

# 74LVC377

Octal D-type flip-flop with data enable; positive-edge trigger  
Rev. 8 — 28 August 2023

Product data sheet

## 1. General description

The 74LVC377 is an octal positive-edge triggered D-type flip-flop. The device features clock (CP) and data enable (E) inputs. When E is LOW, the outputs Qn will assume the state of their corresponding D inputs that meet the set-up and hold time requirements on the LOW-to-HIGH clock (CP) transition. Input E must be stable one set-up time prior to the LOW-to-HIGH transition for predictable operation. 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 environments.

## 2. Features and benefits

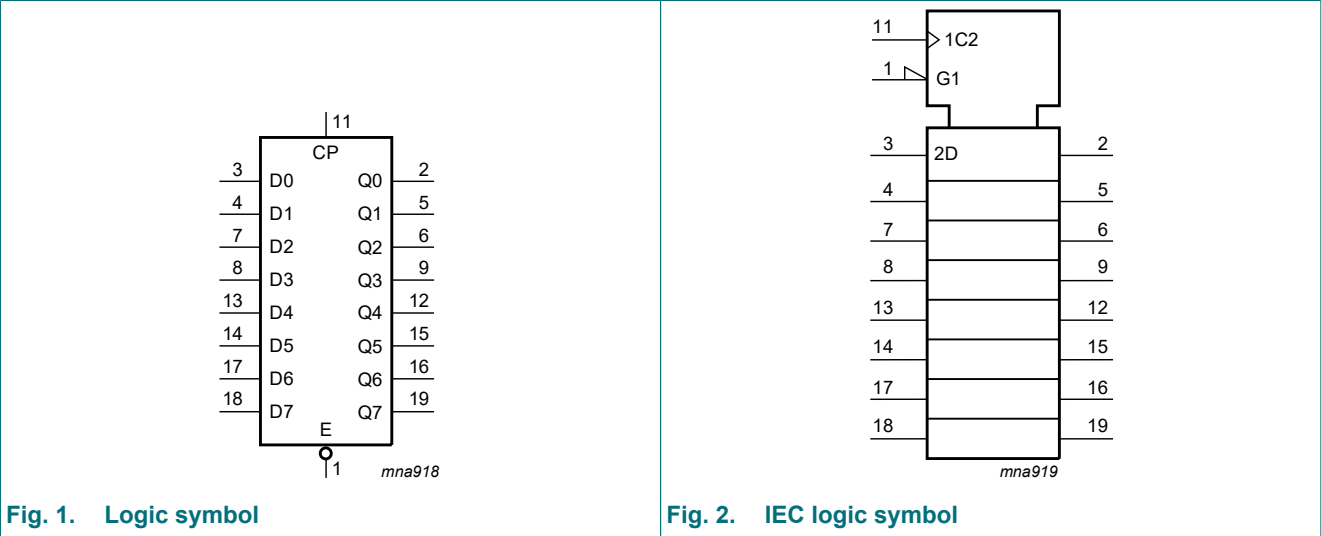
- Wide supply voltage range from 1.2 V to 3.6 V
- Overvoltage tolerant inputs to 5.5 V
- CMOS low power consumption
- Direct interface with TTL levels
- Output drive capability 50  $\Omega$  transmission lines at 125 °C
- Complies with JEDEC standard:
  - JESD8-7A (1.65 V to 1.95 V)
  - JESD8-5A (2.3 V to 2.7 V)
  - JESD8-C/JESD36 (2.7 V to 3.6 V)
- ESD protection:
  - HBM: ANSI/ESDA/JEDEC JS-001 class 2 exceeds 2000 V
  - CDM: ANSI/ESDA/JEDEC JS-002 class C3 exceeds 1000 V
- Specified from -40 °C to +85 °C and from -40 °C to +125 °C

## 3. Ordering information

Table 1. Ordering information

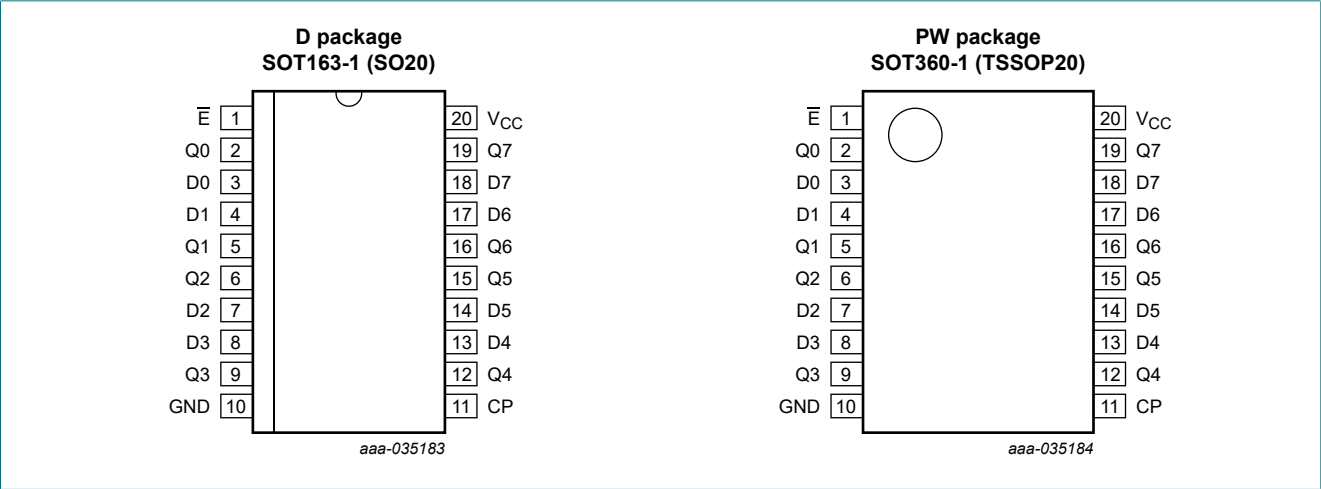
| Type number                | Package           |         |                                                                           |                          |
|----------------------------|-------------------|---------|---------------------------------------------------------------------------|--------------------------|
|                            | Temperature range | Name    | Description                                                               | Version                  |
| <a href="#">74LVC377D</a>  | -40 °C to +125 °C | SO20    | plastic small outline package; 20 leads;<br>body width 7.5 mm             | <a href="#">SOT163-1</a> |
| <a href="#">74LVC377PW</a> | -40 °C to +125 °C | TSSOP20 | plastic thin shrink small outline package; 20 leads;<br>body width 4.4 mm | <a href="#">SOT360-1</a> |

4. Functional diagram



5. Pinning information

5.1. Pinning



5.2. Pin description

| Symbol                         | Pin                        | Description                               |
|--------------------------------|----------------------------|-------------------------------------------|
| $\overline{E}$                 | 1                          | data enable input (active LOW)            |
| CP                             | 11                         | clock input (LOW to HIGH; edge-triggered) |
| D0, D1, D2, D3, D4, D5, D6, D7 | 3, 4, 7, 8, 13, 14, 17, 18 | data input                                |
| Q0, Q1, Q2, Q3, Q4, Q5, Q6, Q7 | 2, 5, 6, 9, 12, 15, 16, 19 | flip-flop output                          |
| GND                            | 10                         | ground (0 V)                              |
| V <sub>CC</sub>                | 20                         | power supply                              |

## 6. Functional description

**Table 3. Function table**

*H = HIGH voltage level; h = HIGH voltage level one set-up time prior to the LOW to HIGH CP transition*

*L = LOW voltage level; l = LOW voltage level one set-up time prior to the LOW to HIGH CP transition*

*↑ = LOW to HIGH CP transition; NC = no change; X = don't care*

| Operating mode | Control |   | Input | Output |
|----------------|---------|---|-------|--------|
|                | CP      | E | Dn    | Qn     |
| Load 1         | ↑       | l | h     | H      |
| Load 0         | ↑       | l | l     | L      |
| Hold           | ↑       | h | X     | NC     |
| Do nothing     | X       | H | X     | NC     |

## 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 | +6.5                  | V    |
| V <sub>I</sub>   | input voltage           | [1]                                                      | -0.5 | +5.5                  | V    |
| V <sub>O</sub>   | output voltage          | [2]                                                      | -0.5 | V <sub>CC</sub> + 0.5 | V    |
| I <sub>IK</sub>  | input clamping current  | V <sub>I</sub> < 0 V                                     | -50  | -                     | mA   |
| I <sub>O</sub>   | output current          | V <sub>O</sub> = 0 V to V <sub>CC</sub>                  | -    | ±50                   | mA   |
| I <sub>OK</sub>  | output clamping current | V <sub>O</sub> > V <sub>CC</sub> or V <sub>O</sub> < 0 V | -    | ±50                   | mA   |
| I <sub>CC</sub>  | supply current          |                                                          | -    | 100                   | mA   |
| I <sub>GND</sub> | ground current          |                                                          | -100 | -                     | 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 [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 SOT163-1 (SO20) package: P<sub>tot</sub> derates linearly with 12.3 mW/K above 109 °C.  
For SOT360-1 (TSSOP20) package: P<sub>tot</sub> derates linearly with 10.0 mW/K above 100 °C.

## 8. Recommended operating conditions

**Table 5. Recommended operating conditions**

| Symbol           | Parameter                           | Conditions                        | Min  | Typ | Max             | Unit |
|------------------|-------------------------------------|-----------------------------------|------|-----|-----------------|------|
| V <sub>CC</sub>  | supply voltage                      |                                   | 1.65 | -   | 3.6             | V    |
|                  |                                     | functional                        | 1.2  | -   | -               | V    |
| V <sub>I</sub>   | input voltage                       |                                   | 0    | -   | 5.5             | V    |
| V <sub>O</sub>   | output voltage                      |                                   | 0    | -   | V <sub>CC</sub> | V    |
| T <sub>amb</sub> | ambient temperature                 | in free air                       | -40  | -   | +125            | °C   |
| Δt/ΔV            | input transition rise and fall rate | V <sub>CC</sub> = 1.65 V to 2.7 V | 0    | -   | 20              | ns/V |
|                  |                                     | V <sub>CC</sub> = 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 [1] | 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                                                                              | 0.65V <sub>CC</sub>   | -       | -                   | 0.65V <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                                                                              | -                     | -       | 0.35V <sub>CC</sub> | -                     | 0.35V <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; 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    |
|                  |                           | I <sub>O</sub> = -24 mA; V <sub>CC</sub> = 3.0 V                                                                | 2.2                   | -       | -                   | 2.0                   | -                   | 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; 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; I <sub>O</sub> = 0 A                          | -                     | 0.1     | 10                  | -                     | 40                  | µA   |
| ΔI <sub>CC</sub> | additional supply current | per input pin; V <sub>CC</sub> = 2.7 V to 3.6 V; V <sub>I</sub> = V <sub>CC</sub> - 0.6 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; 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 Fig. 5.

| Symbol      | Parameter         | Conditions                                  | -40 °C to +85 °C |         |      | -40 °C to +125 °C |      | Unit |
|-------------|-------------------|---------------------------------------------|------------------|---------|------|-------------------|------|------|
|             |                   |                                             | Min              | Typ [1] | Max  | Min               | Max  |      |
| $t_{pd}$    | propagation delay | CP to Qn; see Fig. 3 [2]                    |                  |         |      |                   |      |      |
|             |                   | $V_{CC} = 1.2\text{ V}$                     | -                | 15      | -    | -                 | -    | ns   |
|             |                   | $V_{CC} = 1.65\text{ V to }1.95\text{ V}$   | 2.5              | 7.4     | 14.5 | 2.5               | 15.5 | ns   |
|             |                   | $V_{CC} = 2.3\text{ V to }2.7\text{ V}$     | 1.8              | 4.4     | 8.5  | 1.8               | 9.1  | ns   |
|             |                   | $V_{CC} = 2.7\text{ V}$                     | 1.5              | 4.3     | 7.9  | 1.5               | 10.0 | ns   |
|             |                   | $V_{CC} = 3.0\text{ V to }3.6\text{ V}$     | 1.5              | 4.0     | 7.6  | 1.5               | 9.5  | ns   |
| $t_W$       | pulse width       | clock HIGH or LOW; see Fig. 3               |                  |         |      |                   |      |      |
|             |                   | $V_{CC} = 1.65\text{ V to }1.95\text{ V}$   | 6.0              | -       | -    | 6.0               | -    | ns   |
|             |                   | $V_{CC} = 2.3\text{ V to }2.7\text{ V}$     | 5.0              | -       | -    | 5.0               | -    | ns   |
|             |                   | $V_{CC} = 2.7\text{ V}$                     | 5.0              | 1.6     | -    | 5.0               | -    | ns   |
|             |                   | $V_{CC} = 3.0\text{ V to }3.6\text{ V}$     | 4.0              | 1.0     | -    | 4.0               | -    | ns   |
| $t_{su}$    | set-up time       | $\bar{E}$ to CP; see Fig. 4                 |                  |         |      |                   |      |      |
|             |                   | $V_{CC} = 1.65\text{ V to }1.95\text{ V}$   | 5.5              | -       | -    | 5.5               | -    | ns   |
|             |                   | $V_{CC} = 2.3\text{ V to }2.7\text{ V}$     | 4.5              | -       | -    | 4.5               | -    | ns   |
|             |                   | $V_{CC} = 2.7\text{ V}$                     | 4.0              | 0.6     | -    | 4.0               | -    | ns   |
|             |                   | $V_{CC} = 3.0\text{ V to }3.6\text{ V}$     | 3.0              | 0.2     | -    | 3.0               | -    | ns   |
|             |                   | Dn to CP; see Fig. 4                        |                  |         |      |                   |      |      |
|             |                   | $V_{CC} = 1.65\text{ V to }1.95\text{ V}$   | 5.5              | -       | -    | 5.5               | -    | ns   |
|             |                   | $V_{CC} = 2.3\text{ V to }2.7\text{ V}$     | 4.5              | -       | -    | 4.5               | -    | ns   |
|             |                   | $V_{CC} = 2.7\text{ V}$                     | 3.0              | 1.0     | -    | 3.0               | -    | ns   |
|             |                   | $V_{CC} = 3.0\text{ V to }3.6\text{ V}$     | 2.0              | 0.7     | -    | 2.0               | -    | ns   |
| $t_h$       | hold time         | $\bar{E}$ to CP; see Fig. 4                 |                  |         |      |                   |      |      |
|             |                   | $V_{CC} = 1.65\text{ V to }1.95\text{ V}$   | 1.5              | -       | -    | 1.5               | -    | ns   |
|             |                   | $V_{CC} = 2.3\text{ V to }2.7\text{ V}$     | 0.5              | -       | -    | 0.5               | -    | ns   |
|             |                   | $V_{CC} = 2.7\text{ V}$                     | 0.0              | -1.0    | -    | 0.0               | -    | ns   |
|             |                   | $V_{CC} = 3.0\text{ V to }3.6\text{ V}$     | 1.0              | 0       | -    | 1.0               | -    | ns   |
|             |                   | Dn to CP; see Fig. 4                        |                  |         |      |                   |      |      |
|             |                   | $V_{CC} = 1.65\text{ V to }1.95\text{ V}$   | 1.5              | -       | -    | 1.5               | -    | ns   |
|             |                   | $V_{CC} = 2.3\text{ V to }2.7\text{ V}$     | 0.5              | -       | -    | 0.5               | -    | ns   |
|             |                   | $V_{CC} = 2.7\text{ V}$                     | 0.0              | -1.1    | -    | 0.0               | -    | ns   |
|             |                   | $V_{CC} = 3.0\text{ V to }3.6\text{ V}$     | 0.0              | -1.0    | -    | 0.0               | -    | ns   |
| $f_{max}$   | maximum frequency | see Fig. 3                                  |                  |         |      |                   |      |      |
|             |                   | $V_{CC} = 1.65\text{ V to }1.95\text{ V}$   | 80               | -       | -    | 64                | -    | MHz  |
|             |                   | $V_{CC} = 2.3\text{ V to }2.7\text{ V}$     | 100              | -       | -    | 80                | -    | MHz  |
|             |                   | $V_{CC} = 2.7\text{ V}$                     | 150              | -       | -    | 120               | -    | MHz  |
|             |                   | $V_{CC} = 3.0\text{ V to }3.6\text{ V}$     | 150              | 330     | -    | 120               | -    | MHz  |
| $t_{sk(o)}$ | output skew time  | $V_{CC} = 3.0\text{ V to }3.6\text{ V}$ [3] | -                | -       | 1.0  | -                 | 1.5  | ns   |

Octal D-type flip-flop with data enable; positive-edge trigger

| Symbol          | Parameter                     | Conditions                                                 | -40 °C to +85 °C |         |     | -40 °C to +125 °C |     | Unit |
|-----------------|-------------------------------|------------------------------------------------------------|------------------|---------|-----|-------------------|-----|------|
|                 |                               |                                                            | Min              | Typ [1] | Max | Min               | Max |      |
| C <sub>PD</sub> | power dissipation capacitance | per flip-flop; V <sub>I</sub> = GND to V <sub>CC</sub> [4] |                  |         |     |                   |     |      |
|                 |                               | V <sub>CC</sub> = 1.65 V to 1.95 V                         | -                | 12.1    | -   | -                 | -   | pF   |
|                 |                               | V <sub>CC</sub> = 2.3 V to 2.7 V                           | -                | 15.8    | -   | -                 | -   | pF   |
|                 |                               | V <sub>CC</sub> = 3.0 V to 3.6 V                           | -                | 19.0    | -   | -                 | -   | 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).  
 $P_D = C_{PD} \times V_{CC}^2 \times f_i \times N + \Sigma(C_L \times V_{CC}^2 \times f_o)$  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 Volts  
N = number of inputs switching  
Σ(C<sub>L</sub> × V<sub>CC</sub><sup>2</sup> × f<sub>o</sub>) = sum of the outputs

10.1. Waveforms and test circuit

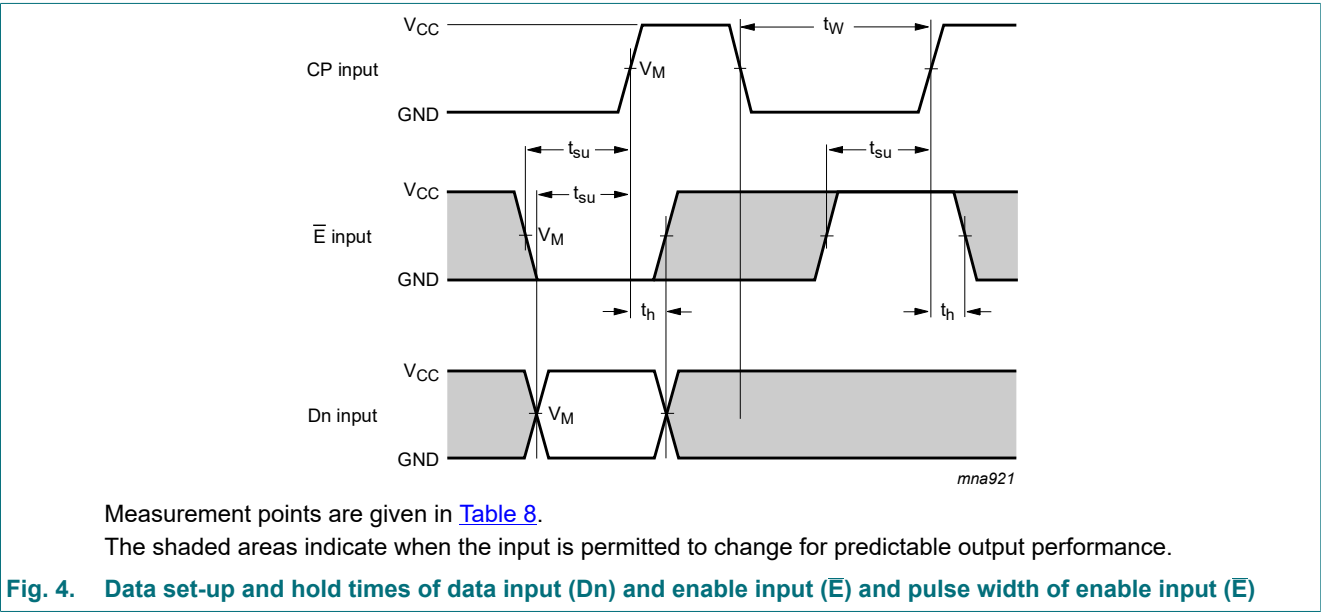
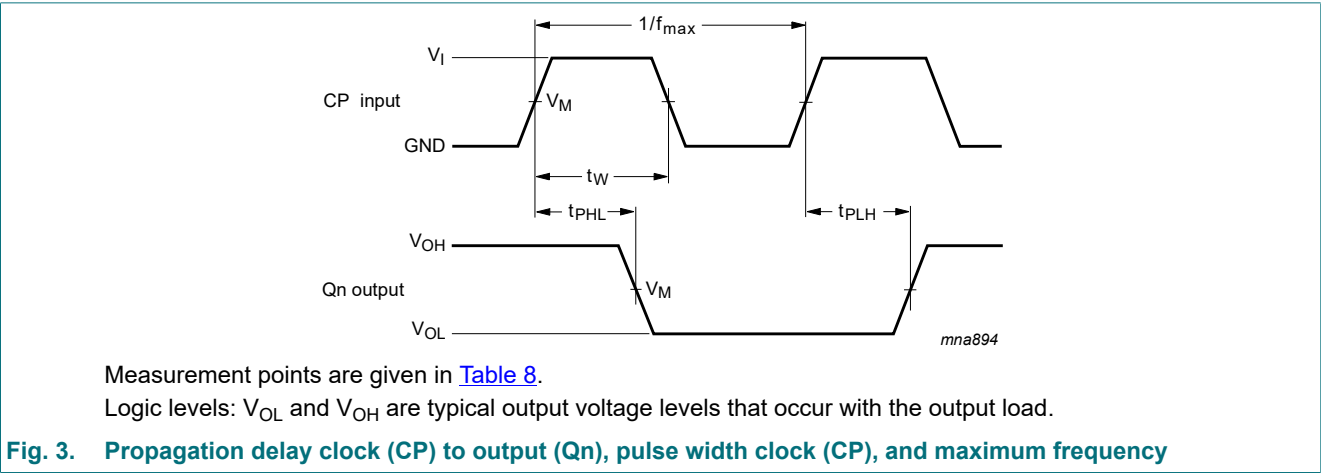
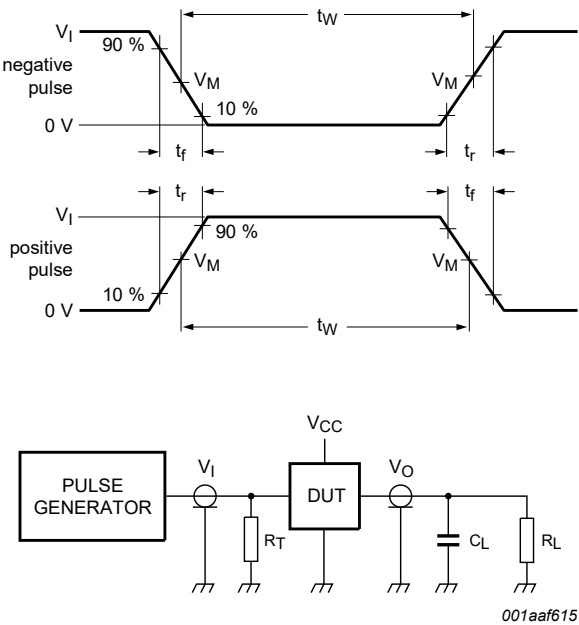


Table 8. Measurement points

| Supply voltage   | Input                 | Output                |
|------------------|-----------------------|-----------------------|
| V <sub>CC</sub>  | V <sub>M</sub>        | V <sub>M</sub>        |
| 1.2 V            | 0.5 × V <sub>CC</sub> | 0.5 × V <sub>CC</sub> |
| 1.65 V to 1.95 V | 0.5 × V <sub>CC</sub> | 0.5 × V <sub>CC</sub> |
| 2.3 V to 2.7 V   | 0.5 × V <sub>CC</sub> | 0.5 × V <sub>CC</sub> |
| 2.7 V            | 1.5 V                 | 1.5 V                 |
| 3.0 V to 3.6 V   | 1.5 V                 | 1.5 V                 |



Test data is given in [Table 9](#).  
Definitions for test circuit:  
R<sub>L</sub> = Load resistance;  
C<sub>L</sub> = Load capacitance including jig and probe capacitance;  
R<sub>T</sub> = Termination resistance should be equal to output impedance Z<sub>o</sub> of the pulse generator.

Fig. 5. Test circuit for switching times

Table 9. Test data

| Supply voltage   | Input           |                                 | Load           |                |
|------------------|-----------------|---------------------------------|----------------|----------------|
|                  | V <sub>I</sub>  | t <sub>r</sub> , t <sub>f</sub> | C <sub>L</sub> | R <sub>L</sub> |
| 1.2 V            | V <sub>CC</sub> | ≤ 2 ns                          | 30 pF          | 1 kΩ           |
| 1.65 V to 1.95 V | V <sub>CC</sub> | ≤ 2 ns                          | 30 pF          | 1 kΩ           |
| 2.3 V to 2.7 V   | V <sub>CC</sub> | ≤ 2 ns                          | 30 pF          | 500 Ω          |
| 2.7 V            | 2.7 V           | ≤ 2.5 ns                        | 50 pF          | 500 Ω          |
| 3.0 V to 3.6 V   | 2.7 V           | ≤ 2.5 ns                        | 50 pF          | 500 Ω          |

11. Package outline

SO20: plastic small outline package; 20 leads; body width 7.5 mm

SOT163-1

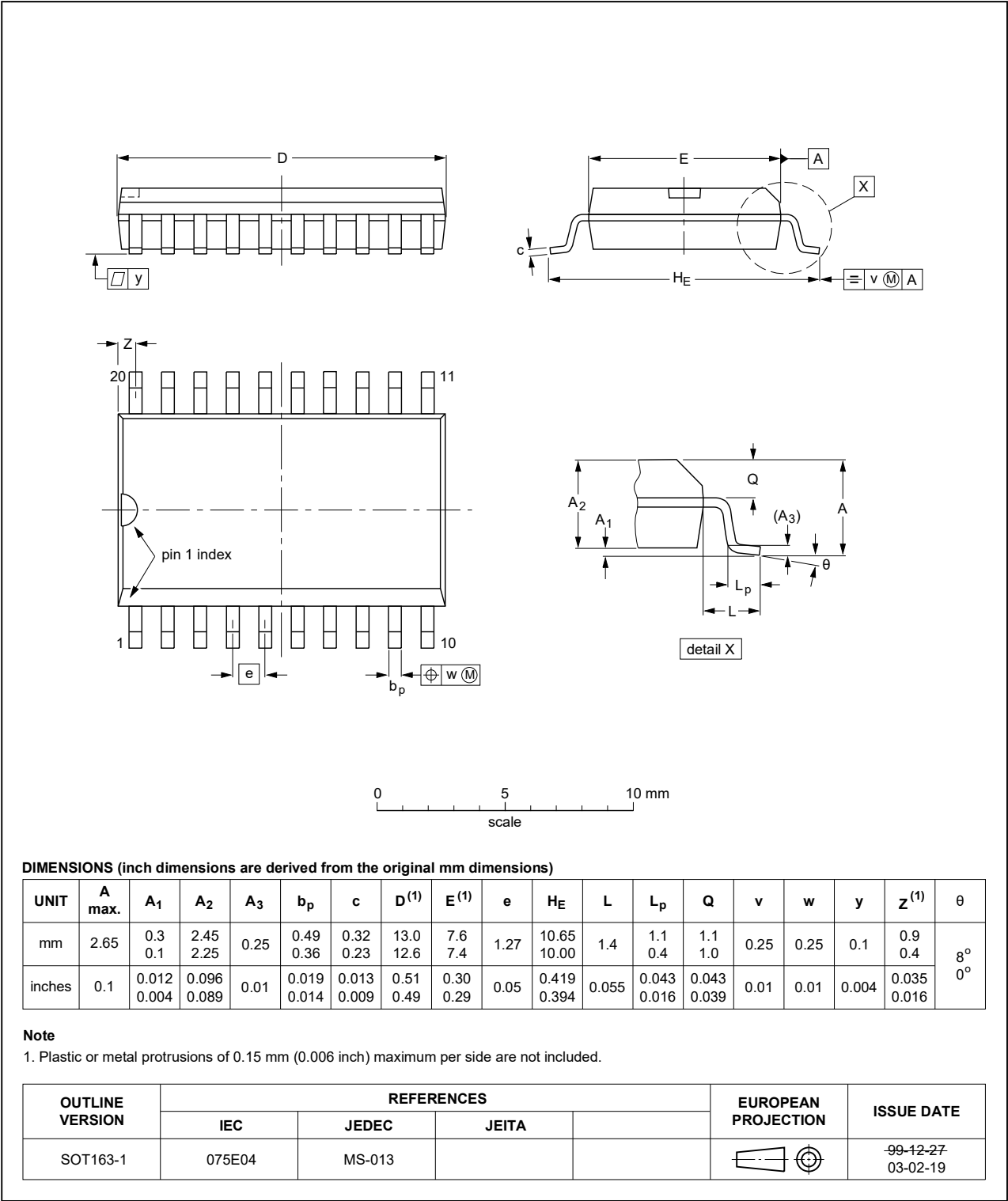


Fig. 6. Package outline SOT163-1 (SO20)



TSSOP20: plastic thin shrink small outline package; 20 leads; body width 4.4 mm

SOT360-1

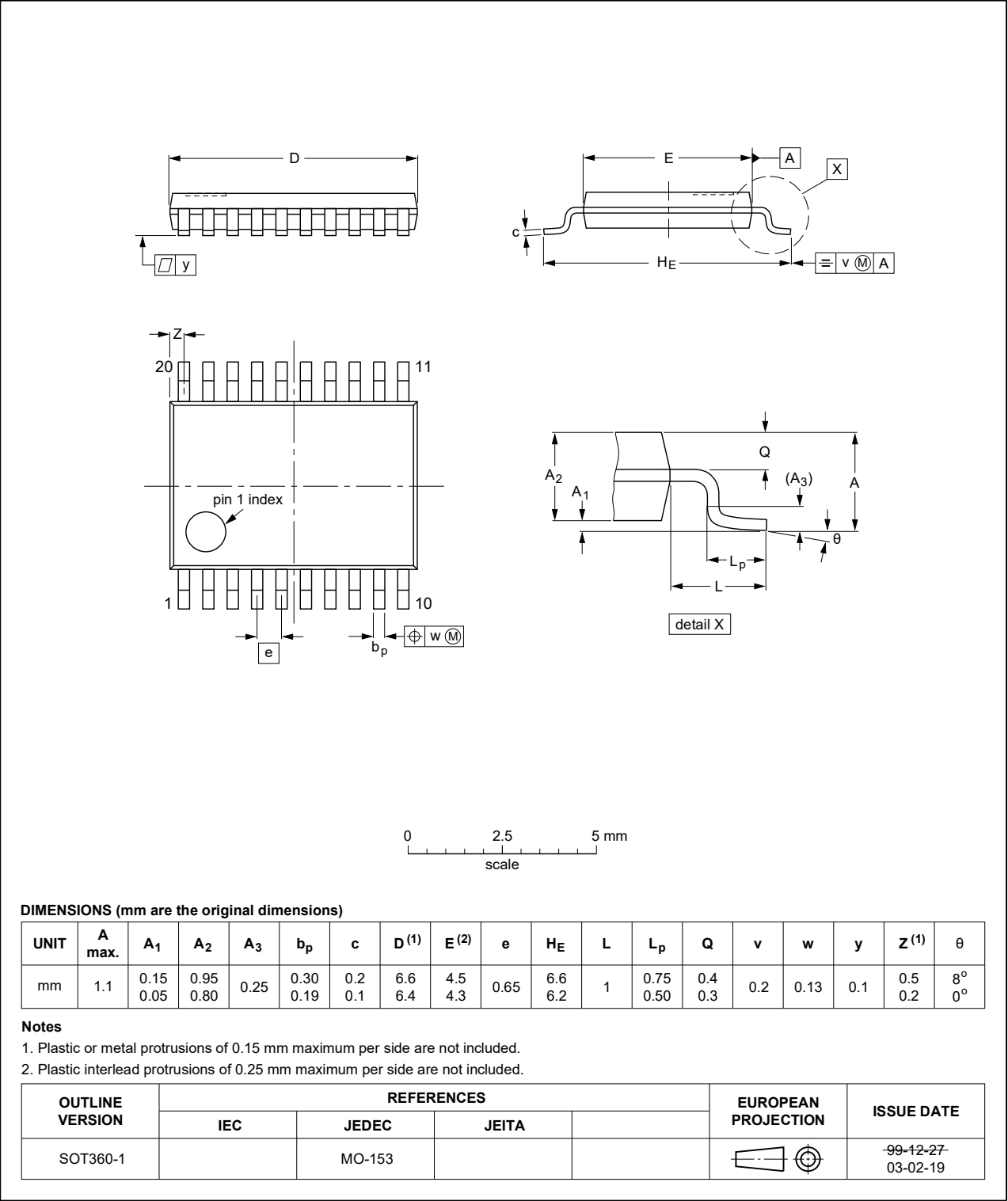


Fig. 7. Package outline SOT360-1 (TSSOP20)

## 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   |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------|--------------|
| 74LVC377 v.8   | 20230828                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Product data sheet    | -             | 74LVC377 v.7 |
| Modifications: | <ul style="list-style-type: none"> <li><a href="#">Section 2</a>: ESD specification updated according to the latest JEDEC standard.</li> </ul>                                                                                                                                                                                                                                                                                                                    |                       |               |              |
| 74LVC377 v.7   | 20210827                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Product data sheet    | -             | 74LVC377 v.6 |
| 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><a href="#">Section 1</a> updated.</li> <li>Type number 74LVC377DB (SOT339-1/SSOP20) removed.</li> <li><a href="#">Section 7</a>: Derating values for <math>P_{tot}</math> total power dissipation updated.</li> </ul>    |                       |               |              |
| 74LVC377 v.6   | 20121120                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Product data sheet    | -             | 74LVC377 v.5 |
| Modifications: | <ul style="list-style-type: none"> <li>The format of this data sheet 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>, <a href="#">Table 8</a>, and <a href="#">Table 9</a>: values added for lower voltage ranges.</li> </ul> |                       |               |              |
| 74LVC377 v.5   | 20050221                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Product specification | -             | 74LVC377 v.4 |
| 74LVC377 v.4   | 20040528                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Product specification | -             | 74LVC377 v.3 |
| 74LVC377 v.3   | 20021023                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Product specification | -             | 74LVC377 v.2 |
| 74LVC377 v.2   | 19980729                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Product specification | -             | 74LVC377 v.1 |
| 74LVC377 v.1   | 19990606                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Product specification | -             | -            |

## 14. Legal information

### Data sheet status

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

- [1] Please consult the most recently issued document before initiating or completing a design.
- [2] The term 'short data sheet' is explained in section "Definitions".
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Date of release: 28 August 2023