# 74HC3G14; 74HCT3G14

## Triple inverting Schmitt trigger

Rev. 5 — 9 December 2013 **Product data sheet**

## 1. General description

The 74HC3G14; 74HCT3G14 is a triple inverter with Schmitt-trigger inputs. Inputs include clamp diodes. This enables the use of current limiting resistors to interface inputs to voltages in excess of $V_{CC}$. Schmitt trigger inputs transform slowly changing input signals into sharply defined jitter-free output signals.

## 2. Features and benefits

- Wide supply voltage range from 2.0 V to 6.0 V
- Complies with JEDEC standard no. 7A
- Input levels:
  - For 74HC3G14: CMOS level
  - For 74HCT3G14: TTL level
- High noise immunity
- Low power dissipation
- Balanced propagation delays
- Unlimited input rise and fall times
- Multiple package options
- ESD protection:
  - HBM JESD22-A114E exceeds 2000 V
  - MM JESD22-A115-A exceeds 200 V
- Specified from –40 °C to +85 °C and –40 °C to +125 °C

## 3. Applications

- Wave and pulse shaper for highly noisy environments
- Astable multivibrators
- Monostable multivibrators

nexperia

## 4. Ordering information

**Table 1. Ordering information**

| Type number | Package | | | |
|---|---|---|---|---|
| | Temperature range | Name | Description | Version |
| 74HC3G14DP | –40 °C to +125 °C | TSSOP8 | plastic thin shrink small outline package; 8 leads; body width 3 mm; lead length 0.5 mm | SOT505-2 |
| 74HCT3G14DP | | | | |
| 74HC3G14DC | –40 °C to +125 °C | VSSOP8 | plastic very thin shrink small outline package; 8 leads; body width 2.3 mm | SOT765-1 |
| 74HCT3G14DC | | | | |
| 74HC3G14GD | –40 °C to +125 °C | XSON8 | plastic extremely thin small outline package; no leads; 8 terminals; body 3 × 2 × 0.5 mm | SOT996-2 |
| 74HCT3G14GD | | | | |

## 5. Marking

**Table 2. Marking**

| Type number | Marking code[1] |
|---|---|
| 74HC3G14DP | H14 |
| 74HCT3G14DP | T14 |
| 74HC3G14DC | H14 |
| 74HCT3G14DC | T14 |
| 74HC3G14GD | H14 |
| 74HCT3G14GD | T14 |

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

## 6. Functional diagram

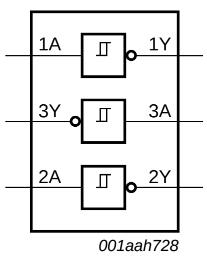



**Fig 1. Logic symbol**

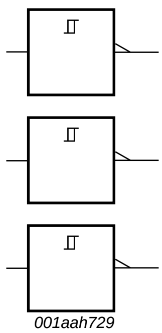



**Fig 2. IEC logic symbol**

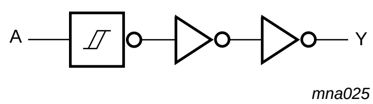



**Fig 3. Logic diagram (one Schmitt trigger)**

# 7. Pinning information

## 7.1 Pinning

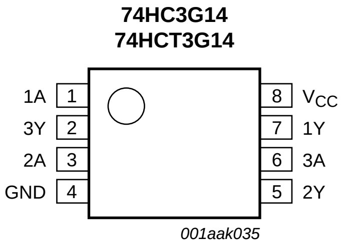



**Fig 4. Pin configuration SOT505-2 (TSSOP8) and SOT765-1 (VSSOP8)**

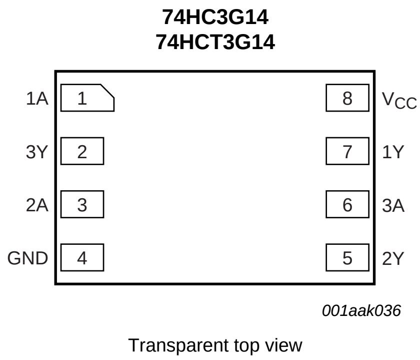



**Fig 5. Pin configuration SOT996-2 (XSON8)**

## 7.2 Pin description

**Table 3. Pin description**

| Symbol | Pin | Description |
|---|---|---|
| 1A, 2A, 3A | 1, 3, 6 | data input |
| GND | 4 | ground (0 V) |
| 1Y, 2Y, 3Y | 7, 5, 2 | data output |
| $V_{CC}$ | 8 | supply voltage |

# 8. Functional description

**Table 4. Function table[1]**

| Input | Output |
|---|---|
| nA | nY |
| L | H |
| H | L |

[1] H = HIGH voltage level; L = LOW voltage level.

## 9. Limiting values

**Table 5. Limiting values**

*In accordance with the Absolute Maximum Rating System (IEC 60134). Voltages are referenced to GND (ground = 0 V).*

| Symbol | Parameter | Conditions | | Min | Max | Unit |
|---|---|---|---|---|---|---|
| $V_{CC}$ | supply voltage | | | –0.5 | +7.0 | V |
| $I_{IK}$ | input clamping current | $V_I < -0.5$ V or $V_I > V_{CC} + 0.5$ V | [1] | - | ±20 | mA |
| $I_{OK}$ | output clamping current | $V_O < -0.5$ V or $V_O > V_{CC} + 0.5$ V | [1] | - | ±20 | mA |
| $I_O$ | output current | $V_O = -0.5$ V to $V_{CC} + 0.5$ V | [1] | - | ±25 | mA |
| $I_{CC}$ | supply current | | [1] | - | +50 | mA |
| $I_{GND}$ | ground current | | [1] | –50 | - | mA |
| $T_{stg}$ | storage temperature | | | –65 | +150 | °C |
| $P_{tot}$ | total power dissipation | | [2] | - | 300 | mW |

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

[2] For TSSOP8 package: above 55 °C the value of $P_{tot}$ derates linearly with 2.5 mW/K.
For VSSOP8 package: above 110 °C the value of $P_{tot}$ derates linearly with 8 mW/K.
For XSON8 package: above 118 °C the value of $P_{tot}$ derates linearly with 7.8 mW/K.

## 10. Recommended operating conditions

**Table 6. Recommended operating conditions**

*Voltages are referenced to GND (ground = 0 V).*

| Symbol | Parameter | Conditions | 74HC3G14 | | | 74HCT3G14 | | | Unit |
|---|---|---|---|---|---|---|---|---|---|
| | | | Min | Typ | Max | Min | Typ | Max | |
| $V_{CC}$ | supply voltage | | 2.0 | 5.0 | 6.0 | 4.5 | 5.0 | 5.5 | V |
| $V_I$ | input voltage | | 0 | - | $V_{CC}$ | 0 | - | $V_{CC}$ | V |
| $V_O$ | output voltage | | 0 | - | $V_{CC}$ | 0 | - | $V_{CC}$ | V |
| $T_{amb}$ | ambient temperature | | –40 | +25 | +125 | –40 | +25 | +125 | °C |

## 11. Static characteristics

**Table 7. Static characteristics**

*Voltages are referenced to GND (ground = 0 V). All typical values are measured at $T_{amb}$ = 25 °C.*

| Symbol | Parameter | Conditions | 25 °C | | | –40 °C to +85 °C | | –40 °C to +125 °C | | Unit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Min | Typ | Max | Min | Max | Min | Max | |
| **74HC3G14** | | | | | | | | | | |
| $V_{OH}$ | HIGH-level output voltage | $V_I = V_{T+}$ or $V_{T-}$ | | | | | | | | |
| | | $I_O$ = –20 µA; $V_{CC}$ = 2.0 V | 1.9 | 2.0 | - | 1.9 | - | 1.9 | - | V |
| | | $I_O$ = –20 µA; $V_{CC}$ = 4.5 V | 4.4 | 4.5 | - | 4.4 | - | 4.4 | - | V |
| | | $I_O$ = –20 µA; $V_{CC}$ = 6.0 V | 5.9 | 6.0 | - | 5.9 | - | 5.9 | - | V |
| | | $I_O$ = –4.0 mA; $V_{CC}$ = 4.5 V | 4.18 | 4.32 | - | 4.13 | - | 3.7 | - | V |
| | | $I_O$ = –5.2 mA; $V_{CC}$ = 6.0 V | 5.68 | 5.81 | - | 5.63 | - | 5.2 | - | V |
| $V_{OL}$ | LOW-level output voltage | $V_I = V_{T+}$ or $V_{T-}$ | | | | | | | | |
| | | $I_O$ = 20 µA; $V_{CC}$ = 2.0 V | - | 0 | 0.1 | - | 0.1 | - | 0.1 | V |
| | | $I_O$ = 20 µA; $V_{CC}$ = 4.5 V | - | 0 | 0.1 | - | 0.1 | - | 0.1 | V |
| | | $I_O$ = 20 µA; $V_{CC}$ = 6.0 V | - | 0 | 0.1 | - | 0.1 | - | 0.1 | V |
| | | $I_O$ = 4.0 mA; $V_{CC}$ = 4.5 V | - | 0.15 | 0.26 | - | 0.33 | - | 0.4 | V |
| | | $I_O$ = 5.2 mA; $V_{CC}$ = 6.0 V | - | 0.16 | 0.26 | - | 0.33 | - | 0.4 | V |
| $I_I$ | input leakage current | $V_I = V_{CC}$ or GND; $V_{CC}$ = 6.0 V | - | - | ±0.1 | - | ±1.0 | - | ±1.0 | µA |
| $I_{CC}$ | supply current | per input pin; $V_{CC}$ = 6.0 V; $V_I = V_{CC}$ or GND; $I_O$ = 0 A; | - | - | 1.0 | - | 10 | - | 20 | µA |
| $C_I$ | input capacitance | | - | 2.0 | - | - | - | - | - | pF |
| **74HCT3G14** | | | | | | | | | | |
| $V_{OH}$ | HIGH-level output voltage | $V_I = V_{T+}$ or $V_{T-}$ | | | | | | | | |
| | | $I_O$ = –20 µA; $V_{CC}$ = 4.5 V | 4.4 | 4.5 | - | 4.4 | - | 4.4 | - | V |
| | | $I_O$ = –4.0 mA; $V_{CC}$ = 4.5 V | 4.18 | 4.32 | - | 4.13 | - | 3.7 | - | V |
| $V_{OL}$ | LOW-level output voltage | $V_I = V_{IH}$ or $V_{IL}$ | | | | | | | | |
| | | $I_O$ = 20 µA; $V_{CC}$ = 4.5 V | - | 0 | 0.1 | - | 0.1 | - | 0.1 | V |
| | | $I_O$ = 4.0 mA; $V_{CC}$ = 4.5 V | - | 0.15 | 0.26 | - | 0.33 | - | 0.4 | V |
| $I_I$ | input leakage current | $V_I = V_{CC}$ or GND; $V_{CC}$ = 5.5 V | - | - | ±0.1 | - | ±1.0 | - | ±1.0 | µA |
| $I_{CC}$ | supply current | per input pin; $V_{CC}$ = 5.5 V; $V_I = V_{CC}$ or GND; $I_O$ = 0 A; | - | - | 1.0 | - | 10 | - | 20 | µA |
| $\Delta I_{CC}$ | additional supply current | per input; $V_{CC}$ = 4.5 V to 5.5 V; $V_I = V_{CC} - 2.1$ V; $I_O$ = 0 A | - | - | 300 | - | 375 | - | 410 | µA |
| $C_I$ | input capacitance | | - | 2.0 | - | - | - | - | - | pF |

**Table 8. Transfer characteristics**

*Voltages are referenced to GND (ground = 0 V); for test circuit see Figure 11.*

| Symbol | Parameter | Conditions | 25 °C | | | −40 °C to +125 °C | | | Unit |
|---|---|---|---|---|---|---|---|---|---|
| | | | Min | Typ | Max | Min | Max (85 °C) | Max (125 °C) | |
| **74HC3G14** | | | | | | | | | |
| $V_{T+}$ | positive-going threshold voltage | see Figure 6, Figure 7 | | | | | | | |
| | | $V_{CC}$ = 2.0 V | 1.00 | 1.18 | 1.50 | 1.00 | 1.50 | 1.50 | V |
| | | $V_{CC}$ = 4.5 V | 2.30 | 2.60 | 3.15 | 2.30 | 3.15 | 3.15 | V |
| | | $V_{CC}$ = 6.0 V | 3.00 | 3.46 | 4.20 | 3.00 | 4.20 | 4.20 | V |
| $V_{T-}$ | negative-going threshold voltage | see Figure 6, Figure 7 | | | | | | | |
| | | $V_{CC}$ = 2.0 V | 0.30 | 0.60 | 0.90 | 0.30 | 0.90 | 0.90 | V |
| | | $V_{CC}$ = 4.5 V | 1.13 | 1.47 | 2.00 | 1.13 | 2.00 | 2.00 | V |
| | | $V_{CC}$ = 6.0 V | 1.50 | 2.06 | 2.60 | 1.50 | 2.60 | 2.60 | V |
| $V_H$ | hysteresis voltage | ($V_{T+} - V_{T-}$); see Figure 6, Figure 7 and Figure 9 | | | | | | | |
| | | $V_{CC}$ = 2.0 V | 0.30 | 0.60 | 1.00 | 0.30 | 1.00 | 1.00 | V |
| | | $V_{CC}$ = 4.5 V | 0.60 | 1.13 | 1.40 | 0.60 | 1.40 | 1.40 | V |
| | | $V_{CC}$ = 6.0 V | 0.80 | 1.40 | 1.70 | 0.80 | 1.70 | 1.70 | V |
| **74HCT3G14** | | | | | | | | | |
| $V_{T+}$ | positive-going threshold voltage | see Figure 6, Figure 7 | | | | | | | |
| | | $V_{CC}$ = 4.5 V | 1.20 | 1.58 | 1.90 | 1.20 | 1.90 | 1.90 | V |
| | | $V_{CC}$ = 5.5 V | 1.40 | 1.78 | 2.10 | 1.40 | 2.10 | 2.10 | V |
| $V_{T-}$ | negative-going threshold voltage | see Figure 6, Figure 7 | | | | | | | |
| | | $V_{CC}$ = 4.5 V | 0.50 | 0.87 | 1.20 | 0.50 | 1.20 | 1.20 | V |
| | | $V_{CC}$ = 5.5 V | 0.60 | 1.11 | 1.40 | 0.60 | 1.40 | 1.40 | V |
| $V_H$ | hysteresis voltage | ($V_{T+} - V_{T-}$); see Figure 6, Figure 7 and Figure 8 | | | | | | | |
| | | $V_{CC}$ = 4.5 V | 0.40 | 0.71 | - | 0.40 | - | - | V |
| | | $V_{CC}$ = 5.5 V | 0.40 | 0.67 | - | 0.40 | - | - | V |

## 11.1 Waveforms transfer characteristics

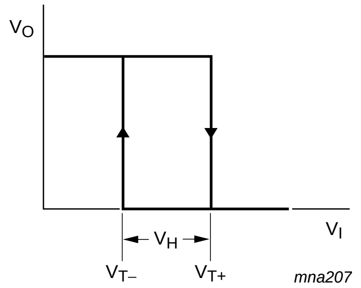



**Fig 6. Transfer characteristic**

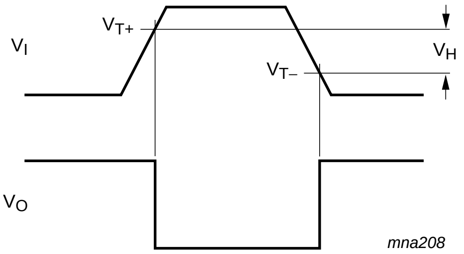
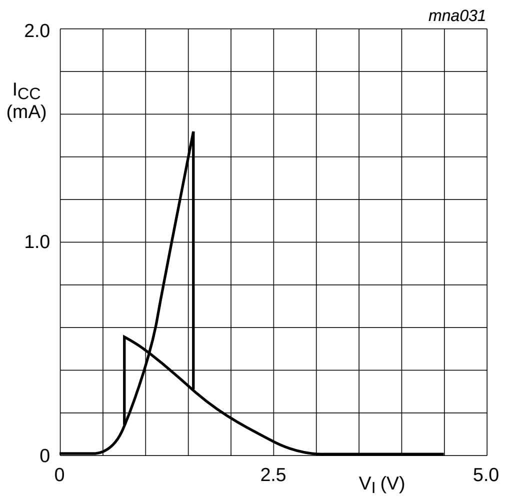
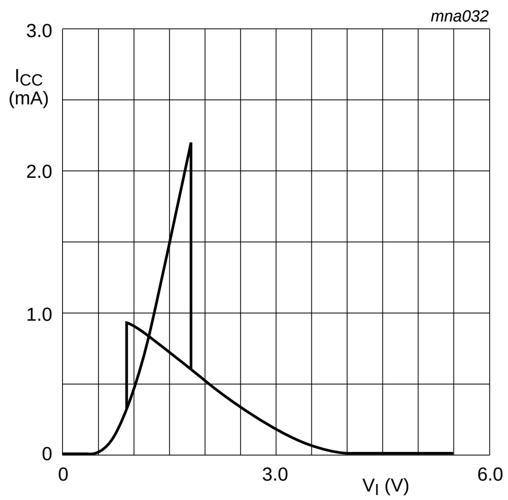



**Fig 7. Definition of $V_{T+}$, $V_{T-}$ and $V_H$**

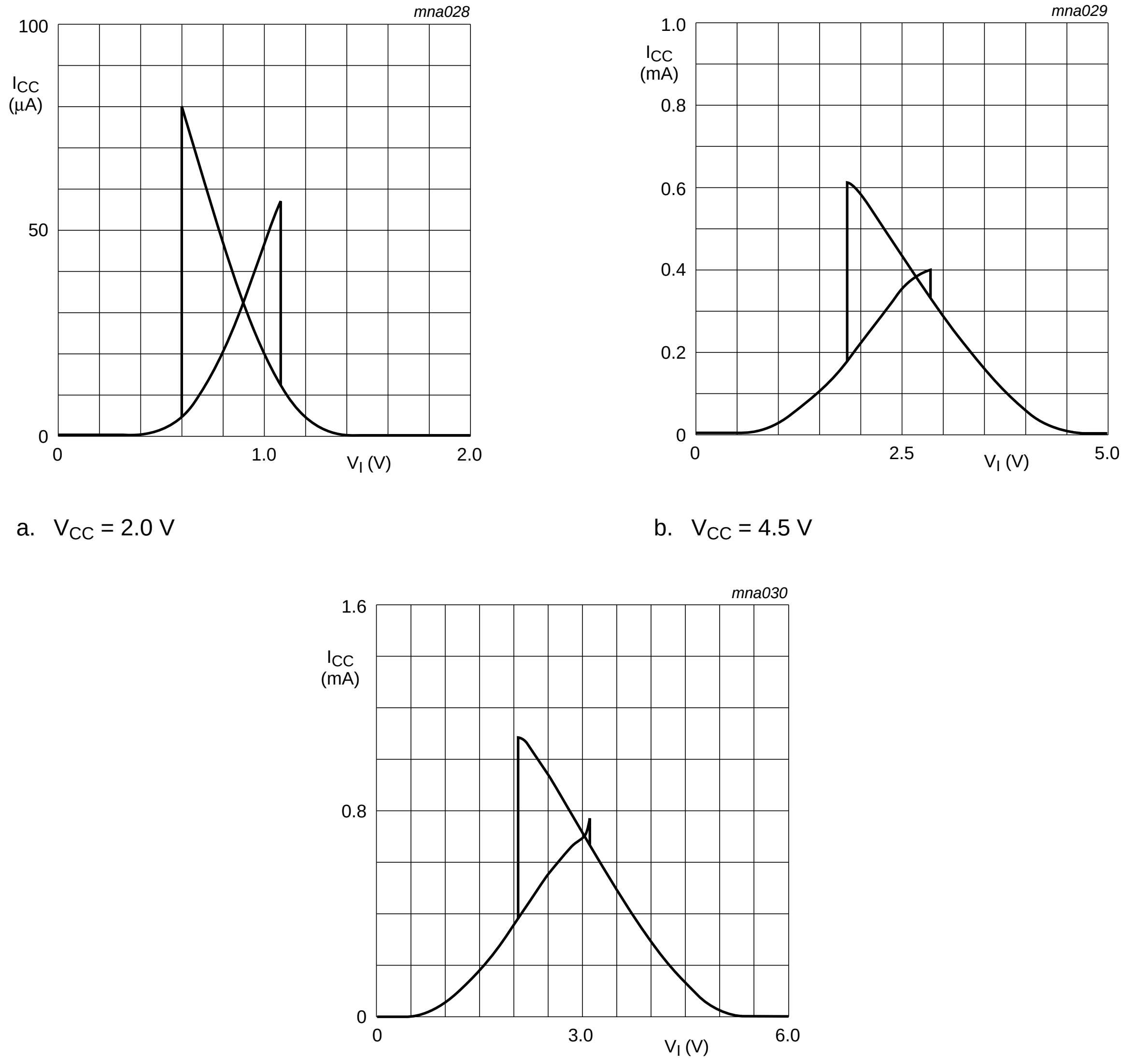



a. $V_{CC}$ = 4.5 V.




b. $V_{CC}$ = 5.5 V.

**Fig 8. Typical 74HCT3G14 transfer characteristics**




a. $V_{CC}$ = 2.0 V

b. $V_{CC}$ = 4.5 V

c. $V_{CC}$ = 6.0 V

**Fig 9. Typical 74HC3G14 transfer characteristics**

## 12. Dynamic characteristics

**Table 9. Dynamic characteristics**

*Voltages are referenced to GND (ground = 0 V); for test circuit see Figure 11.*

| Symbol | Parameter | Conditions | | 25 °C | | | −40 °C to +125 °C | | | Unit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Min | Typ | Max | Min | Max (85 °C) | Max (125 °C) | |
| **74HC3G14** | | | | | | | | | | |
| $t_{pd}$ | propagation delay | nA to nY; see Figure 10 | [1] | | | | | | | |
| | | $V_{CC}$ = 2.0 V | | - | 53 | 125 | - | 155 | 190 | ns |
| | | $V_{CC}$ = 4.5 V | | - | 16 | 25 | - | 31 | 38 | ns |
| | | $V_{CC}$ = 6.0 V | | - | 13 | 21 | - | 26 | 32 | ns |
| $t_t$ | transition time | nY; see Figure 10 | [2] | | | | | | | |
| | | $V_{CC}$ = 2.0 V | | - | 20 | 75 | - | 95 | 110 | ns |
| | | $V_{CC}$ = 4.5 V | | - | 7 | 15 | - | 19 | 22 | ns |
| | | $V_{CC}$ = 6.0 V | | - | 5 | 13 | - | 16 | 19 | ns |
| $C_{PD}$ | power dissipation capacitance | $V_I$ = GND to $V_{CC}$ | [3] | - | 10 | - | - | - | - | pF |
| **74HCT3G14** | | | | | | | | | | |
| $t_{pd}$ | propagation delay | nA to nY; see Figure 10 | [1] | | | | | | | |
| | | $V_{CC}$ = 4.5 V | | - | 21 | 32 | - | 40 | 48 | ns |
| $t_t$ | transition time | nY; see Figure 10 | [2] | | | | | | | |
| | | $V_{CC}$ = 4.5 V | | - | 6 | 15 | - | 19 | 22 | ns |
| $C_{PD}$ | power dissipation capacitance | $V_I$ = GND to $V_{CC}$ − 1.5 V | [3] | - | 10 | - | - | - | - | pF |

[1] $t_{pd}$ is the same as $t_{PLH}$ and $t_{PHL}$

[2] $t_t$ is the same as $t_{TLH}$ and $t_{THL}$

[3] $C_{PD}$ is used to determine the dynamic power dissipation ($P_D$ 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:

$f_i$ = input frequency in MHz;

$f_o$ = output frequency in MHz;

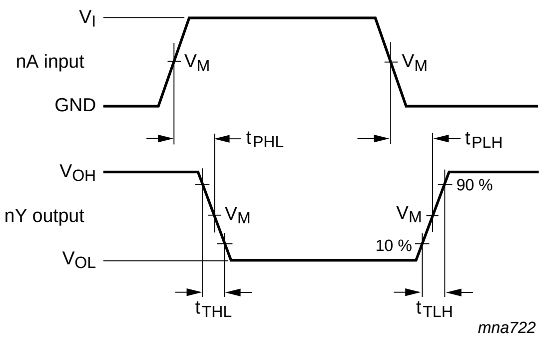
$C_L$ = output load capacitance in pF;

$V_{CC}$ = supply voltage in V;

N = number of inputs switching;

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

## 13. Waveforms



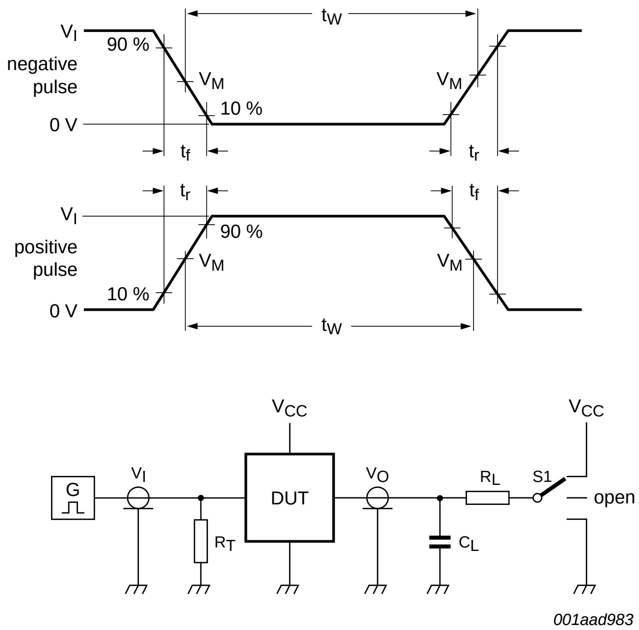

Measurement points are given in Table 10.

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

**Fig 10. The data input (nA) to output (nY) propagation delays and output transition times**

**Table 10. Measurement points**

| Type | Input | Output |
|---|---|---|
| | $V_M$ | $V_M$ |
| 74HC3G14 | $0.5V_{CC}$ | $0.5V_{CC}$ |
| 74HCT3G14 | 1.3 V | 1.3 V |




Test data is given in Table 11.

Definitions for test circuit:

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

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

$R_L$ = Load resistance.

S1 = Test selection switch.

**Fig 11. Test circuit for measuring switching times**

**Table 11. Test data**

| Type | Input | | Load | | S1 position |
|---|---|---|---|---|---|
| | $V_I$ | $t_r$, $t_f$ | $C_L$ | $R_L$ | $t_{PHL}$, $t_{PLH}$ |
| 74HC3G14 | GND to $V_{CC}$ | ≤ 6 ns | 50 pF | 1 kΩ | open |
| 74HCT3G14 | GND to 3.0 V | ≤ 6 ns | 50 pF | 1 kΩ | open |

## 14. Application information

The slow input rise and fall times cause additional power dissipation, which can be calculated using the following formula:

$P_{add} = f_i \times (t_r \times \Delta I_{CC(AV)} + t_f \times \Delta I_{CC(AV)}) \times V_{CC}$ where:

$P_{add}$ = additional power dissipation (μW);

$f_i$ = input frequency (MHz);

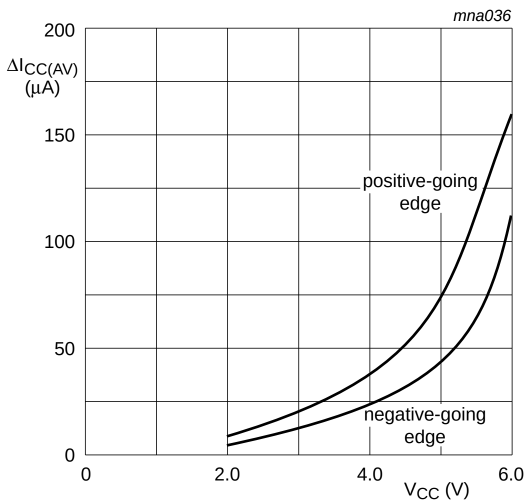
$t_r$ = input rise time (ns); 10 % to 90 %;

$t_f$ = input fall time (ns); 90 % to 10 %;

$\Delta I_{CC(AV)}$ = average additional supply current (μA).

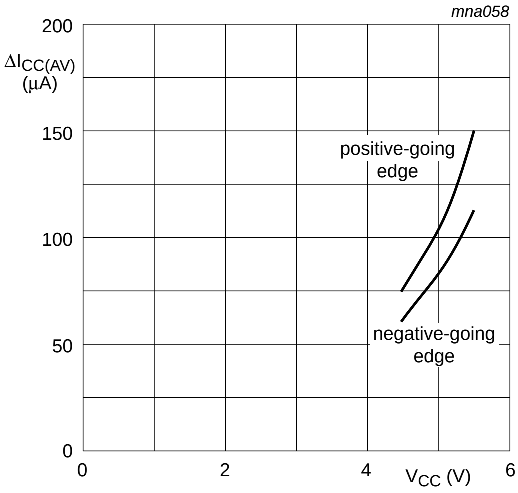
$\Delta I_{CC(AV)}$ differs with positive or negative input transitions, as shown in Figure 12 and Figure 13.

An example of a relaxation circuit using the 74HC3G14/74HCT3G14 is shown in Figure 14.



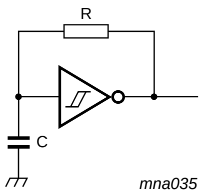

linear change of $V_I$ between $0.1V_{CC}$ to $0.9V_{CC}$.

**Fig 12. $\Delta I_{CC(AV)}$ as a function of $V_{CC}$ for 74HC3G14**




linear change of $V_I$ between $0.1V_{CC}$ to $0.9V_{CC}$.

**Fig 13. $\Delta I_{CC(AV)}$ as a function of $V_{CC}$ for 74HCT3G14**

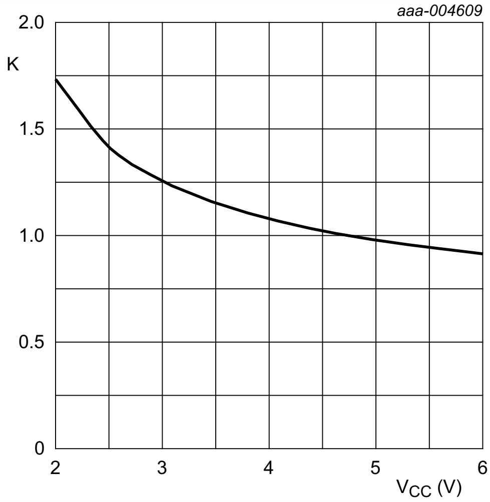



For 74HC3G14: $f = \frac{1}{T} \approx \frac{1}{0.8 \times RC}$

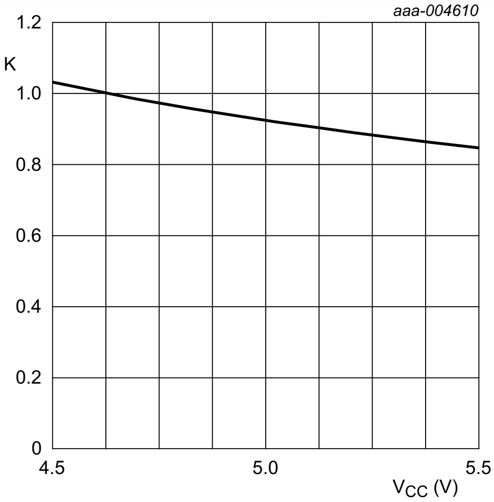
For 74HCT3G14: $f = \frac{1}{T} \approx \frac{1}{0.67 \times RC}$

For K-factor, see Figure 15

**Fig 14. Relaxation oscillator**




K-factor for 74HC3G14

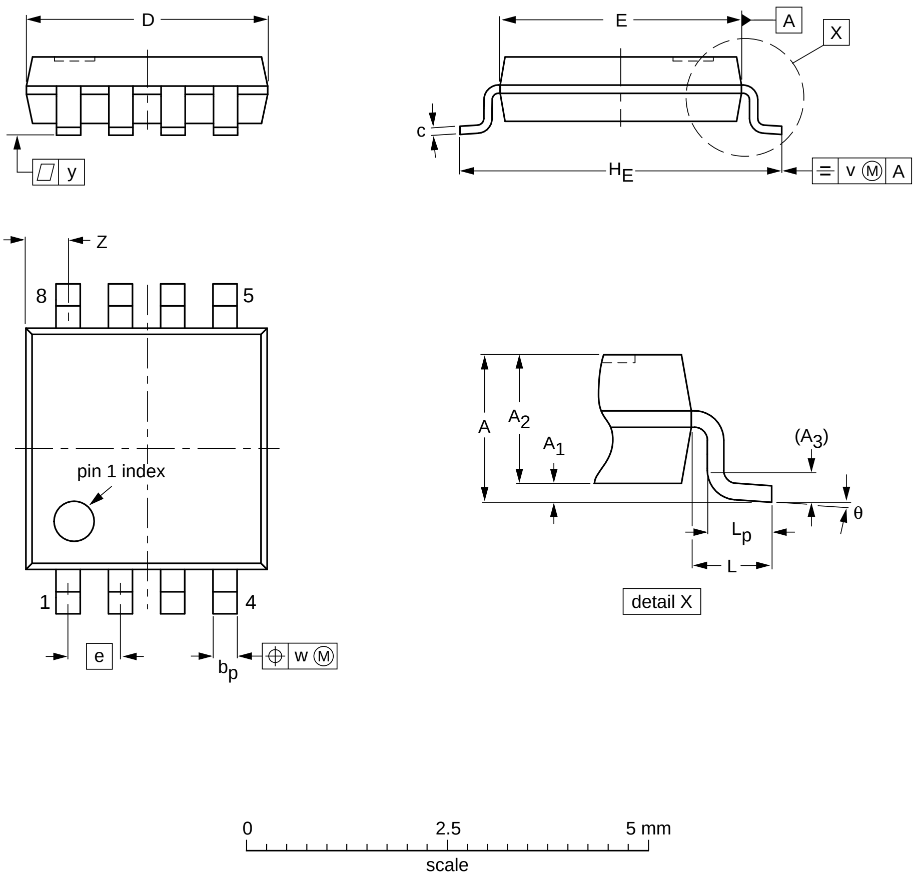



K-factor for 74HCT3G14

**Fig 15. Typical K-factor for relaxation oscillator**

## 15. Package outline

**TSSOP8: plastic thin shrink small outline package; 8 leads; body width 3 mm; lead length 0.5 mm SOT505-2**




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

| UNIT | A max. | $A_1$ | $A_2$ | $A_3$ | $b_p$ | c | D(1) | E(1) | e | $H_E$ | L | $L_p$ | v | w | y | Z(1) | θ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | 1.1 | 0.15<br>0.00 | 0.95<br>0.75 | 0.25 | 0.38<br>0.22 | 0.18<br>0.08 | 3.1<br>2.9 | 3.1<br>2.9 | 0.65 | 4.1<br>3.9 | 0.5 | 0.47<br>0.33 | 0.2 | 0.13 | 0.1 | 0.70<br>0.35 | 8°<br>0° |

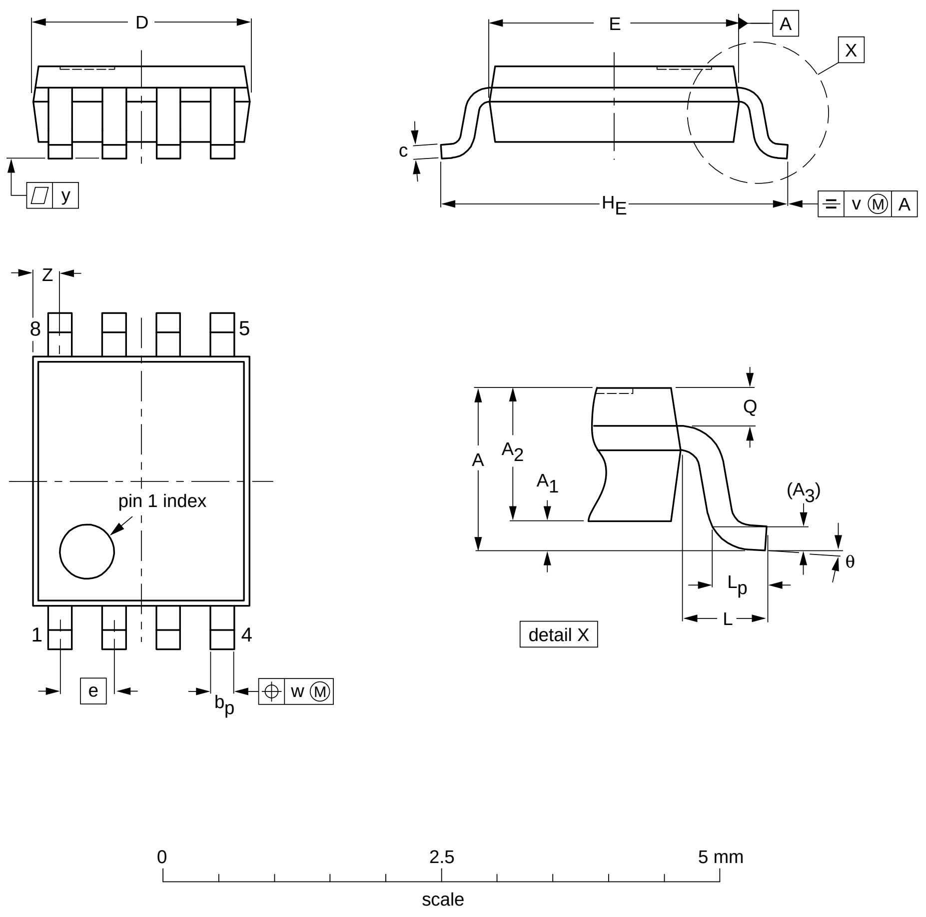
**Note**

1. Plastic or metal protrusions of 0.15 mm maximum per side are not included.

| OUTLINE VERSION | REFERENCES | | | | EUROPEAN PROJECTION | ISSUE DATE |
|---|---|---|---|---|---|---|
| | IEC | JEDEC | JEITA | | | |
| SOT505-2 | | - - - | | | | 02-01-16 |

**Fig 16. Package outline SOT505-2 (TSSOP8)**

**VSSOP8: plastic very thin shrink small outline package; 8 leads; body width 2.3 mm** **SOT765-1**




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

| UNIT | A max. | $A_1$ | $A_2$ | $A_3$ | $b_p$ | c | D(1) | E(2) | e | $H_E$ | L | $L_p$ | Q | v | w | y | Z(1) | θ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | 1 | 0.15<br>0.00 | 0.85<br>0.60 | 0.12 | 0.27<br>0.17 | 0.23<br>0.08 | 2.1<br>1.9 | 2.4<br>2.2 | 0.5 | 3.2<br>3.0 | 0.4 | 0.40<br>0.15 | 0.21<br>0.19 | 0.2 | 0.13 | 0.1 | 0.4<br>0.1 | 8°<br>0° |

**Notes**

1. Plastic or metal protrusions of 0.15 mm maximum per side are not included.
2. Plastic or metal protrusions of 0.25 mm maximum per side are not included.

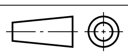
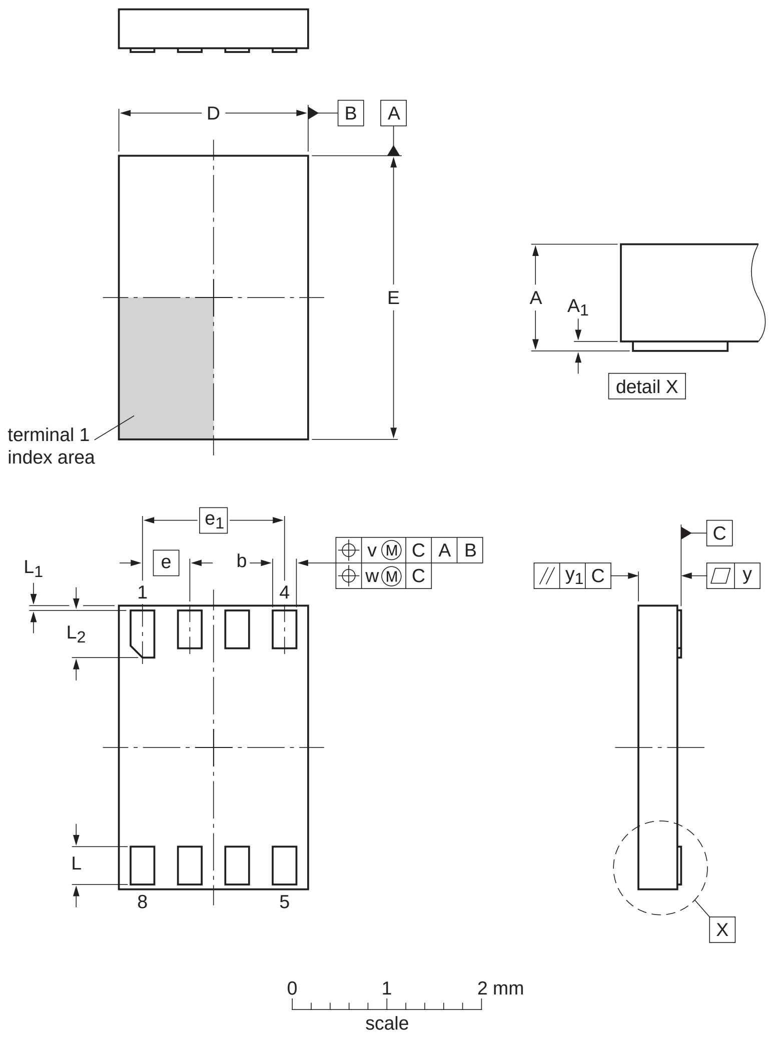
| OUTLINE VERSION | REFERENCES | | | | EUROPEAN PROJECTION | ISSUE DATE |
|---|---|---|---|---|---|---|
| | IEC | JEDEC | JEITA | | | |
| SOT765-1 | | MO-187 | | |  | 02-06-07 |

**Fig 17. Package outline SOT765-1 (VSSOP8)**

**XSON8: plastic extremely thin small outline package; no leads;**
**8 terminals; body 3 x 2 x 0.5 mm** **SOT996-2**




Dimensions (mm are the original dimensions)

| Unit(1) | | A | $A_1$ | b | D | E | e | $e_1$ | L | $L_1$ | $L_2$ | v | w | y | $y_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | max | | 0.05 | 0.35 | 2.1 | 3.1 | | | 0.5 | 0.15 | 0.6 | | | | |
| | nom | 0.5 | | | | | 0.5 | 1.5 | | | | 0.1 | 0.05 | 0.05 | 0.1 |
| | min | | 0.00 | 0.15 | 1.9 | 2.9 | | | 0.3 | 0.05 | 0.4 | | | | |

*sot996-2_po*

| Outline version | References | | | | European projection | Issue date |
|---|---|---|---|---|---|---|
| | IEC | JEDEC | JEITA | | | |
| SOT996-2 | | | | | | ~~07-12-21~~<br>12-11-20 |

## Fig 18. Package outline SOT996-2 (XSON8)

## 16. Abbreviations

Table 12. Abbreviations

| Acronym | Description |
|---|---|
| CMOS | Complementary Metal Oxide Semiconductor |
| DUT | Device Under Test |
| ESD | ElectroStatic Discharge |
| HBM | Human Body Model |
| MM | Machine Model |

## 17. Revision history

Table 13. Revision history

| Document ID | Release date | Data sheet status | Change notice | Supersedes |
|---|---|---|---|---|
| 74HC_HCT3G14 v.5 | 20131209 | Product data sheet | - | 74HC_HCT3G14 v.4 |
| Modifications: | • Figure 15 added (typical K-factor for relaxation oscillator). | | | |
| 74HC_HCT3G14 v.4 | 20131003 | Product data sheet | - | 74HC_HCT3G14 v.3 |
| Modifications: | • For type numbers 74HC3G14GD and 74HCT3G14GD XSON8U has changed to XSON8. | | | |
| 74HC_HCT3G14 v.3 | 20090508 | Product data sheet | - | 74HC_HCT3G14 v.2 |
| 74HC_HCT3G14 v.2 | 20031104 | Product specification | - | 74HC_HCT3G14 v.1 |
| 74HC_HCT3G14 v.1 | 20020723 | Product specification | - | - |

# 18. Legal information

## 18.1 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".

[3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL http://www.nexperia.com.

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## 20. Contents





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**Date of release: 09 December 2013**