                        |       |      |      |                  |      |                   |       |      |
| V <sub>IH</sub> | HIGH-level input voltage  | V <sub>CC</sub> = 2.0 V                                                                                                | 1.5   | 1.2  | -    | 1.5              | -    | 1.5               | -     | V    |
|                 |                           | V <sub>CC</sub> = 4.5 V                                                                                                | 3.15  | 2.4  | -    | 3.15             | -    | 3.15              | -     | V    |
|                 |                           | V <sub>CC</sub> = 6.0 V                                                                                                | 4.2   | 3.2  | -    | 4.2              | -    | 4.2               | -     | V    |
| V <sub>IL</sub> | LOW-level input voltage   | V <sub>CC</sub> = 2.0 V                                                                                                | -     | 0.8  | 0.5  | -                | 0.5  | -                 | 0.5   | V    |
|                 |                           | V <sub>CC</sub> = 4.5 V                                                                                                | -     | 2.1  | 1.35 | -                | 1.35 | -                 | 1.35  | V    |
|                 |                           | V <sub>CC</sub> = 6.0 V                                                                                                | -     | 2.8  | 1.8  | -                | 1.8  | -                 | 1.8   | 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> = -20 µA; V <sub>CC</sub> = 2.0 V                                                                       | 1.9   | 2.0  | -    | 1.9              | -    | 1.9               | -     | V    |
|                 |                           | I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 4.5 V                                                                       | 4.4   | 4.5  | -    | 4.4              | -    | 4.4               | -     | V    |
|                 |                           | I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 6.0 V                                                                       | 5.9   | 6.0  | -    | 5.9              | -    | 5.9               | -     | V    |
|                 |                           | I <sub>O</sub> = -4.0 mA; V <sub>CC</sub> = 4.5 V                                                                      | 3.98  | 4.32 | -    | 3.84             | -    | 3.7               | -     | V    |
|                 |                           | I <sub>O</sub> = -5.2 mA; V <sub>CC</sub> = 6.0 V                                                                      | 5.48  | 5.81 | -    | 5.34             | -    | 5.2               | -     | 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> = 20 µA; V <sub>CC</sub> = 2.0 V                                                                        | -     | 0    | 0.1  | -                | 0.1  | -                 | 0.1   | V    |
|                 |                           | I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 4.5 V                                                                        | -     | 0    | 0.1  | -                | 0.1  | -                 | 0.1   | V    |
|                 |                           | I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 6.0 V                                                                        | -     | 0    | 0.1  | -                | 0.1  | -                 | 0.1   | V    |
|                 |                           | I <sub>O</sub> = 4.0 mA; V <sub>CC</sub> = 4.5 V                                                                       | -     | 0.15 | 0.26 | -                | 0.33 | -                 | 0.4   | V    |
|                 |                           | I <sub>O</sub> = 5.2 mA; V <sub>CC</sub> = 6.0 V                                                                       | -     | 0.16 | 0.26 | -                | 0.33 | -                 | 0.4   | V    |
| I <sub>I</sub>  | input leakage current     | V <sub>I</sub> = V <sub>CC</sub> or GND; V <sub>CC</sub> = 6.0 V                                                       | -     | -    | ±0.1 | -                | ±1.0 | -                 | ±1.0  | µA   |
| 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> = 6.0 V | -     | -    | ±0.5 | -                | ±5.0 | -                 | ±10.0 | 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> = 6.0 V                                 | -     | -    | 8.0  | -                | 80   | -                 | 160   | µA   |
| C <sub>I</sub>  | input capacitance         |                                                                                                                        | -     | 3.5  | -    | -                | -    | -                 | -     | pF   |
| 74HCT139-Q100   |                           |                                                                                                                        |       |      |      |                  |      |                   |       |      |
| V <sub>IH</sub> | HIGH-level input voltage  | V <sub>CC</sub> = 4.5 V to 5.5 V                                                                                       | 2.0   | 1.6  | -    | 2.0              | -    | 2.0               | -     | V    |
| V <sub>IL</sub> | LOW-level input voltage   | V <sub>CC</sub> = 4.5 V to 5.5 V                                                                                       | -     | 1.2  | 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> = -20 µA                                                                                                | 4.4   | 4.5  | -    | 4.4              | -    | 4.4               | -     | V    |
|                 |                           | I <sub>O</sub> = -4 mA                                                                                                 | 3.98  | 4.32 | -    | 3.84             | -    | 3.7               | -     | 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> = 20 µA                                                                                                 | -     | 0    | 0.1  | -                | 0.1  | -                 | 0.1   | V    |
|                 |                           | I <sub>O</sub> = 4.0 mA                                                                                                | -     | 0.15 | 0.26 | -                | 0.33 | -                 | 0.4   | V    |
| I <sub>I</sub>  | input leakage current     | V <sub>I</sub> = V <sub>CC</sub> or GND; V <sub>CC</sub> = 5.5 V                                                       | -     | -    | ±0.1 | -                | ±1.0 | -                 | ±1.0  | µA   |

| Symbol           | Parameter                 | Conditions                                                                                                                                     | 25 °C |     |      | -40 °C to +85 °C |       | -40 °C to +125 °C |       | Unit |
|------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|------|------------------|-------|-------------------|-------|------|
|                  |                           |                                                                                                                                                | Min   | Typ | Max  | Min              | Max   | Min               | Max   |      |
| I <sub>OZ</sub>  | OFF-state output current  | V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub> ;<br>V <sub>O</sub> = V <sub>CC</sub> or GND;<br>V <sub>CC</sub> = 5.5 V                   | -     | -   | ±0.5 | -                | ±5.0  | -                 | ±10   | 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                                                      | -     | -   | 8.0  | -                | 80    | -                 | 160   | µA   |
| ΔI <sub>CC</sub> | additional supply current | V <sub>I</sub> = V <sub>CC</sub> - 2.1 V;<br>other inputs at V <sub>CC</sub> or GND;<br>V <sub>CC</sub> = 4.5 V to 5.5 V; I <sub>O</sub> = 0 A |       |     |      |                  |       |                   |       |      |
|                  |                           | per input pin; 1An inputs                                                                                                                      | -     | 70  | 252  | -                | 315   | -                 | 343   | µA   |
|                  |                           | per input pin; 2An inputs                                                                                                                      | -     | 70  | 252  | -                | 315   | -                 | 343   | µA   |
|                  |                           | per input pin; nE inputs                                                                                                                       | -     | 135 | 486  | -                | 607.5 | -                 | 661.5 | µA   |
| C <sub>I</sub>   | input capacitance         |                                                                                                                                                | -     | 3.5 | -    | -                | -     | -                 | -     | pF   |

10. Dynamic characteristics

Table 7. Dynamic characteristics

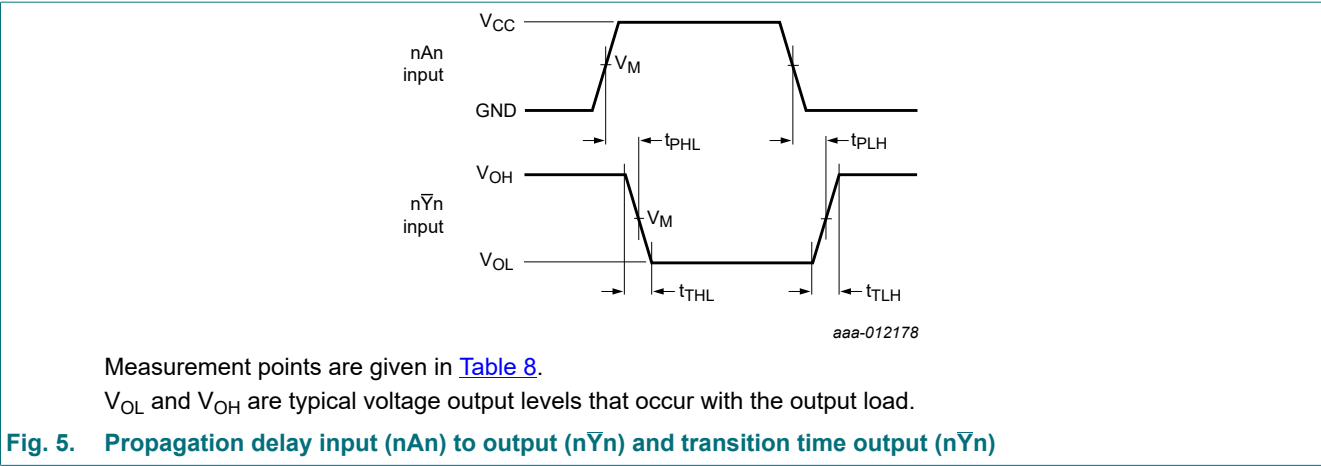
Voltages are referenced to GND (ground = 0 V); C<sub>L</sub> = 50 pF unless otherwise specified; for test circuit see Fig. 7.

| Symbol          | Parameter                     | Conditions                                                                     | 25 °C |     |     | -40 °C to +85 °C |     | -40 °C to +125 °C |     | Unit |
|-----------------|-------------------------------|--------------------------------------------------------------------------------|-------|-----|-----|------------------|-----|-------------------|-----|------|
|                 |                               |                                                                                | Min   | Typ | Max | Min              | Max | Min               | Max |      |
| 74HC139-Q100    |                               |                                                                                |       |     |     |                  |     |                   |     |      |
| t <sub>pd</sub> | propagation delay             | nAn to nȳn; see <a href="#">Fig. 5</a> [1]                                     |       |     |     |                  |     |                   |     |      |
|                 |                               | V <sub>CC</sub> = 2.0 V                                                        | -     | 39  | 145 | -                | 180 | -                 | 220 | ns   |
|                 |                               | V <sub>CC</sub> = 4.5 V                                                        | -     | 14  | 29  | -                | 36  | -                 | 44  | ns   |
|                 |                               | V <sub>CC</sub> = 5.0 V; C <sub>L</sub> = 15 pF                                | -     | 11  | -   | -                | -   | -                 | -   | ns   |
|                 |                               | V <sub>CC</sub> = 6.0 V                                                        | -     | 11  | 25  | -                | 31  | -                 | 38  | ns   |
|                 |                               | nĒ to nȳn; see <a href="#">Fig. 6</a> [1]                                      |       |     |     |                  |     |                   |     |      |
|                 |                               | V <sub>CC</sub> = 2.0 V                                                        | -     | 33  | 135 | -                | 170 | -                 | 205 | ns   |
|                 |                               | V <sub>CC</sub> = 4.5 V                                                        | -     | 12  | 27  | -                | 34  | -                 | 41  | ns   |
|                 |                               | V <sub>CC</sub> = 5.0 V; C <sub>L</sub> = 15 pF                                | -     | 10  | -   | -                | -   | -                 | -   | ns   |
|                 | V <sub>CC</sub> = 6.0 V       | -                                                                              | 10    | 23  | -   | 29               | -   | 35                | ns  |      |
| t <sub>t</sub>  | transition time               | nȳn; see <a href="#">Fig. 5</a> and <a href="#">Fig. 6</a> [2]                 |       |     |     |                  |     |                   |     |      |
|                 |                               | V <sub>CC</sub> = 2.0 V                                                        | -     | 19  | 75  | -                | 95  | -                 | 110 | ns   |
|                 |                               | V <sub>CC</sub> = 4.5 V                                                        | -     | 7   | 15  | -                | 19  | -                 | 22  | ns   |
|                 |                               | V <sub>CC</sub> = 6.0 V                                                        | -     | 6   | 13  | -                | 16  | -                 | 19  | ns   |
| C <sub>PD</sub> | power dissipation capacitance | C <sub>L</sub> = 50 pF; f = 1 MHz; V <sub>I</sub> = GND to V <sub>CC</sub> [3] | -     | 42  | -   | -                | -   | -                 | -   | pF   |

| Symbol          | Parameter                     | Conditions                                                                             | 25 °C |     |     | -40 °C to +85 °C |     | -40 °C to +125 °C |     | Unit |
|-----------------|-------------------------------|----------------------------------------------------------------------------------------|-------|-----|-----|------------------|-----|-------------------|-----|------|
|                 |                               |                                                                                        | Min   | Typ | Max | Min              | Max | Min               | Max |      |
| 74HCT139-Q100   |                               |                                                                                        |       |     |     |                  |     |                   |     |      |
| t <sub>pd</sub> | propagation delay             | nAn to $\overline{Y}n$ ; see Fig. 5 [1]                                                |       |     |     |                  |     |                   |     |      |
|                 |                               | V <sub>CC</sub> = 4.5 V                                                                | -     | 16  | 34  | -                | 43  | -                 | 51  | ns   |
|                 |                               | V <sub>CC</sub> = 5.0 V; C <sub>L</sub> = 15 pF                                        | -     | 13  | -   | -                | -   | -                 | -   | ns   |
|                 |                               | n $\overline{E}$ to n $\overline{Y}n$ ; see Fig. 6 [1]                                 |       |     |     |                  |     |                   |     |      |
|                 |                               | V <sub>CC</sub> = 4.5 V                                                                | -     | 16  | 34  | -                | 43  | -                 | 51  | ns   |
|                 |                               | V <sub>CC</sub> = 5.0 V; C <sub>L</sub> = 15 pF                                        | -     | 13  | -   | -                | -   | -                 | -   | ns   |
| t <sub>t</sub>  | transition time               | n $\overline{Y}n$ ; see Fig. 5 and Fig. 6 [2]                                          |       |     |     |                  |     |                   |     |      |
|                 |                               | V <sub>CC</sub> = 4.5 V                                                                | -     | 7   | 15  | -                | 19  | -                 | 22  | ns   |
| C <sub>PD</sub> | power dissipation capacitance | C <sub>L</sub> = 50 pF; f = 1 MHz; V <sub>I</sub> = GND to V <sub>CC</sub> - 1.5 V [3] | -     | 44  | -   | -                | -   | -                 | -   | pF   |

- [1] t<sub>pd</sub> is the same as t<sub>PLH</sub> and t<sub>PHL</sub>.
- [2] t<sub>t</sub> is the same as t<sub>THL</sub> and t<sub>TLH</sub>.
- [3] C<sub>PD</sub> is used to determine the dynamic power dissipation (P<sub>D</sub> in μW).  
 $P_D = C_{PD} \times V_{CC}^2 \times f_i \times N + \Sigma(C_L \times V_{CC}^2 \times f_o)$  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;  
 $\Sigma(C_L \times V_{CC}^2 \times f_o)$  = sum of outputs.

10.1. Waveforms and test circuit



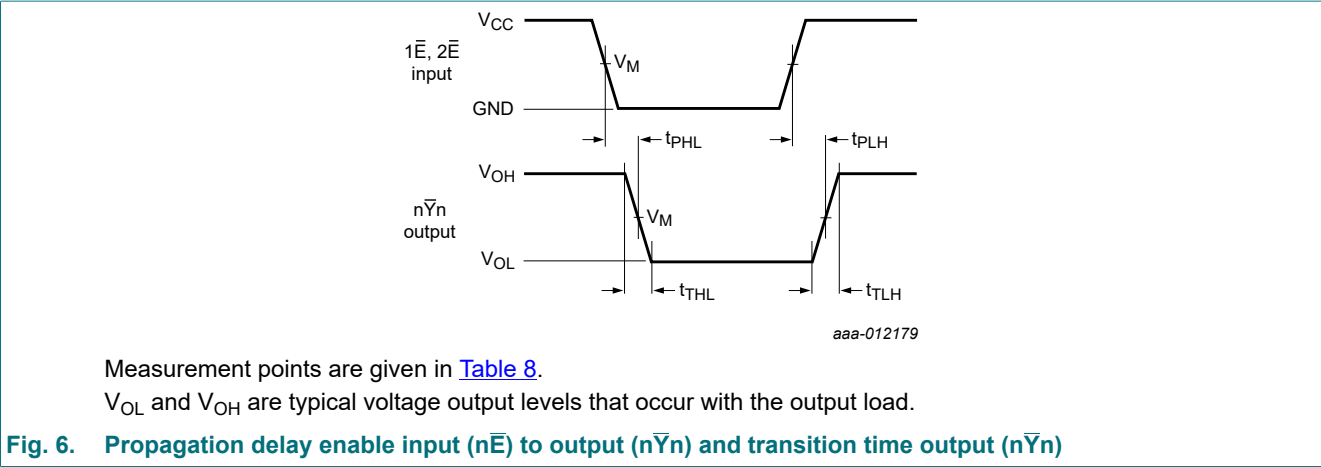


Table 8. Measurement points

| Type          | Input               | Output              |
|---------------|---------------------|---------------------|
|               | $V_M$               | $V_M$               |
| 74HC139-Q100  | $0.5 \times V_{CC}$ | $0.5 \times V_{CC}$ |
| 74HCT139-Q100 | 1.3 V               | 1.3 V               |

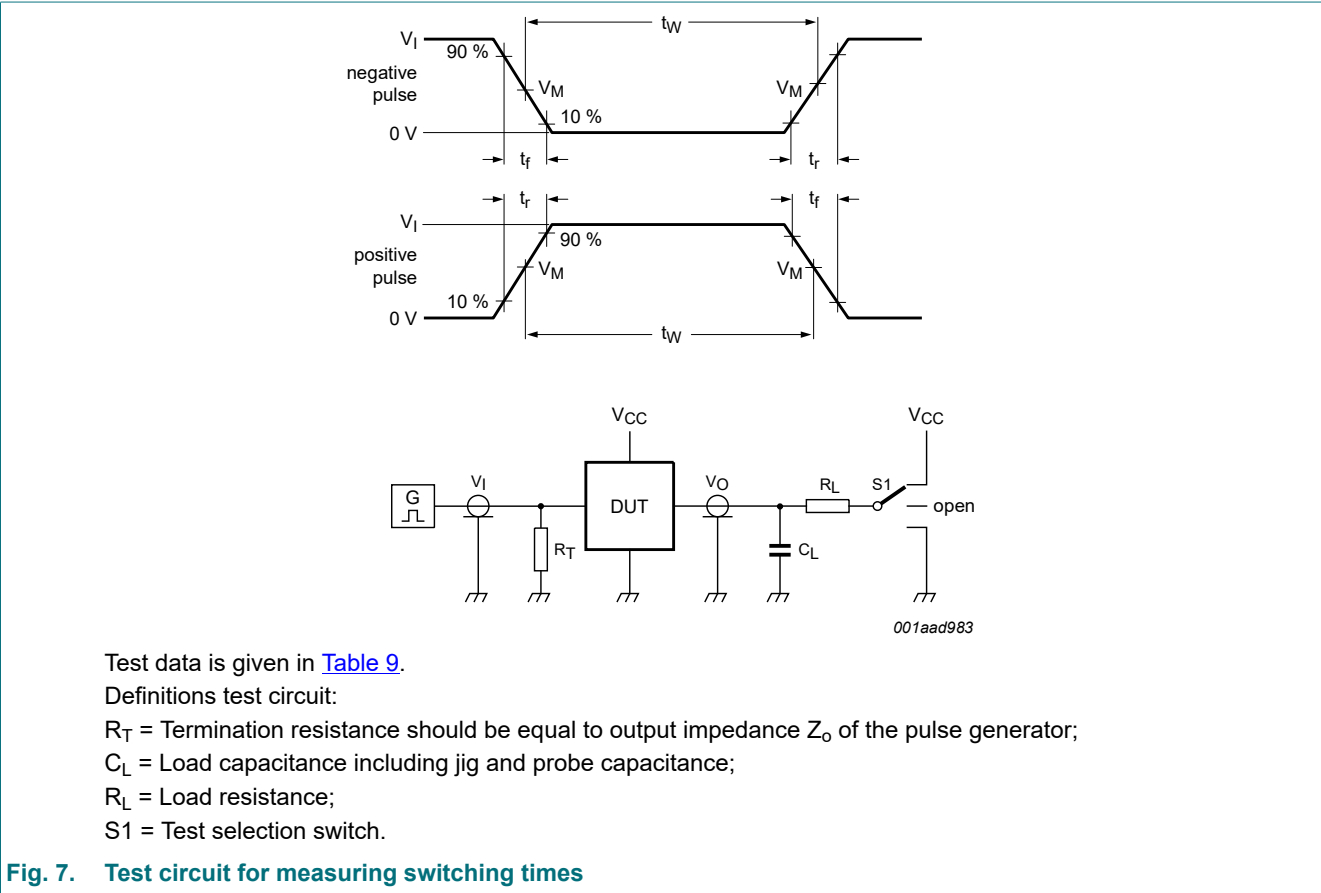


Fig. 7. Test circuit for measuring switching times

Table 9. Test data

| Type          | Input    |            | Load         |              | S1 position        |                    |                    |
|---------------|----------|------------|--------------|--------------|--------------------|--------------------|--------------------|
|               | $V_I$    | $t_r, t_f$ | $C_L$        | $R_L$        | $t_{PHL}, t_{PLH}$ | $t_{PZH}, t_{PHZ}$ | $t_{PZL}, t_{PLZ}$ |
| 74HC139-Q100  | $V_{CC}$ | 6 ns       | 15 pF, 50 pF | 1 k $\Omega$ | open               | GND                | $V_{CC}$           |
| 74HCT139-Q100 | 3 V      | 6 ns       | 15 pF, 50 pF | 1 k $\Omega$ | open               | GND                | $V_{CC}$           |

11. Package outline

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

SOT109-1

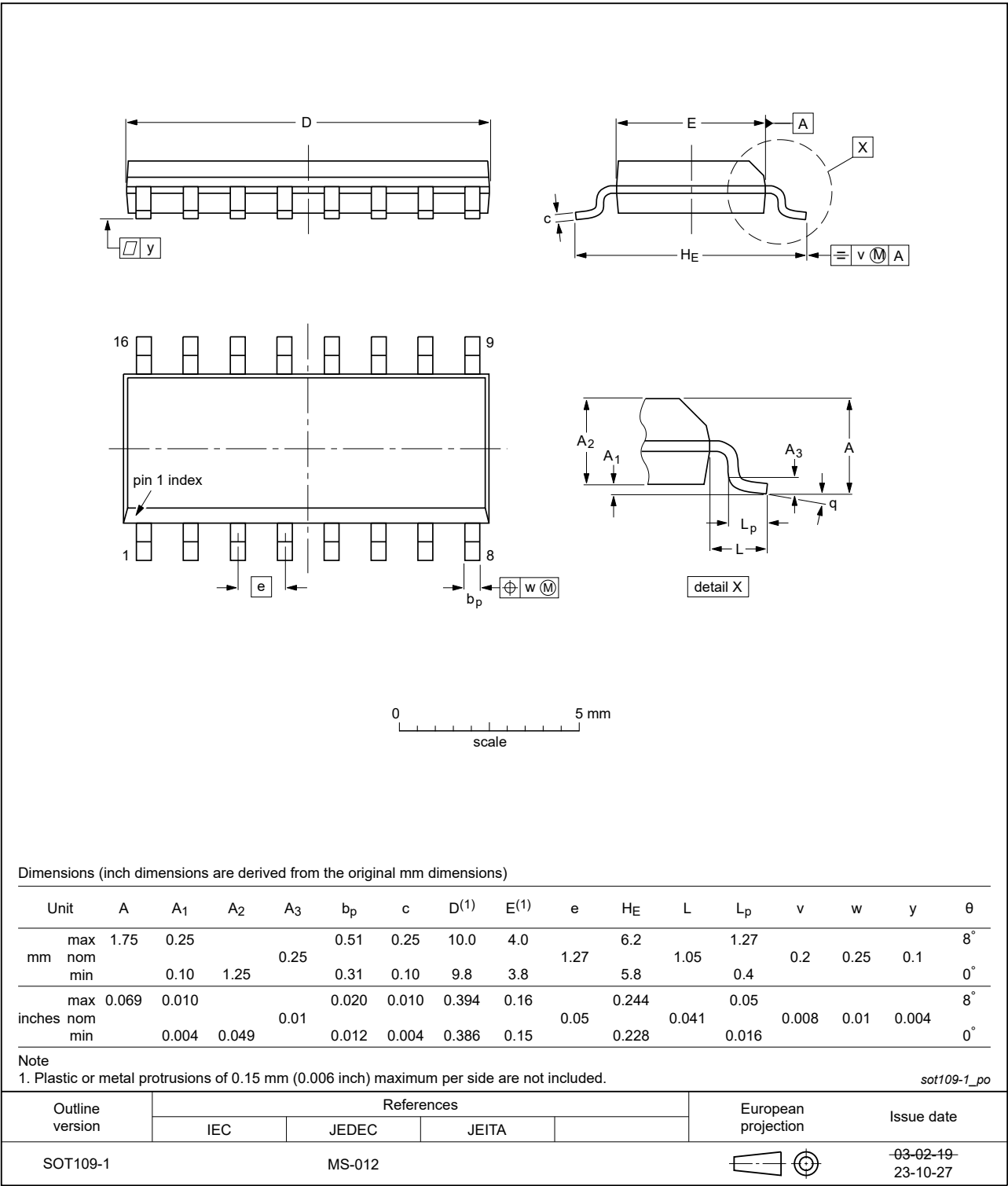


Fig. 8. Package outline SOT109-1 (SO16)

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

SOT403-1

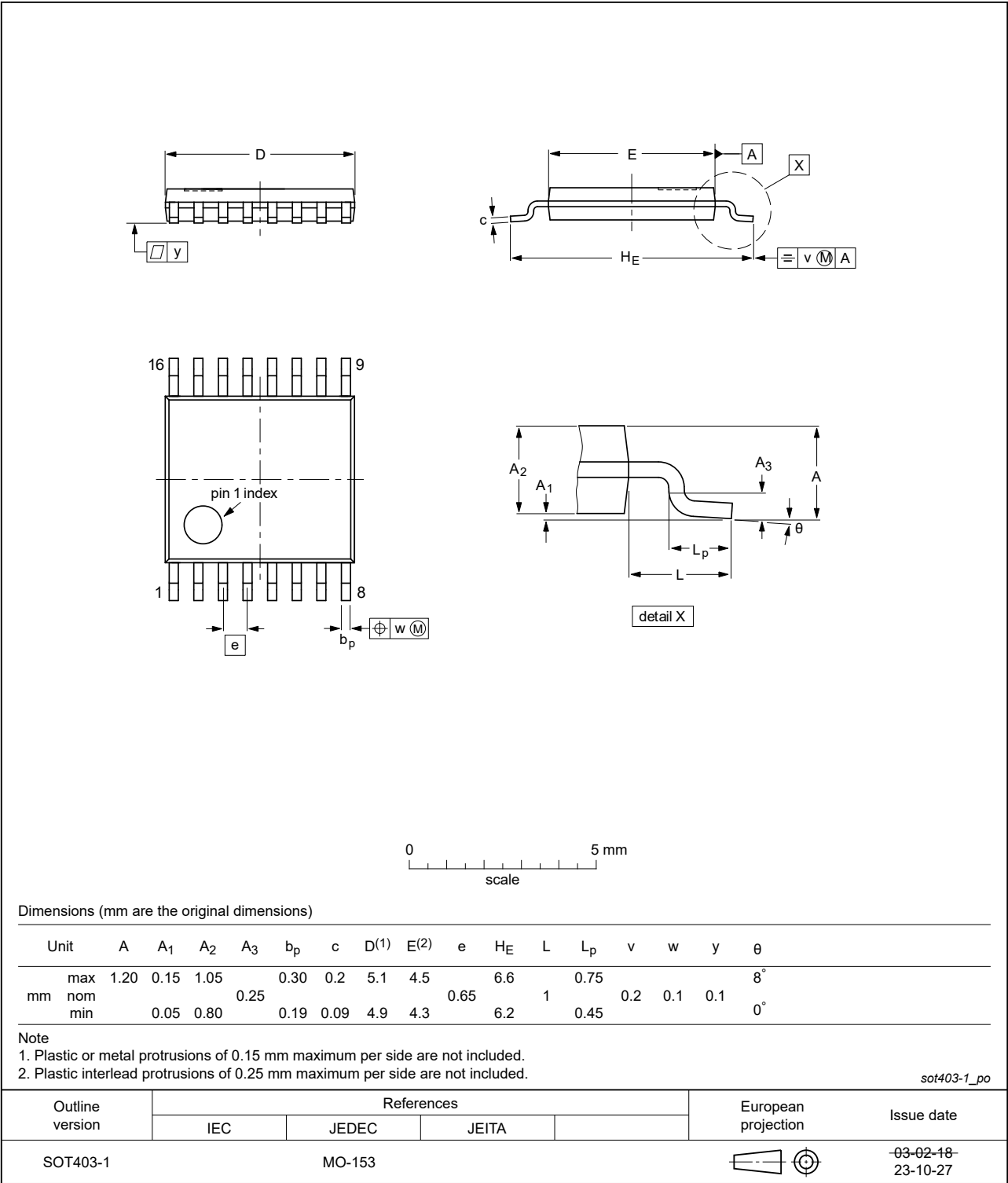


Fig. 9. Package outline SOT403-1 (TSSOP16)

12. Abbreviations

Table 10. Abbreviations

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

13. Revision history

Table 11. Revision history

| Document ID          | Release date                                                                                                                                                                                                                                                                                                                                                                                                                  | Data sheet status  | Change notice | Supersedes           |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|----------------------|
| 74HC_HCT139_Q100 v.3 | 20240229                                                                                                                                                                                                                                                                                                                                                                                                                      | Product data sheet | -             | 74HC_HCT139_Q100 v.2 |
| Modifications:       | <ul style="list-style-type: none"><li>Section 2: ESD specification updated according to the latest JEDEC standard.</li><li>Fig. 8, Fig. 9: Aligned SO and TSSOP package outline drawings to JEDEC MS-012 and MO-153</li></ul>                                                                                                                                                                                                 |                    |               |                      |
| 74HC_HCT139_Q100 v.2 | 20210114                                                                                                                                                                                                                                                                                                                                                                                                                      | Product data sheet | -             | 74HC_HCT139_Q100 v.1 |
| 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><li>Type numbers 74HC139DB-Q100 and 74HCT139DB-Q100 (SOT338-1 / SSOP16) removed.</li><li>Section 7: Derating values for P<sub>tot</sub> total power dissipation have been updated.</li></ul> |                    |               |                      |
| 74HC_HCT139_Q100 v.1 | 20140619                                                                                                                                                                                                                                                                                                                                                                                                                      | Product data sheet | -             | -                    |

## 14. Legal information

### Data sheet status

| Document status<br>[1][2]      | Product status [3] | Definition                                                                            |
|--------------------------------|--------------------|---------------------------------------------------------------------------------------|
| Objective [short] data sheet   | Development        | This document contains data from the objective specification for product development. |
| Preliminary [short] data sheet | Qualification      | This document contains data from the preliminary specification.                       |
| Product [short] data sheet     | Production         | This document contains the product specification.                                     |

- [1] Please consult the most recently issued document before initiating or completing a design.
- [2] The term 'short data sheet' is explained in section "Definitions".
- [3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the internet at <https://www.nexperia.com>.

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