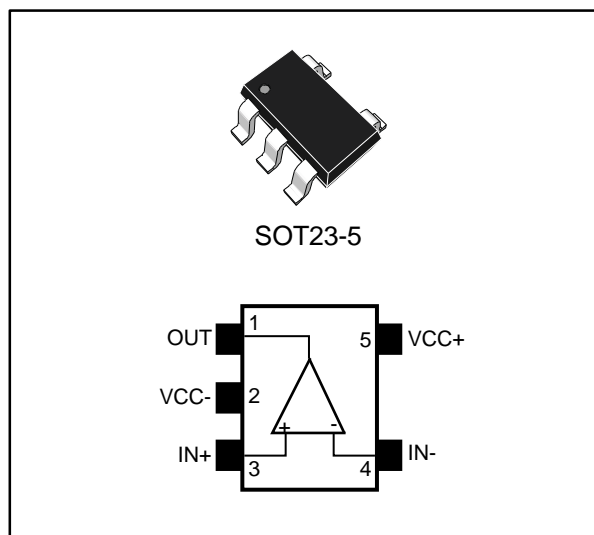


## Automotive rail-to-rail 1.8 V high-speed comparator

Datasheet - production data



### Related products

- TS3021 for standard temperature range (-40 °C to 125 °C)

### Applications

- Automotive
- Telecom
- Instrumentation
- Signal conditioning
- High-speed sampling systems
- Portable communication systems

### Description

The TS3021H single comparator features high-speed response time with rail-to-rail inputs. With a supply voltage specified from 2 to 5 V, this comparator can operate over a wide temperature range: -40 °C to 150 °C.

The TS3021H comparator offers micropower consumption as low as a few tens of microamperes thus providing an excellent ratio of power consumption current versus response time.

The TS3021H includes push-pull outputs and is available in the small SOT23-5 package.

### Features

- AEC-Q100 and Q003 qualified
- Extended temperature range: -40 °C to 150 °C
- Propagation delay: 38 ns
- Low current consumption: 73 μA
- Rail-to-rail inputs
- Push-pull outputs
- Supply operation from 1.8 to 5 V
- High ESD tolerance: 5 kV HBM, 300 V MM
- Latch-up immunity: 200 mA
- SMD package



## Contents

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# 1 Absolute maximum ratings and operating conditions

Table 1: Absolute maximum ratings (AMR)

| Symbol            | Parameter  | Value  | Unit |
|-------------------|--|--|------|
| V <sub>CC</sub>   | Supply voltage, V <sub>CC</sub> = (V <sub>CC+</sub> ) - (V <sub>CC-</sub> ) <sup>(1)</sup> | 5.5  | V    |
| V <sub>ID</sub>   | Differential input voltage <sup>(2)</sup>  | ±5   |      |
| V <sub>IN</sub>   | Input voltage range  | (V <sub>CC-</sub> ) - 0.3 to (V <sub>CC+</sub> ) + 0.3 |      |
| I <sub>IN</sub>   | Input current <sup>(3)</sup>   | 10   | mA   |
| R <sub>thja</sub> | Thermal resistance junction-to-ambient <sup>(4)</sup>                                      | 250  | °C/W |
| R <sub>thjc</sub> | Thermal resistance junction-to-case <sup>(4)</sup>   | 81   |      |
| T <sub>stg</sub>  | Storage temperature  | -65 to 160   | °C   |
| T <sub>j</sub>    | Junction temperature   | 160  |      |
| T <sub>LEAD</sub> | Lead temperature (soldering 10 s)  | 260  |      |
| ESD               | HBM: human body model <sup>(5)</sup>   | 5000   | V    |
|                   | CDM: charged device model <sup>(6)</sup>   | 1500   |      |
|                   | Latch-up immunity  | 200  | mA   |

**Notes:**

<sup>(1)</sup>All voltage values, except the differential voltage, are referenced to (V<sub>CC-</sub>)

<sup>(2)</sup>The magnitude of the input and output voltages must never exceed the supply rail ±0.3 V

<sup>(3)</sup>The input current must be limited by a resistor in series with the inputs.

<sup>(4)</sup>Short circuits can cause excessive heating. These values are typical

<sup>(5)</sup>Human body model: a 100 pF capacitor is charged to the specified voltage, then discharged through a 1.5 kΩ resistor between two pins of the device. This is done for all couples of connected pin combinations while the other pins are floating.

<sup>(6)</sup>Charged device model: all pins and the package are charged together to the specified voltage and then discharged directly to the ground through only one pin. This is done for all pins.

Table 2: Operating conditions

| Symbol            | Parameter                       | Value                              | Unit   |   |
|-------------------|---------------------------------|------------------------------------|--|---|
| V <sub>CC</sub>   | Supply voltage                  | 0 °C < T <sub>amb</sub> < 150 °C   | 1.8 to 5   | V |
|                   |                                 | -40 °C < T <sub>amb</sub> < 150 °C | 2 to 5   |   |
| V <sub>icm</sub>  | Common-mode input voltage range | -40 °C < T <sub>amb</sub> < 85 °C  | (V <sub>CC-</sub> ) - 0.2 to (V <sub>CC+</sub> ) + 0.2 |   |
|                   |                                 | 85 °C < T <sub>amb</sub> < 150 °C  | (V <sub>CC-</sub> ) to (V <sub>CC+</sub> )             |   |
| T <sub>oper</sub> | Operating temperature range     | -40 to 150                         | °C   |   |

## 2 Electrical characteristics

Table 3: Electrical characteristics at  $V_{CC} = 2\text{ V}$ ,  $T_{amb} = 25\text{ °C}$ , and full  $V_{icm}$  range (unless otherwise specified)

| Symbol                   | Parameter  | Test conditions <sup>(1)</sup>   | Min. | Typ. | Max. | Unit                    |
|--------------------------|--|--|------|------|------|-------------------------|
| $V_{IO}$                 | Input offset voltage                                       | $T_{amb}$  |      | 0.5  | 6    | mV                      |
|                          |  | $-40\text{ °C} < T_{amb} < 150\text{ °C}$  |      | 0.5  | 7    |                         |
| $\Delta V_{IO}/\Delta T$ | Input offset voltage drift                                 | $-40\text{ °C} < T_{amb} < 150\text{ °C}$  |      | 3    | 20   | $\mu\text{V}/\text{°C}$ |
| $I_{IO}$                 | Input offset current <sup>(2)</sup>                        | $T_{amb}$  |      | 1    | 20   | nA                      |
|                          |  | $-40\text{ °C} < T_{amb} < 150\text{ °C}$  |      |      | 100  |                         |
| $I_{IB}$                 | Input bias current <sup>(2)</sup>                          | $T_{amb}$  |      | 86   | 160  | nA                      |
|                          |  | $-40\text{ °C} < T_{amb} < 150\text{ °C}$  |      |      | 300  |                         |
| $I_{CC}$                 | Supply current   | No load, output high, $V_{icm} = 0\text{ V}$   |      | 73   | 90   | $\mu\text{A}$           |
|                          |  | No load, output high, $V_{icm} = 0\text{ V}$ ,<br>$-40\text{ °C} < T_{amb} < 150\text{ °C}$  |      |      | 115  |                         |
|                          |  | No load, output low, $V_{icm} = 0\text{ V}$  |      | 84   | 105  |                         |
|                          |  | No load, output low, $V_{icm} = 0\text{ V}$ ,<br>$-40\text{ °C} < T_{amb} < 150\text{ °C}$   |      |      | 125  |                         |
| $I_{SC}$                 | Short-circuit current                                      | Source   |      | 9    |      | mA                      |
|                          |  | Sink   |      | 10   |      |                         |
| $V_{OH}$                 | Output voltage high  | $I_{source} = 1\text{ mA}$   | 1.88 | 1.92 |      | V                       |
|                          |  | $-40\text{ °C} < T_{amb} < 150\text{ °C}$  | 1.79 |      |      |                         |
| $V_{OL}$                 | Output voltage low   | $I_{sink} = 1\text{ mA}$   |      | 60   | 100  | mV                      |
|                          |  | $-40\text{ °C} < T_{amb} < 150\text{ °C}$  |      |      | 170  |                         |
| CMRR                     | Common-mode rejection ratio                                | $0 < V_{icm} < 2\text{ V}$   |      | 67   |      | dB                      |
| SVR                      | Supply voltage rejection                                   | $\Delta V_{CC} = 2\text{ to }5\text{ V}$ , $V_{icm} = 0\text{ V}$  | 58   | 73   |      |                         |
| $T_{PLH}$                | Propagation delay, low to high output level <sup>(3)</sup> | $V_{icm} = 0\text{ V}$ , $f = 10\text{ kHz}$ ,<br>$CL = 50\text{ pF}$ , overdrive = 100 mV   |      | 38   | 60   | ns                      |
|                          |  | $V_{icm} = 0\text{ V}$ , $f = 10\text{ kHz}$ ,<br>$CL = 50\text{ pF}$ , overdrive = 100 mV,<br>$-40\text{ °C} < T_{amb} < 150\text{ °C}$ |      |      | 120  |                         |
|                          |  | $V_{icm} = 0\text{ V}$ , $f = 10\text{ kHz}$ ,<br>$CL = 50\text{ pF}$ , overdrive = 20 mV  |      | 48   | 75   |                         |
|                          |  | $V_{icm} = 0\text{ V}$ , $f = 10\text{ kHz}$ ,<br>$CL = 50\text{ pF}$ , overdrive = 20 mV,<br>$-40\text{ °C} < T_{amb} < 150\text{ °C}$  |      |      | 140  |                         |

| Symbol           | Parameter  | Test conditions <sup>(1)</sup>   | Min. | Typ. | Max. | Unit |
|------------------|--|--|------|------|------|------|
| T <sub>PHL</sub> | Propagation delay, high to low output level <sup>(4)</sup> | V <sub>icm</sub> = 0 V, f = 10 kHz,<br>CL = 50 pF, overdrive = 100 mV  |      | 40   | 60   | ns   |
|                  |  | V <sub>icm</sub> = 0 V, f = 10 kHz,<br>CL = 50 pF, overdrive = 100 mV,<br>-40 °C < T <sub>amb</sub> < 150 °C |      |      | 120  |      |
|                  |  | V <sub>icm</sub> = 0 V, f = 10 kHz,<br>CL = 50 pF, overdrive = 20 mV   |      | 49   | 75   |      |
|                  |  | V <sub>icm</sub> = 0 V, f = 10 kHz,<br>CL = 50 pF, overdrive = 20 mV,<br>-40 °C < T <sub>amb</sub> < 150 °C  |      |      | 140  |      |
| T <sub>F</sub>   | Fall time  | f = 10 kHz, CL = 50 pF,<br>RL = 10 kΩ, overdrive = 100 mV  |      | 8    |      |      |
| T <sub>R</sub>   | Rise time  | f = 10 kHz, CL = 50 pF,<br>RL = 10 kΩ, overdrive = 100 mV  |      | 9    |      |      |

**Notes:**

<sup>(1)</sup>All values over the temperature range are guaranteed through correlation and simulation. No production test is performed at the temperature range limits.

<sup>(2)</sup>Maximum values include unavoidable inaccuracies of the industrial tests.

<sup>(3)</sup>Response time is measured 10%/90% of the final output value with the following conditions: inverting input voltage (IN-) = V<sub>icm</sub> and non-inverting input voltage (IN+) moving from V<sub>icm</sub> - 100 mV to V<sub>icm</sub> + overdrive.

<sup>(4)</sup>Response time is measured 10%/90% of the final output value with the following conditions: Inverting input voltage (IN-) = V<sub>icm</sub> and non-inverting input voltage (IN+) moving from V<sub>icm</sub> + 100 mV to V<sub>icm</sub> - overdrive.

Table 4: Electrical characteristics at VCC = 3.3 V, Tamb = 25 ° C, and full Vicm range (unless otherwise specified)

| Symbol                   | Parameter  | Test conditions <sup>(1)</sup>   | Min. | Typ. | Max. | Unit             |
|--------------------------|--|--|------|------|------|------------------|
| V <sub>IO</sub>          | Input offset voltage                                       | Tamb   |      | 0.2  | 6    | mV               |
|                          |  | -40 °C < Tamb < 150 °C   |      | 0.2  | 7    |                  |
| $\Delta V_{IO}/\Delta T$ | Input offset voltage drift                                 | -40 °C < Tamb < 150 °C   |      | 3    | 20   | $\mu V/^\circ C$ |
| I <sub>IO</sub>          | Input offset current <sup>(2)</sup>                        | Tamb   |      | 1    | 20   | nA               |
|                          |  | -40 °C < Tamb < 150 °C   |      |      | 100  |                  |
| I <sub>IB</sub>          | Input bias current <sup>(2)</sup>                          | Tamb   |      | 86   | 160  |                  |
|                          |  | -40 °C < Tamb < 150 °C   |      |      | 300  |                  |
| I <sub>CC</sub>          | Supply current   | No load, output high, Vicm = 0 V   |      | 75   | 90   | $\mu A$          |
|                          |  | No load, output high, Vicm = 0 V, -40 °C < Tamb < 150 °C                       |      |      | 120  |                  |
|                          |  | No load, output low, Vicm = 0 V  |      | 86   | 110  |                  |
|                          |  | No load, output low, Vicm = 0 V, -40 °C < Tamb < 150 °C                        |      |      | 125  |                  |
| I <sub>SC</sub>          | Short-circuit current                                      | Source   |      | 26   |      | mA               |
|                          |  | Sink   |      | 24   |      |                  |
| V <sub>OH</sub>          | Output voltage high  | I <sub>source</sub> = 1 mA   | 3.20 | 3.25 |      | V                |
|                          |  | -40 °C < Tamb < 150 °C   | 3.16 |      |      |                  |
| V <sub>OL</sub>          | Output voltage low   | I <sub>sink</sub> = 1 mA   |      | 40   | 80   | mV               |
|                          |  | -40 °C < Tamb < 150 °C   |      |      | 120  |                  |
| CMRR                     | Common-mode rejection ratio                                | 0 < Vicm < 3.3 V   |      | 75   |      | dB               |
| SVR                      | Supply voltage rejection                                   | $\Delta V_{CC} = 2$ to 5 V, Vicm = 0 V   | 58   | 73   |      |                  |
| T <sub>PLH</sub>         | Propagation delay, low to high output level <sup>(3)</sup> | Vicm = 0 V, f = 10 kHz, CL = 50 pF, overdrive = 100 mV                         |      | 39   | 65   | ns               |
|                          |  | Vicm = 0 V, f = 10 kHz, CL = 50 pF, overdrive = 100 mV, -40 °C < Tamb < 150 °C |      |      | 115  |                  |
|                          |  | Vicm = 0 V, f = 10 kHz, CL = 50 pF, overdrive = 20 mV                          |      | 50   | 85   |                  |
|                          |  | Vicm = 0 V, f = 10 kHz, CL = 50 pF, overdrive = 20 mV, -40 °C < Tamb < 150 °C  |      |      | 145  |                  |

| Symbol           | Parameter  | Test conditions <sup>(1)</sup>   | Min. | Typ. | Max. | Unit |
|------------------|--|--|------|------|------|------|
| T <sub>PHL</sub> | Propagation delay, high to low output level <sup>(4)</sup> | V <sub>icm</sub> = 0 V, f = 10 kHz,<br>CL = 50 pF, overdrive = 100 mV  |      | 41   | 65   | ns   |
|                  |  | V <sub>icm</sub> = 0 V, f = 10 kHz,<br>CL = 50 pF, overdrive = 100 mV,<br>-40 °C < T <sub>amb</sub> < 150 °C |      |      | 115  |      |
|                  |  | V <sub>icm</sub> = 0 V, f = 10 kHz,<br>CL = 50 pF, overdrive = 20 mV   |      | 51   | 80   |      |
|                  |  | V <sub>icm</sub> = 0 V, f = 10 kHz,<br>CL = 50 pF, overdrive = 20 mV,<br>-40 °C < T <sub>amb</sub> < 150 °C  |      |      | 145  |      |
| T <sub>F</sub>   | Fall time  | f = 10 kHz, CL = 50 pF,<br>RL = 10 kΩ, overdrive = 100 mV  |      | 5    |      |      |
| T <sub>R</sub>   | Rise time  | f = 10 kHz, CL = 50 pF,<br>RL = 10 kΩ, overdrive = 100 mV  |      | 7    |      |      |

**Notes:**

<sup>(1)</sup>All values over the temperature range are guaranteed through correlation and simulation. No production test is performed at the temperature range limits.

<sup>(2)</sup>Maximum values include unavoidable inaccuracies of the industrial tests

<sup>(3)</sup>Response time is measured 10%/90% of the final output value with the following conditions: inverting input voltage (IN-) = V<sub>icm</sub> and non-inverting input voltage (IN+) moving from V<sub>icm</sub> - 100 mV to V<sub>icm</sub> + overdrive.

<sup>(4)</sup>Response time is measured 10%/90% of the final output value with the following conditions: Inverting input voltage (IN-) = V<sub>icm</sub> and non-inverting input voltage (IN+) moving from V<sub>icm</sub> + 100 mV to V<sub>icm</sub> - overdrive.

Table 5: Electrical characteristics at VCC = 5 V, Tamb = 25 °C, and full Vicm range (unless otherwise specified)

| Symbol                   | Parameter  | Test conditions <sup>(1)</sup>   | Min. | Typ. | Max. | Unit             |
|--------------------------|--|--|------|------|------|------------------|
| V <sub>IO</sub>          | Input offset voltage                                       | Tamb   |      | 0.2  | 6    | mV               |
|                          |  | -40 °C < Tamb < 150 °C   |      | 0.2  | 7    |                  |
| $\Delta V_{IO}/\Delta T$ | Input offset voltage drift                                 | -40 °C < Tamb < 150 °C   |      | 3    | 20   | $\mu V/^\circ C$ |
| I <sub>IO</sub>          | Input offset current <sup>(2)</sup>                        | Tamb   |      | 1    | 20   | nA               |
|                          |  | -40 °C < Tamb < 150 °C   |      |      | 100  |                  |
| I <sub>IB</sub>          | Input bias current <sup>(2)</sup>                          | Tamb   |      | 86   | 160  | nA               |
|                          |  | -40 °C < Tamb < 150 °C   |      |      | 300  |                  |
| I <sub>CC</sub>          | Supply current   | No load, output high, Vicm = 0 V   |      | 77   | 95   | $\mu A$          |
|                          |  | No load, output high, Vicm = 0 V, -40 °C < Tamb < 150 °C                       |      |      | 125  |                  |
|                          |  | No load, output low, Vicm = 0 V  |      | 89   | 115  |                  |
|                          |  | No load, output low, Vicm = 0 V, -40 °C < Tamb < 150 °C                        |      |      | 135  |                  |
| I <sub>SC</sub>          | Short-circuit current                                      | Source   |      | 51   |      | mA               |
|                          |  | Sink   |      | 40   |      |                  |
| V <sub>OH</sub>          | Output voltage high  | I <sub>source</sub> = 4 mA   | 4.80 | 4.84 |      | V                |
|                          |  | -40 °C < Tamb < 150 °C   | 4.68 |      |      |                  |
| V <sub>OL</sub>          | Output voltage low   | I <sub>sink</sub> = 4 mA   |      | 130  | 180  | mV               |
|                          |  | -40 °C < Tamb < 150 °C   |      |      | 270  |                  |
| CMRR                     | Common-mode rejection ratio                                | 0 < Vicm < 5 V   |      | 79   |      | dB               |
| SVR                      | Supply voltage rejection                                   | $\Delta V_{CC} = 2$ to 5 V, Vicm = 0 V   | 58   | 73   |      |                  |
| T <sub>PLH</sub>         | Propagation delay, low to high output level <sup>(3)</sup> | Vicm = 0 V, f = 10 kHz, CL = 50 pF, overdrive = 100 mV                         |      | 42   | 75   | ns               |
|                          |  | Vicm = 0 V, f = 10 kHz, CL = 50 pF, overdrive = 100 mV, -40 °C < Tamb < 150 °C |      |      | 120  |                  |
|                          |  | Vicm = 0 V, f = 10 kHz, CL = 50 pF, overdrive = 20 mV                          |      | 54   | 105  |                  |
|                          |  | Vicm = 0 V, f = 10 kHz, CL = 50 pF, overdrive = 20 mV, -40 °C < Tamb < 150 °C  |      |      | 150  |                  |



| Symbol           | Parameter  | Test conditions <sup>(1)</sup>   | Min. | Typ. | Max. | Unit |
|------------------|--|--|------|------|------|------|
| T <sub>PHL</sub> | Propagation delay, high to low output level <sup>(4)</sup> | V <sub>icm</sub> = 0 V, f = 10 kHz,<br>CL = 50 pF, overdrive = 100 mV  |      | 45   | 75   | ns   |
|                  |  | V <sub>icm</sub> = 0 V, f = 10 kHz,<br>CL = 50 pF, overdrive = 100 mV,<br>-40 °C < T <sub>amb</sub> < 150 °C |      |      | 120  |      |
|                  |  | V <sub>icm</sub> = 0 V, f = 10 kHz,<br>CL = 50 pF, overdrive = 20 mV   |      | 55   | 95   |      |
|                  |  | V <sub>icm</sub> = 0 V, f = 10 kHz,<br>CL = 50 pF, overdrive = 20 mV,<br>-40 °C < T <sub>amb</sub> < 150 °C  |      |      | 150  |      |
| T <sub>F</sub>   | Fall time  | f = 10 kHz, CL = 50 pF,<br>RL = 10 kΩ, overdrive = 100 mV  |      | 4    |      |      |
| T <sub>R</sub>   | Rise time  | f = 10 kHz, CL = 50 pF,<br>RL = 10 kΩ, overdrive = 100 mV  |      | 4    |      |      |

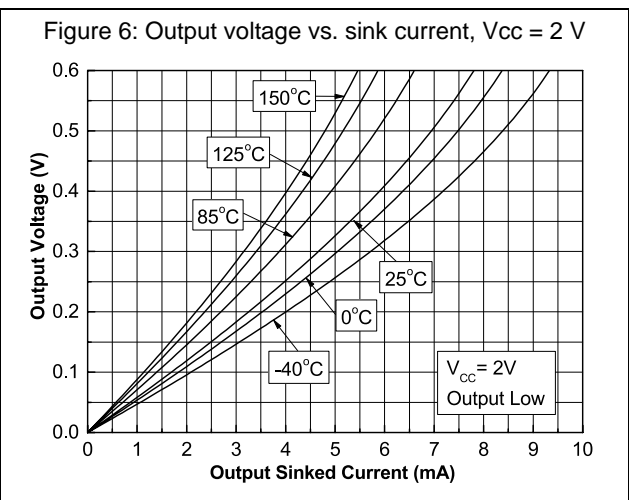
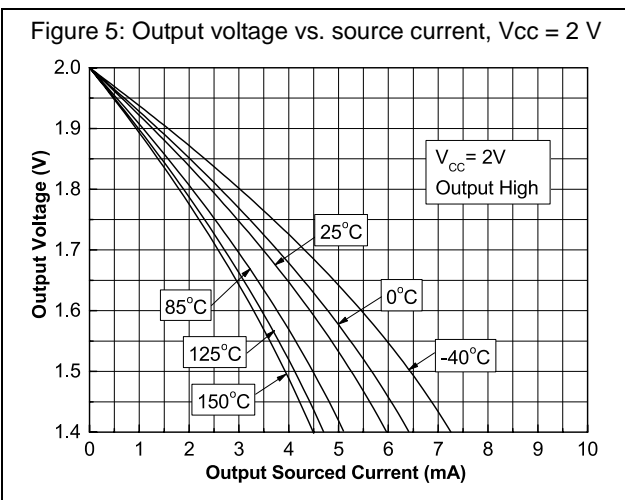
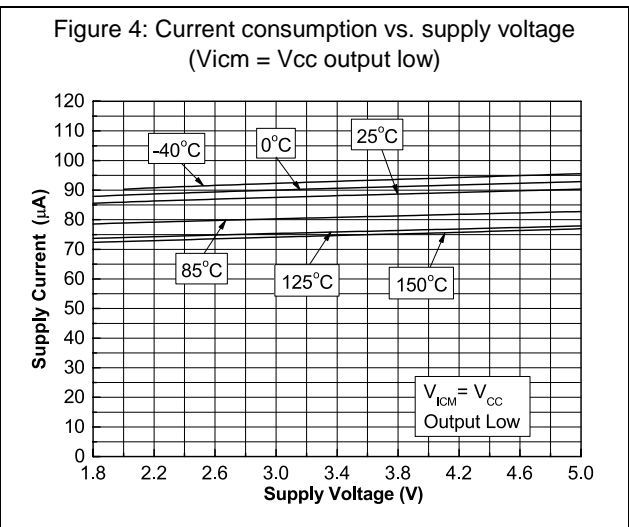
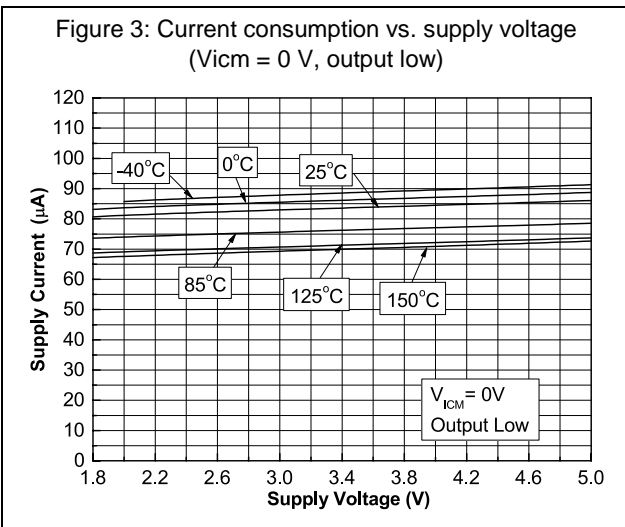
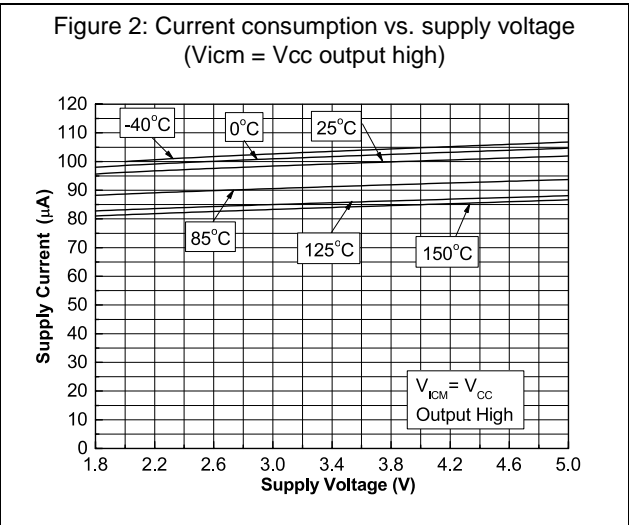
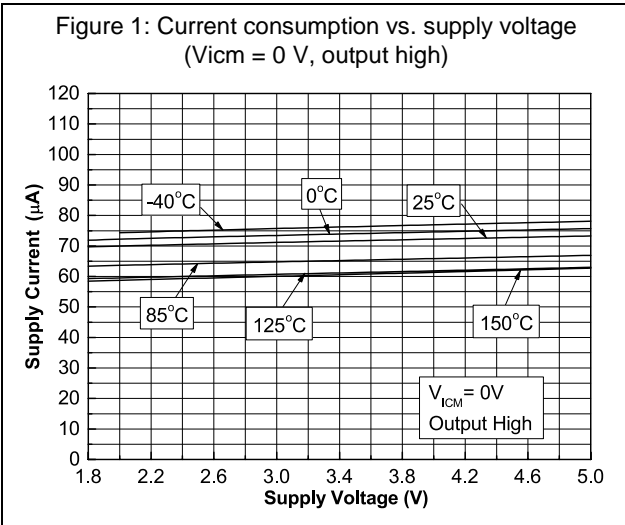
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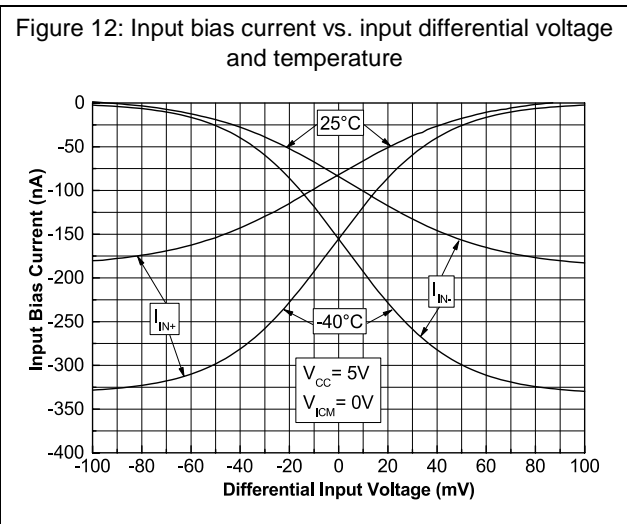
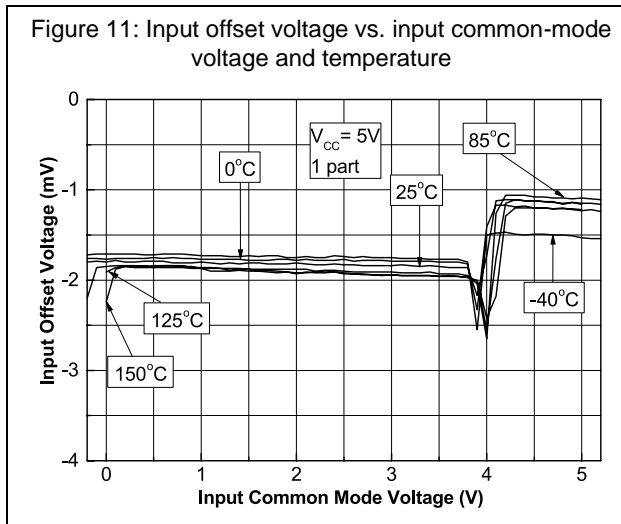
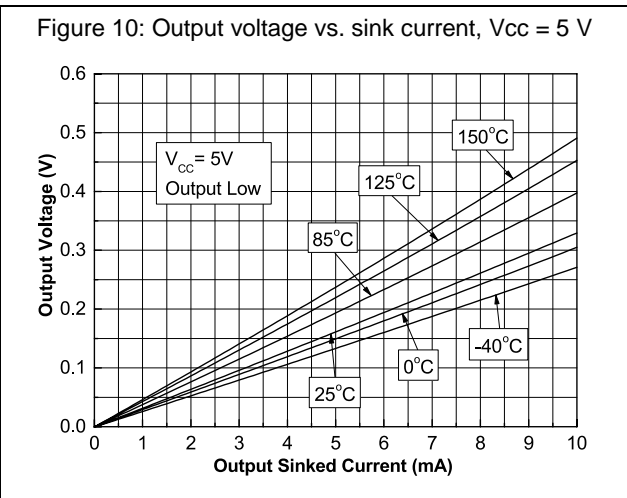
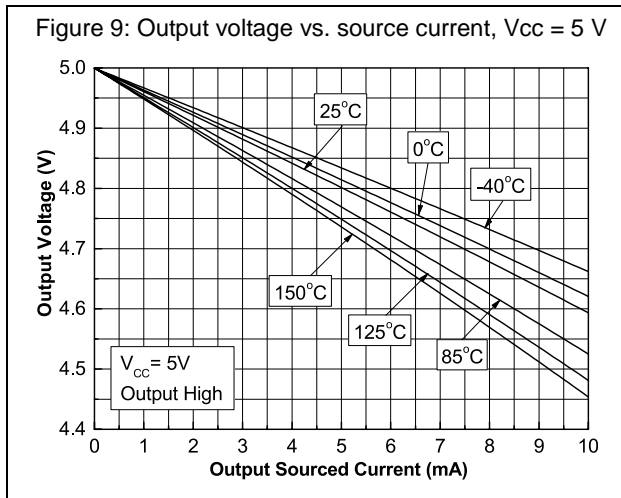
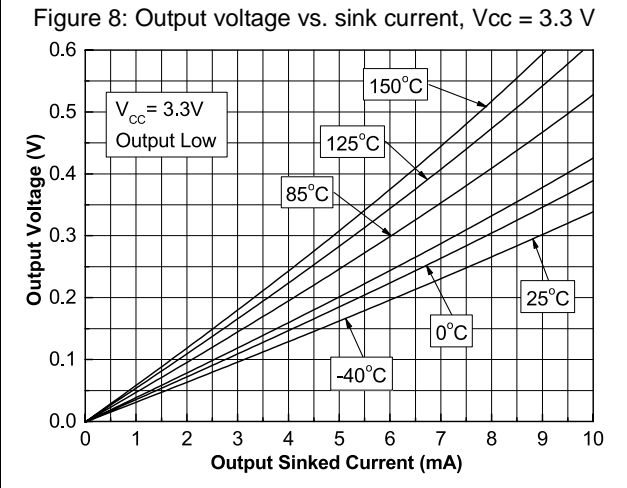
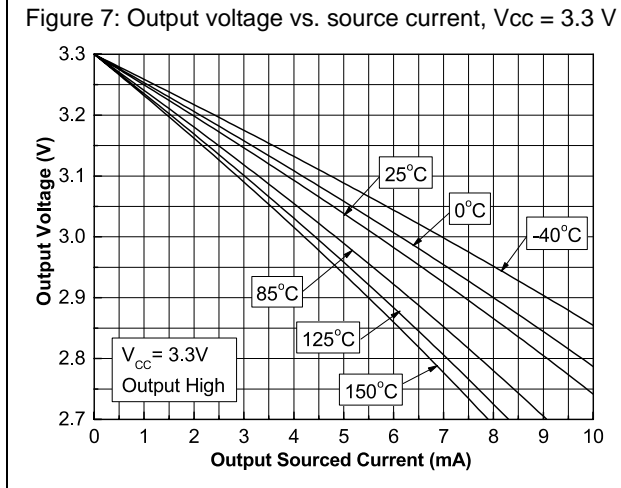
<sup>(1)</sup>All values over the temperature range are guaranteed through correlation and simulation. No production test is performed at the temperature range limits.

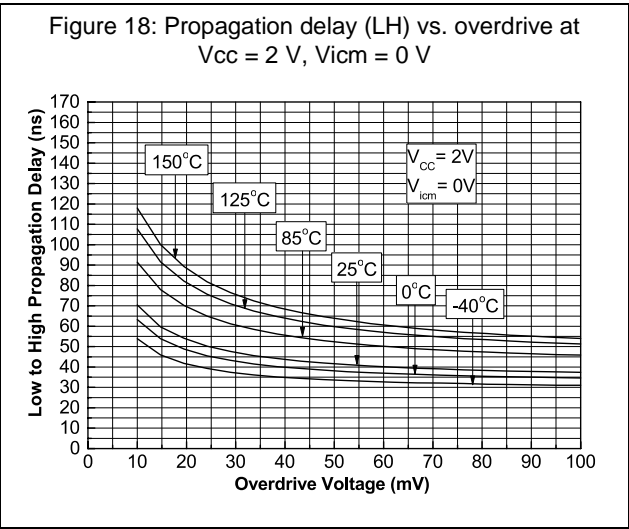
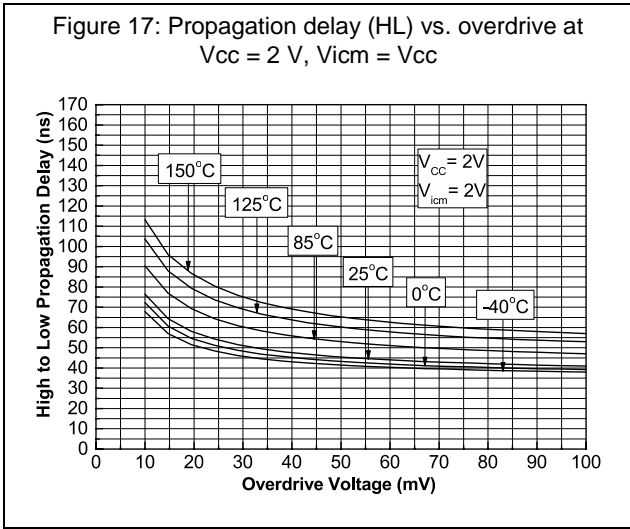
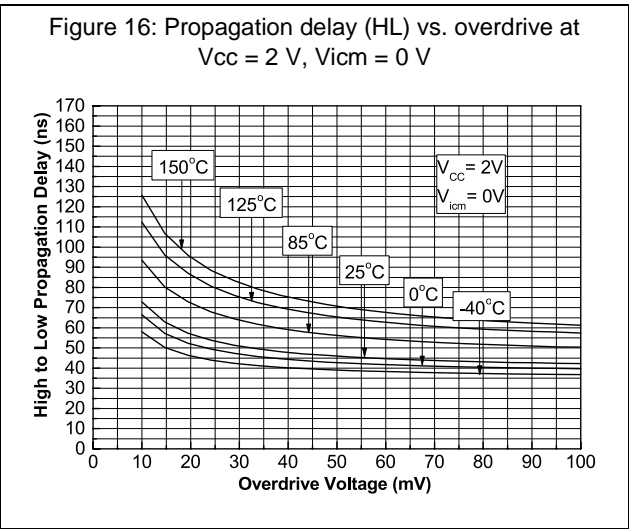
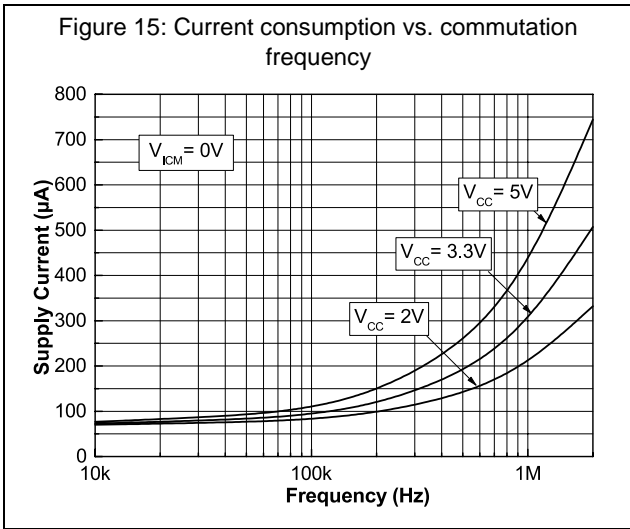
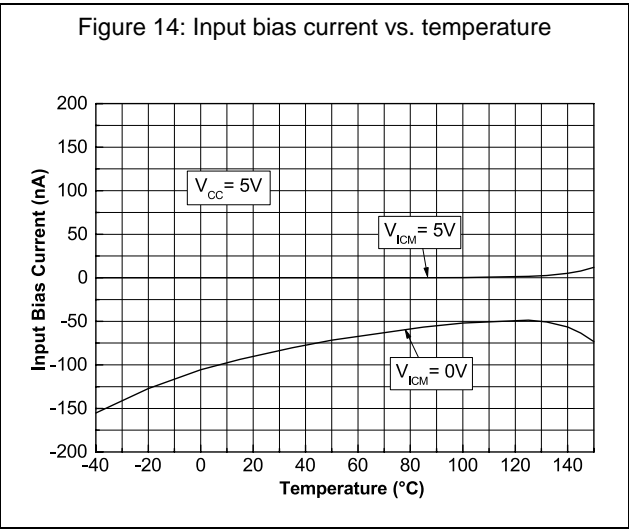
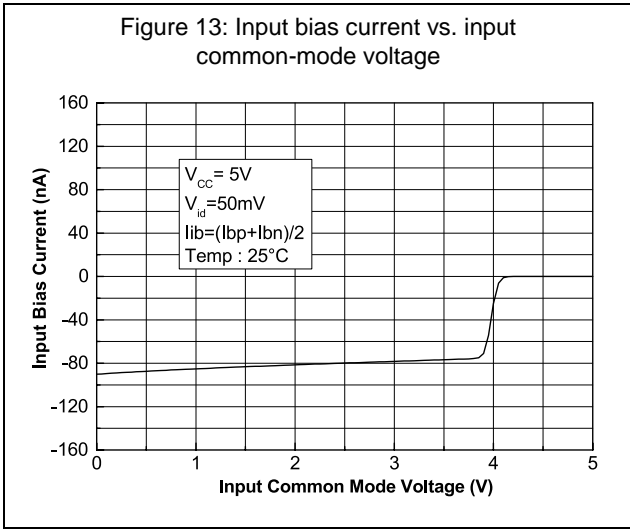
<sup>(2)</sup>Maximum values include unavoidable inaccuracies of the industrial tests

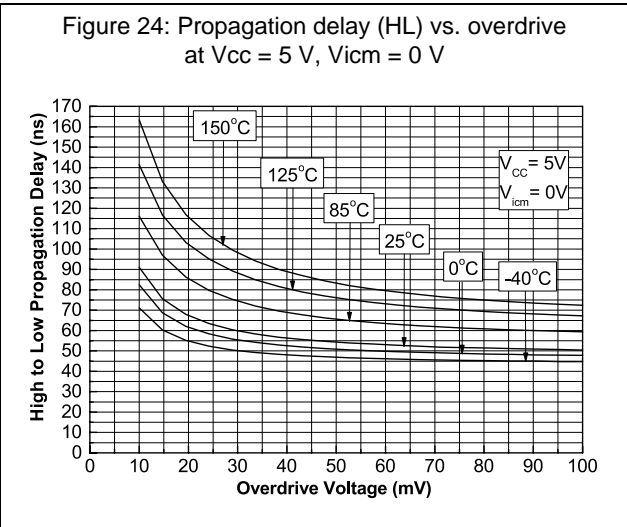
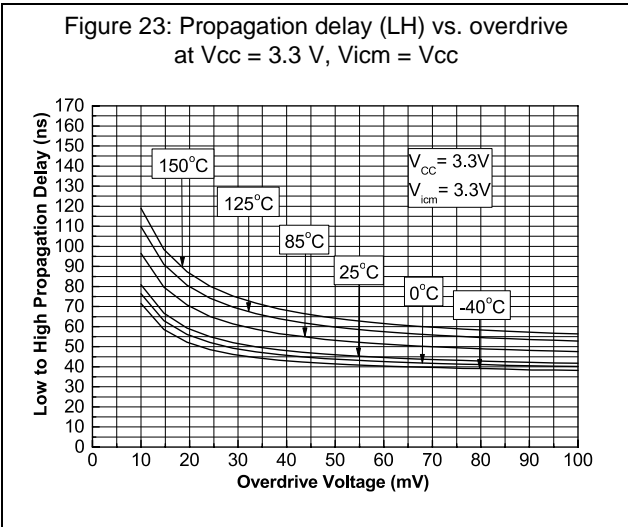
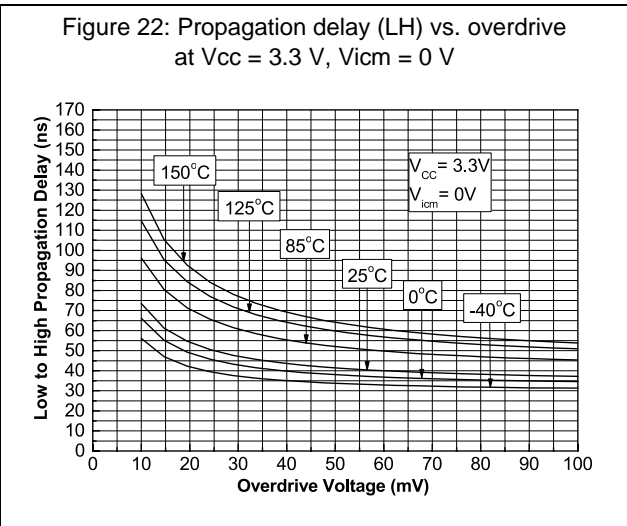
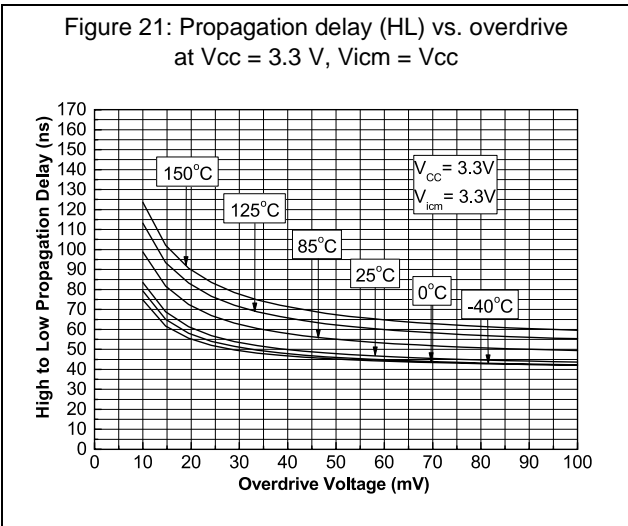
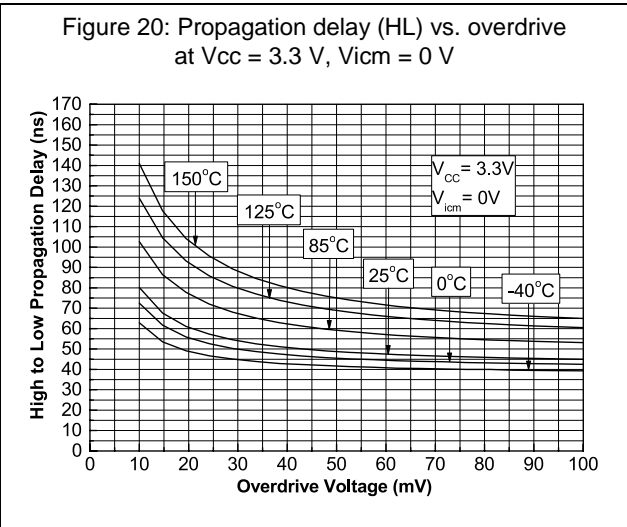
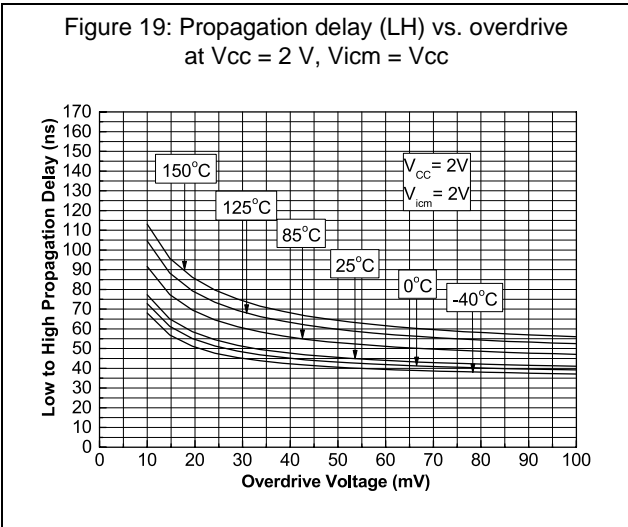
<sup>(3)</sup>Response time is measured 10%/90% of the final output value with the following conditions: inverting input voltage (IN-) = V<sub>icm</sub> and non-inverting input voltage (IN+) moving from V<sub>icm</sub> - 100 mV to V<sub>icm</sub> + overdrive.

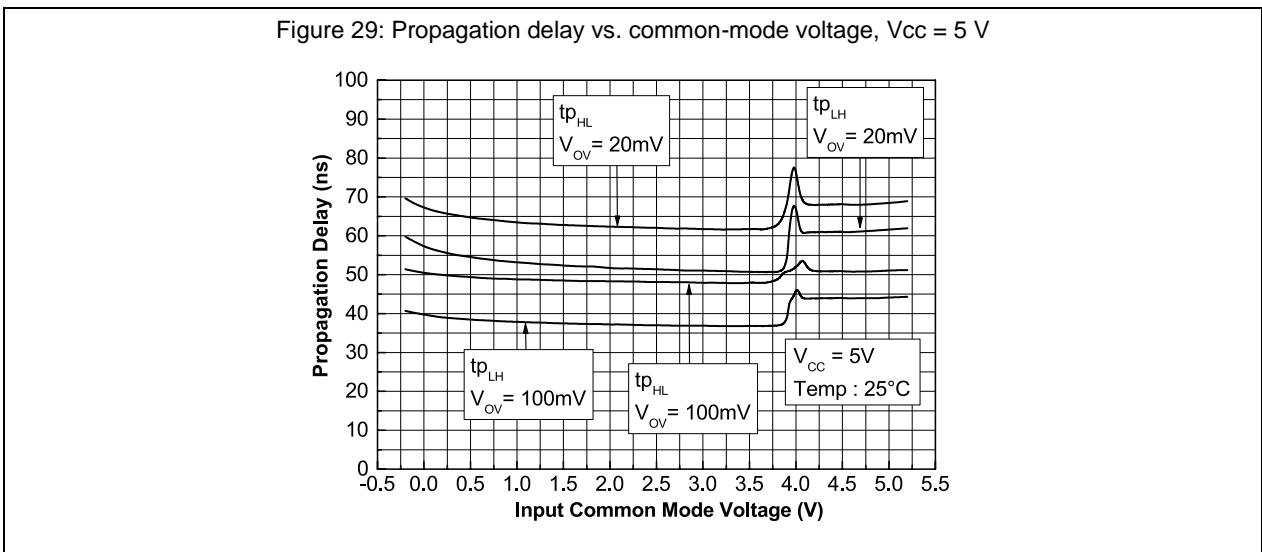
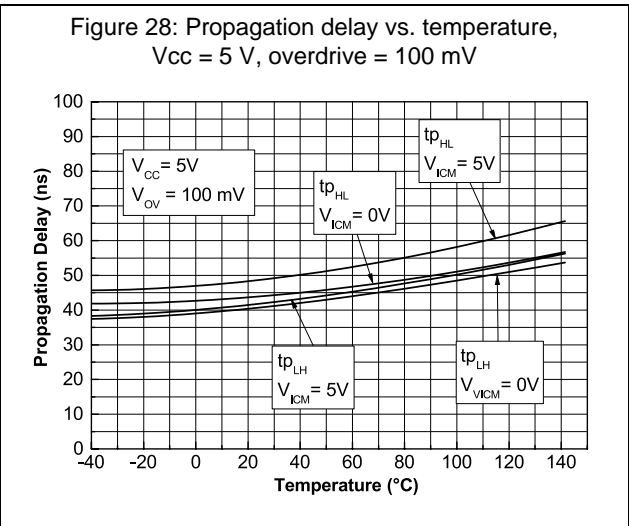
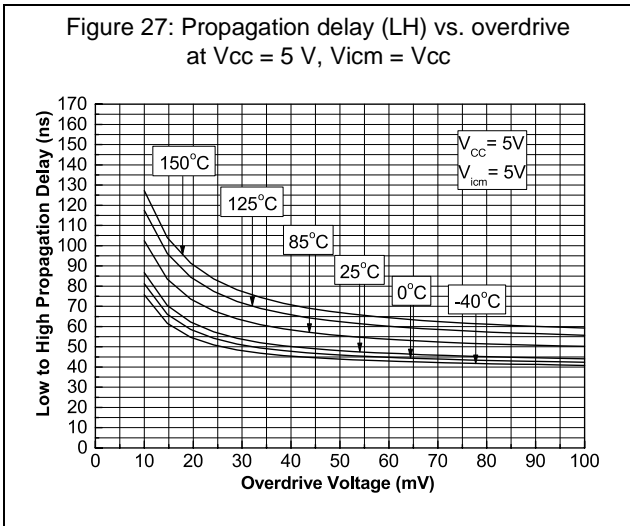
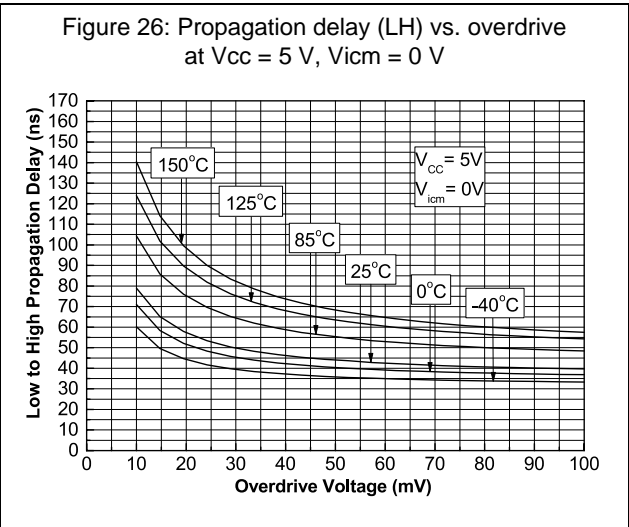
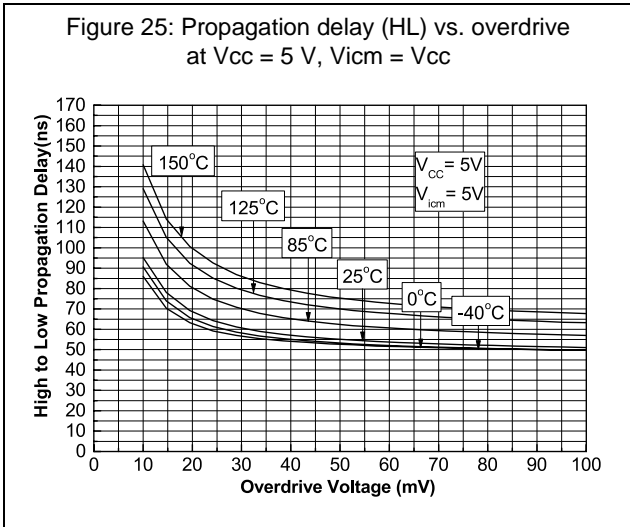
<sup>(4)</sup>Response time is measured 10%/90% of the final output value with the following conditions: Inverting input voltage (IN-) = V<sub>icm</sub> and non-inverting input voltage (IN+) moving from V<sub>icm</sub> + 100 mV to V<sub>icm</sub> - overdrive.











### 3 Package information

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: [www.st.com](http://www.st.com). ECOPACK® is an ST trademark.

### 3.1 SOT23-5 package information

Figure 30: SOT23-5 package outline

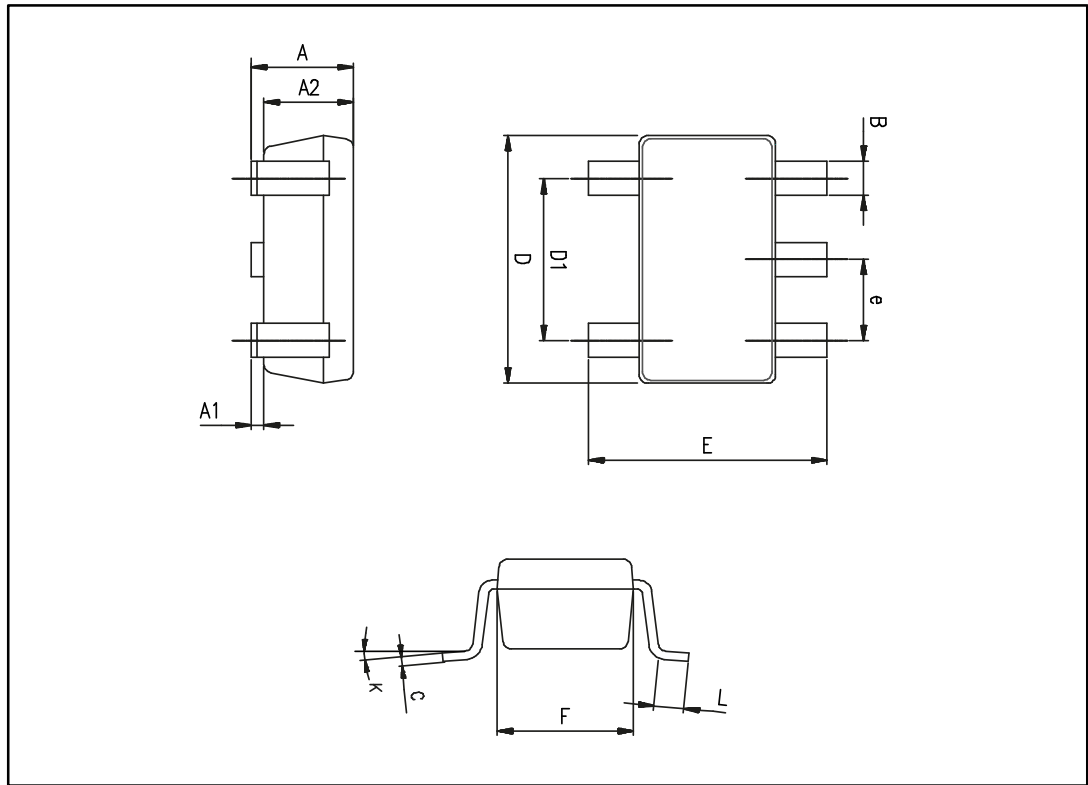


Table 6: SOT23-5 mechanical data

| Ref. | Dimensions  |      |            |           |       |            |
|------|-------------|------|------------|-----------|-------|------------|
|      | Millimeters |      |            | Inches    |       |            |
|      | Min.        | Typ. | Max.       | Min.      | Typ.  | Max.       |
| A    | 0.90        | 1.20 | 1.45       | 0.035     | 0.047 | 0.057      |
| A1   |             |      | 0.15       |           |       | 0.006      |
| A2   | 0.90        | 1.05 | 1.30       | 0.035     | 0.041 | 0.051      |
| B    | 0.35        | 0.40 | 0.50       | 0.014     | 0.016 | 0.020      |
| C    | 0.09        | 0.15 | 0.20       | 0.004     | 0.006 | 0.008      |
| D    | 2.80        | 2.90 | 3.00       | 0.110     | 0.114 | 0.118      |
| D1   |             | 1.90 |            |           | 0.075 |            |
| e    |             | 0.95 |            |           | 0.037 |            |
| E    | 2.60        | 2.80 | 3.00       | 0.102     | 0.110 | 0.118      |
| F    | 1.50        | 1.60 | 1.75       | 0.059     | 0.063 | 0.069      |
| L    | 0.10        | 0.35 | 0.60       | 0.004     | 0.014 | 0.024      |
| K    | 0 degrees   |      | 10 degrees | 0 degrees |       | 10 degrees |



## 4 Ordering information

**Table 7: Order codes**

| Order code                 | Temperature range | Package | Packaging     | Marking |
|----------------------------|-------------------|---------|---------------|---------|
| TS3021HIYLT <sup>(1)</sup> | -40 to 150 °C     | SOT23-5 | Tape and reel | K528    |

**Notes:**

<sup>(1)</sup>Qualified and characterized according to AEC-Q100 and Q003 or equivalent, advanced screening according to AEC-Q001 and Q 002 or equivalent.

## 5 Revision history

**Table 8: Document revision history**

| Date        | Version | Changes  |
|-------------|---------|--|
| 13-Oct-2015 | 1       | Initial release  |
| 24-Aug-2016 | 2       | Updated document title (automotive qualified)<br>Added AEC-Q100 and Q003 qualified in Features section<br><i>Table 1: "Absolute maximum ratings (AMR)":</i> removed ESD MM value.<br><i>Table 7: "Order codes":</i> updated footnote, product is now automotive qualified. |

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