

## 4. Ordering information

Table 1. Ordering information

Type number	Package			
	Temperature range	Name	Description	Version
74HC2G14GW-Q100	-40 °C to +125 °C	SC-88	plastic surface-mounted package; 6 leads	SOT363
74HC2G14GV-Q100	-40 °C to +125 °C	SC-74	plastic surface-mounted package (TSOP6); 6 leads	SOT457
74HCT2G14GW-Q100	-40 °C to +125 °C	SC-88	plastic surface-mounted package; 6 leads	SOT363
74HCT2G14GV-Q100	-40 °C to +125 °C	SC-74	plastic surface-mounted package (TSOP6); 6 leads	SOT457

## 5. Marking

Table 2. Marking codes

Type number	Marking code <sup>[1]</sup>
74HC2G14GW-Q100	HK
74HC2G14GV-Q100	H14
74HCT2G14GW-Q100	TK
74HCT2G14GV-Q100	T14

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

## 6. Functional diagram

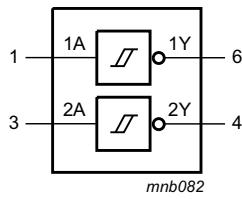


Fig 1. Logic symbol

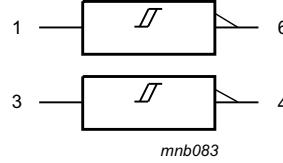


Fig 2. IEC logic symbol

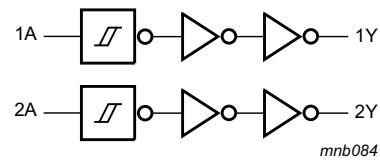


Fig 3. Logic diagram

## 7. Pinning information

### 7.1 Pinning

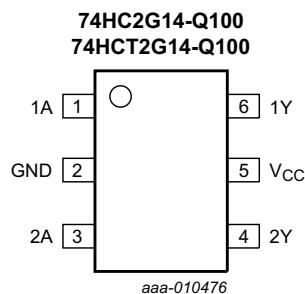


Fig 4. Pin configuration

### 7.2 Pin description

Table 3. Pin description

Symbol	Pin	Description
1A	1	data input
GND	2	ground (0 V)
2A	3	data input
2Y	4	data output
V <sub>CC</sub>	5	supply voltage
1Y	6	data output

## 8. Functional description

Table 4. Function table<sup>[1]</sup>

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 <sub>CC</sub>	supply voltage		-0.5	+7.0	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	[1]	-	±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	[1]	-	±20 mA
I <sub>O</sub>	output current	V <sub>O</sub> = -0.5 V to V <sub>CC</sub> + 0.5 V	[1]	-	±25 mA
I <sub>CC</sub>	supply current		[1]	-	+50 mA
I <sub>GND</sub>	ground current		[1]	-50	- mA
T <sub>stg</sub>	storage temperature		-65	+150	°C
P <sub>tot</sub>	total power dissipation		[2]	-	250 mW

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

[2] For SC-88 and SC-74 packages: above 87.5 °C the value of P<sub>tot</sub> derates linearly with 4.0 mW/K.

## 10. Recommended operating conditions

**Table 6. Recommended operating conditions**

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>74HC2G14-Q100</b>						
V <sub>CC</sub>	supply voltage		2.0	5.0	6.0	V
V <sub>I</sub>	input voltage		0	-	V <sub>CC</sub>	V
V <sub>O</sub>	output voltage		0	-	V <sub>CC</sub>	V
T <sub>amb</sub>	ambient temperature		-40	+25	+125	°C
<b>74HCT2G14-Q100</b>						
V <sub>CC</sub>	supply voltage		4.5	5.0	5.5	V
V <sub>I</sub>	input voltage		0	-	V <sub>CC</sub>	V
V <sub>O</sub>	output voltage		0	-	V <sub>CC</sub>	V
T <sub>amb</sub>	ambient temperature		-40	+25	+125	°C

## 11. Static characteristics

**Table 7. Static characteristics for 74HC2G14-Q100**

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>T<sub>amb</sub> = 25 °C</b>						
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 2.0 V	1.9	2.0	-	V
		I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 4.5 V	4.4	4.5	-	V
		I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 6.0 V	5.9	6.0	-	V
		I <sub>O</sub> = -4.0 mA; V <sub>CC</sub> = 4.5 V	4.18	4.32	-	V
		I <sub>O</sub> = -5.2 mA; V <sub>CC</sub> = 6.0 V	5.68	5.81	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 2.0 V	-	0	0.1	V
		I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 4.5 V	-	0	0.1	V
		I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 6.0 V	-	0	0.1	V
		I <sub>O</sub> = 4.0 mA; V <sub>CC</sub> = 4.5 V	-	0.15	0.26	V
		I <sub>O</sub> = 5.2 mA; V <sub>CC</sub> = 6.0 V	-	0.16	0.26	V
I <sub>I</sub>	input leakage current	V <sub>I</sub> = GND or V <sub>CC</sub> ; V <sub>CC</sub> = 6.0 V	-	-	±0.1	µA
I <sub>CC</sub>	supply current	V <sub>I</sub> = GND or V <sub>CC</sub> ; I <sub>O</sub> = 0 µA; V <sub>CC</sub> = 6.0 V	-	-	1.0	µA
C <sub>I</sub>	input capacitance		-	2.0	-	pF
<b>T<sub>amb</sub> = -40 °C to +85 °C</b>						
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 2.0 V	1.9	-	-	V
		I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 4.5 V	4.4	-	-	V
		I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 6.0 V	5.9	-	-	V
		I <sub>O</sub> = -4.0 mA; V <sub>CC</sub> = 4.5 V	4.13	-	-	V
		I <sub>O</sub> = -5.2 mA; V <sub>CC</sub> = 6.0 V	5.63	-	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 2.0 V	-	-	0.1	V
		I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 4.5 V	-	-	0.1	V
		I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 6.0 V	-	-	0.1	V
		I <sub>O</sub> = 4.0 mA; V <sub>CC</sub> = 4.5 V	-	-	0.33	V
		I <sub>O</sub> = 5.2 mA; V <sub>CC</sub> = 6.0 V	-	-	0.33	V
I <sub>I</sub>	input leakage current	V <sub>I</sub> = GND or V <sub>CC</sub> ; V <sub>CC</sub> = 6.0 V	-	-	±1.0	µA
I <sub>CC</sub>	supply current	V <sub>I</sub> = GND or V <sub>CC</sub> ; I <sub>O</sub> = 0 µA; V <sub>CC</sub> = 6.0 V	-	-	10.0	µA

**Table 7. Static characteristics for 74HC2G14-Q100 ...continued**

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>T<sub>amb</sub> = -40 °C to +125 °C</b>						
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 2.0 V	1.9	-	-	V
		I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 4.5 V	4.4	-	-	V
		I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 6.0 V	5.9	-	-	V
		I <sub>O</sub> = -4.0 mA; V <sub>CC</sub> = 4.5 V	3.7	-	-	V
		I <sub>O</sub> = -5.2 mA; V <sub>CC</sub> = 6.0 V	5.2	-	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 2.0 V	-	-	0.1	V
		I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 4.5 V	-	-	0.1	V
		I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 6.0 V	-	-	0.1	V
		I <sub>O</sub> = 4.0 mA; V <sub>CC</sub> = 4.5 V	-	-	0.4	V
		I <sub>O</sub> = 5.2 mA; V <sub>CC</sub> = 6.0 V	-	-	0.4	V
I <sub>I</sub>	input leakage current	V <sub>I</sub> = GND or V <sub>CC</sub> ; V <sub>CC</sub> = 6.0 V	-	-	±1.0	µA
I <sub>CC</sub>	supply current	V <sub>I</sub> = GND or V <sub>CC</sub> ; I <sub>O</sub> = 0 µA; V <sub>CC</sub> = 6.0 V	-	-	20.0	µA

**Table 8. Static characteristics for 74HCT2G14-Q100**

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>T<sub>amb</sub> = 25 °C</b>						
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 4.5 V	4.4	4.5	-	V
		I <sub>O</sub> = -4.0 mA; V <sub>CC</sub> = 4.5 V	4.18	4.32	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 4.5 V	-	0	0.1	V
		I <sub>O</sub> = 4.0 mA; V <sub>CC</sub> = 4.5 V	-	0.15	0.26	V
I <sub>I</sub>	input leakage current	V <sub>I</sub> = GND or V <sub>CC</sub> ; V <sub>CC</sub> = 5.5 V	-	-	±0.1	µA
I <sub>CC</sub>	supply current	V <sub>I</sub> = GND or V <sub>CC</sub> ; I <sub>O</sub> = 0 µA; V <sub>CC</sub> = 5.5 V	-	-	1.0	µA
ΔI <sub>CC</sub>	additional supply current	V <sub>I</sub> = V <sub>CC</sub> - 2.1 V; V <sub>CC</sub> = 4.5 V to 5.5 V; I <sub>O</sub> = 0 µA	-	-	300	µA
C <sub>I</sub>	input capacitance		-	2.0	-	pF

Table 8. Static characteristics for 74HCT2G14-Q100 ...continued

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>T<sub>amb</sub> = -40 °C to +85 °C</b>						
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 4.5 V	4.4	-	-	V
		I <sub>O</sub> = -4.0 mA; V <sub>CC</sub> = 4.5 V	4.13	-	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 4.5 V	-	-	0.1	V
		I <sub>O</sub> = 4.0 mA; V <sub>CC</sub> = 4.5 V	-	-	0.33	V
I <sub>I</sub>	input leakage current	V <sub>I</sub> = GND or V <sub>CC</sub> ; V <sub>CC</sub> = 5.5 V	-	-	±1.0	µA
I <sub>CC</sub>	supply current	V <sub>I</sub> = GND or V <sub>CC</sub> ; I <sub>O</sub> = 0 µA; V <sub>CC</sub> = 5.5 V	-	-	10.0	µA
ΔI <sub>CC</sub>	additional supply current	V <sub>I</sub> = V <sub>CC</sub> - 2.1 V; V <sub>CC</sub> = 4.5 V to 5.5 V; I <sub>O</sub> = 0 µA	-	-	375	µA
<b>T<sub>amb</sub> = -40 °C to +125 °C</b>						
V <sub>OH</sub>	HIGH-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = -20 µA; V <sub>CC</sub> = 4.5 V	4.4	-	-	V
		I <sub>O</sub> = -4.0 mA; V <sub>CC</sub> = 4.5 V	3.7	-	-	V
V <sub>OL</sub>	LOW-level output voltage	V <sub>I</sub> = V <sub>T+</sub> or V <sub>T-</sub>				
		I <sub>O</sub> = 20 µA; V <sub>CC</sub> = 4.5 V	-	-	0.1	V
		I <sub>O</sub> = 4.0 mA; V <sub>CC</sub> = 4.5 V	-	-	0.4	V
I <sub>I</sub>	input leakage current	V <sub>I</sub> = GND or V <sub>CC</sub> ; V <sub>CC</sub> = 5.5 V	-	-	±1.0	µA
I <sub>CC</sub>	supply current	V <sub>I</sub> = GND or V <sub>CC</sub> ; I <sub>O</sub> = 0 µA; V <sub>CC</sub> = 5.5 V	-	-	20.0	µA
ΔI <sub>CC</sub>	additional supply current	V <sub>I</sub> = V <sub>CC</sub> - 2.1 V; V <sub>CC</sub> = 4.5 V to 5.5 V; I <sub>O</sub> = 0 µA	-	-	410	µA

## 12. Dynamic characteristics

Table 9. Dynamic characteristics

Voltages are referenced to GND (ground = 0 V); for test circuit see [Figure 6](#).

Symbol	Parameter	Conditions	25 °C			-40 °C to +125 °C			Unit
			Min	Typ	Max	Min	Max (85 °C)	Max (125 °C)	
<b>74HC2G14-Q100</b>									
t <sub>pd</sub>	propagation delay	nA to nY; see <a href="#">Figure 5</a> [1]							
		V <sub>CC</sub> = 2.0 V; C <sub>L</sub> = 50 pF	-	53	125	-	155	190	ns
		V <sub>CC</sub> = 4.5 V; C <sub>L</sub> = 50 pF	-	16	25	-	31	38	ns
		V <sub>CC</sub> = 6.0 V; C <sub>L</sub> = 50 pF	-	13	21	-	26	32	ns
t <sub>t</sub>	transition time	nY; see <a href="#">Figure 5</a> [1]							
		V <sub>CC</sub> = 2.0 V; C <sub>L</sub> = 50 pF	-	20	75	-	95	110	ns
		V <sub>CC</sub> = 4.5 V; C <sub>L</sub> = 50 pF	-	7	15	-	19	22	ns
		V <sub>CC</sub> = 6.0 V; C <sub>L</sub> = 50 pF	-	5	13	-	16	19	ns
C <sub>PD</sub>	power dissipation capacitance	V <sub>I</sub> = GND to V <sub>CC</sub> [2]	-	10	-	-	-	-	pF

Table 9. Dynamic characteristics ...continued

Voltages are referenced to GND (ground = 0 V); for test circuit see [Figure 6](#).

Symbol	Parameter	Conditions	25 °C			−40 °C to +125 °C			Unit
			Min	Typ	Max	Min	Max (85 °C)	Max (125 °C)	
<b>74HCT2G14-Q100</b>									
$t_{pd}$	propagation delay	nA to nY; see <a href="#">Figure 5</a> [1]							
		$V_{CC} = 4.5 \text{ V}; C_L = 50 \text{ pF}$	-	21	32	-	40	48	ns
$t_t$	transition time	nY; see <a href="#">Figure 5</a> [1]							
		$V_{CC} = 4.5 \text{ V}; C_L = 50 \text{ pF}$	-	6	15	-	19	22	ns
$C_{PD}$	power dissipation capacitance	$V_I = \text{GND to } V_{CC} - 1.5 \text{ V}$ [2]	-	10	-	-	-	-	pF

[1]  $t_{pd}$  is the same as  $t_{PLH}$  and  $t_{PHL}$ ;  $t_t$  is the same as  $t_{TLH}$  and  $t_{THL}$ .[2]  $C_{PD}$  is used to determine the dynamic power dissipation ( $P_D$  in  $\mu\text{W}$ ):

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

 $f_i$  = 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;

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

## 13. Waveforms and test circuit

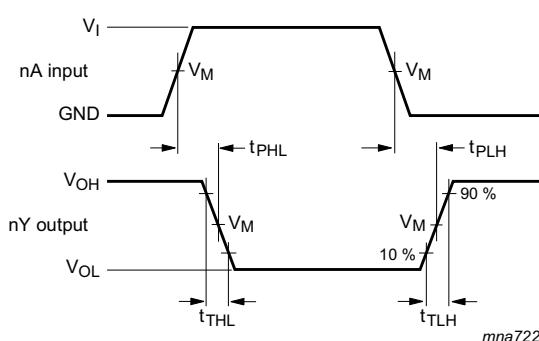
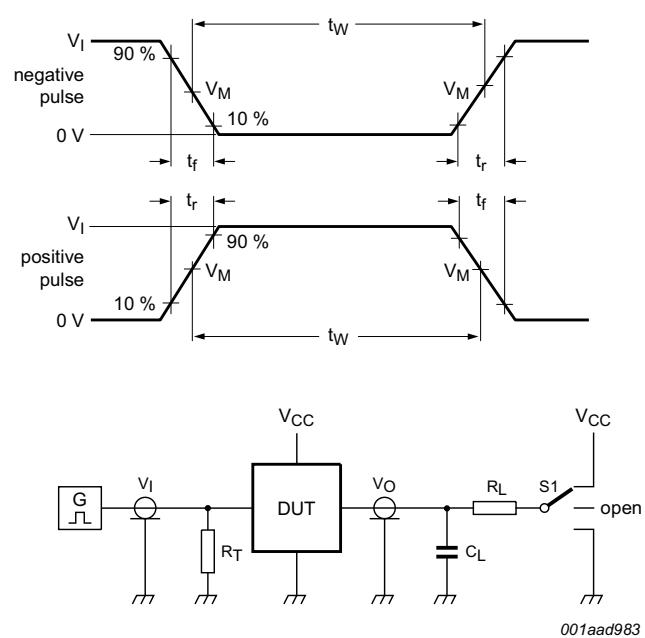
Measurement points are given in [Table 10](#). $V_{OL}$  and  $V_{OH}$  are typical voltage output levels that occur with the output load.

Fig 5. The data input (nA) to output (nY) propagation delays and output transition times

Table 10. Measurement points

Type	Input	Output
	$V_M$	$V_M$
74HC2G14-Q100	$0.5V_{CC}$	$0.5V_{CC}$
74HCT2G14-Q100	1.3 V	1.3 V



Test data is given in [Table 11](#).

Definitions 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 6. Test circuit for measuring switching times**

**Table 11. Test data**

Type	Input		Test
	$V_I$	$t_r, t_f$	
74HC2G14-Q100	GND to $V_{CC}$	6 ns	open
74HCT2G14-Q100	GND to 3.0 V	6 ns	open

## 14. Transfer characteristics

**Table 12. Transfer characteristics**

Voltages are referenced to GND (ground = 0 V); for test circuit see [Figure 6](#).

Symbol	Parameter	Conditions	25 °C			−40 °C to +125 °C			Unit
			Min	Typ	Max	Min	Max (85 °C)	Max (125 °C)	
<b>74HC2G14-Q100</b>									
V <sub>T+</sub>	positive-going threshold voltage	see <a href="#">Figure 7</a> and <a href="#">Figure 8</a>							
		V <sub>CC</sub> = 2.0 V	1.00	1.18	1.50	1.00	1.50	1.50	V
		V <sub>CC</sub> = 4.5 V	2.30	2.60	3.15	2.30	3.15	3.15	V
		V <sub>CC</sub> = 6.0 V	3.00	3.46	4.20	3.00	4.20	4.20	V
V <sub>T−</sub>	negative-going threshold voltage	see <a href="#">Figure 7</a> and <a href="#">Figure 8</a>							
		V <sub>CC</sub> = 2.0 V	0.30	0.60	0.90	0.30	0.90	0.90	V
		V <sub>CC</sub> = 4.5 V	1.13	1.47	2.00	1.13	2.00	2.00	V
		V <sub>CC</sub> = 6.0 V	1.50	2.06	2.60	1.50	2.60	2.60	V
V <sub>H</sub>	hysteresis voltage (V <sub>T+</sub> − V <sub>T−</sub> ); see <a href="#">Figure 7</a> , <a href="#">Figure 8</a> and <a href="#">Figure 9</a>								
		V <sub>CC</sub> = 2.0 V	0.30	0.60	1.00	0.30	1.00	1.00	V
		V <sub>CC</sub> = 4.5 V	0.60	1.13	1.40	0.60	1.40	1.40	V
		V <sub>CC</sub> = 6.0 V	0.80	1.40	1.70	0.80	1.70	1.70	V
<b>74HCT2G14-Q100</b>									
V <sub>T+</sub>	positive-going threshold voltage	see <a href="#">Figure 7</a> and <a href="#">Figure 8</a>							
		V <sub>CC</sub> = 4.5 V	1.20	1.58	1.90	1.20	1.90	1.90	V
		V <sub>CC</sub> = 5.5 V	1.40	1.78	2.10	1.40	2.10	2.10	V
V <sub>T−</sub>	negative-going threshold voltage	see <a href="#">Figure 7</a> and <a href="#">Figure 8</a>							
		V <sub>CC</sub> = 4.5 V	0.50	0.87	1.20	0.50	1.20	1.20	V
		V <sub>CC</sub> = 5.5 V	0.60	1.11	1.40	0.60	1.40	1.40	V
V <sub>H</sub>	hysteresis voltage (V <sub>T+</sub> − V <sub>T−</sub> ); see <a href="#">Figure 7</a> , <a href="#">Figure 8</a> and <a href="#">Figure 10</a>								
		V <sub>CC</sub> = 4.5 V	0.40	0.71	-	0.40	-	-	V
		V <sub>CC</sub> = 5.5 V	0.40	0.67	-	0.40	-	-	V

## 15. Waveforms transfer characteristics

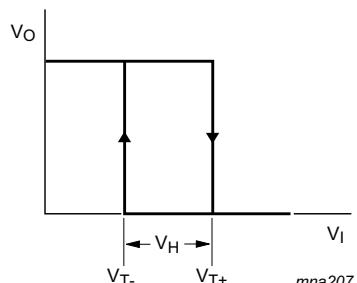


Fig 7. Transfer characteristic

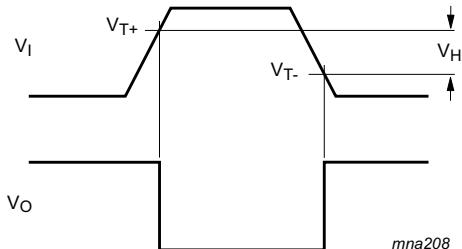


Fig 8. Definition of  $V_{T+}$ ,  $V_{T-}$  and  $V_H$

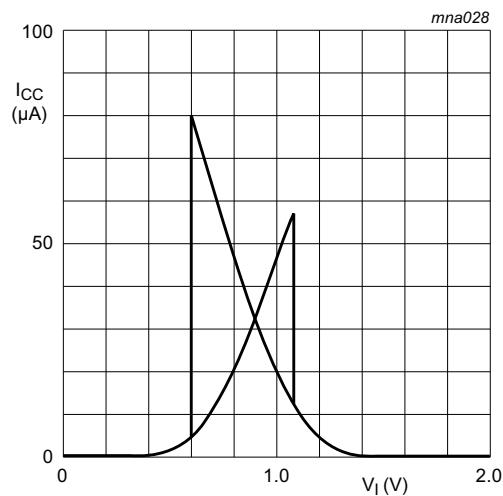
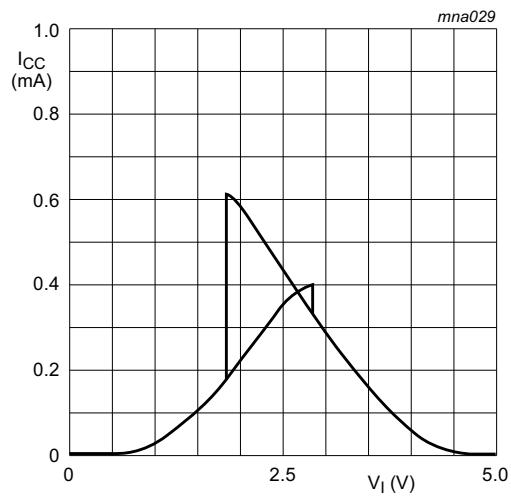
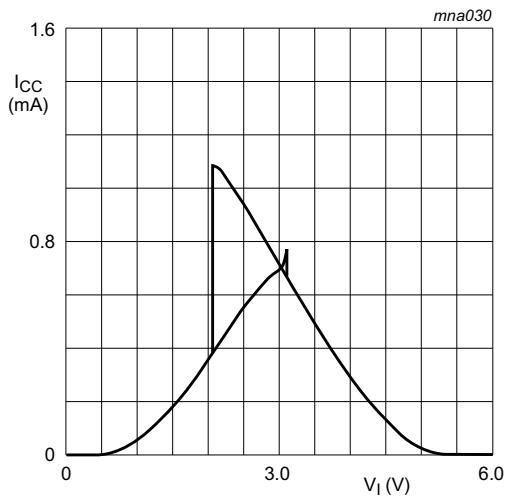
a.  $V_{CC} = 2.0$  Vb.  $V_{CC} = 4.5$  Vc.  $V_{CC} = 6.0$  V

Fig 9. Typical 74HC2G14-Q100 transfer characteristics

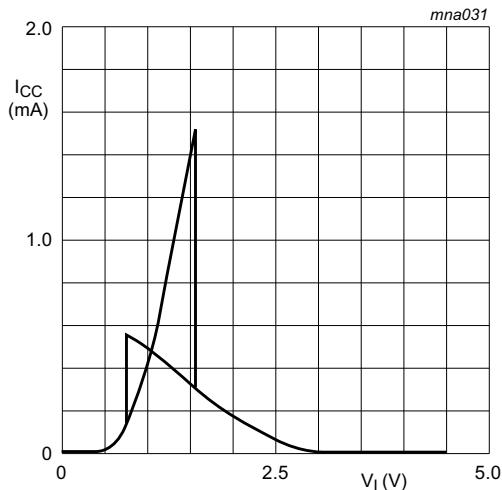
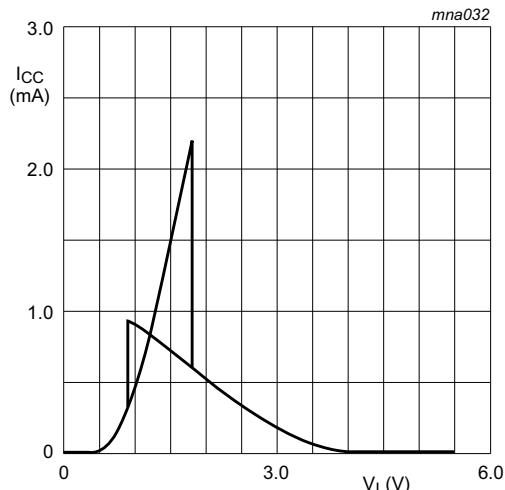
a.  $V_{CC} = 4.5 \text{ V}$ b.  $V_{CC} = 5.5 \text{ V}$ 

Fig 10. Typical 74HCT2G14-Q100 transfer characteristics

## 16. Application information

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

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

$P_{\text{add}}$  = additional power dissipation ( $\mu\text{W}$ );

$f_i$  = 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 ( $\mu\text{A}$ ).

$\Delta I_{CC(AV)}$  differs with positive or negative input transitions, as shown in [Figure 11](#) and [Figure 12](#).

An example of a relaxation circuit using the 74HC2G14-Q100; 74HCT2G14-Q100 is shown in [Figure 13](#).

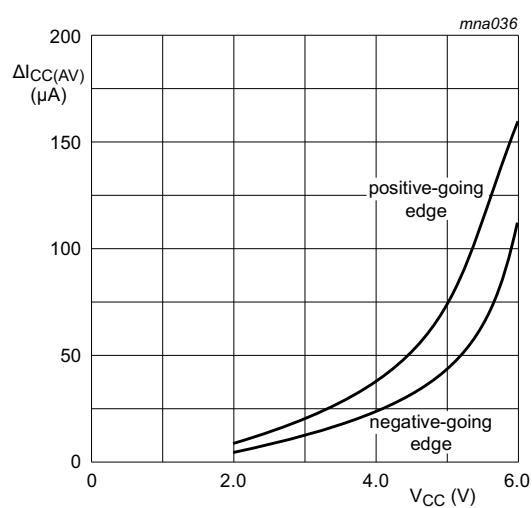


Fig 11.  $\Delta I_{CC(AV)}$  as a function of  $V_{CC}$  for 74HC2G14-Q100; linear change of  $V_I$  between 0.1 $V_{CC}$  to 0.9 $V_{CC}$

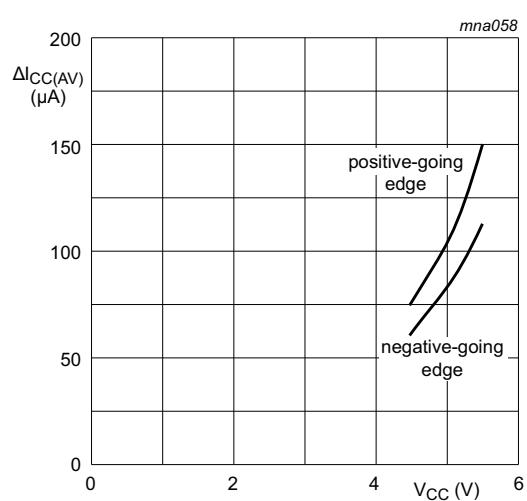
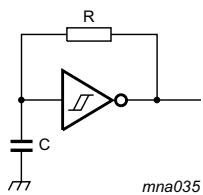


Fig 12.  $\Delta I_{CC(AV)}$  as a function of  $V_{CC}$  for 74HCT2G14-Q100; linear change of  $V_I$  between 0.1 $V_{CC}$  to 0.9 $V_{CC}$

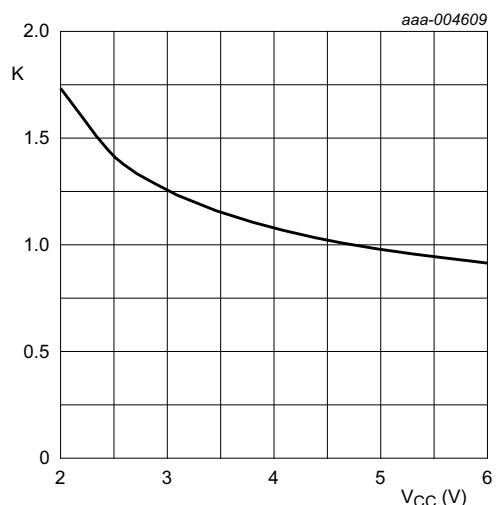


For 74HC2G14-Q100:  $f = \frac{1}{T} \approx \frac{1}{0.8 \times RC}$

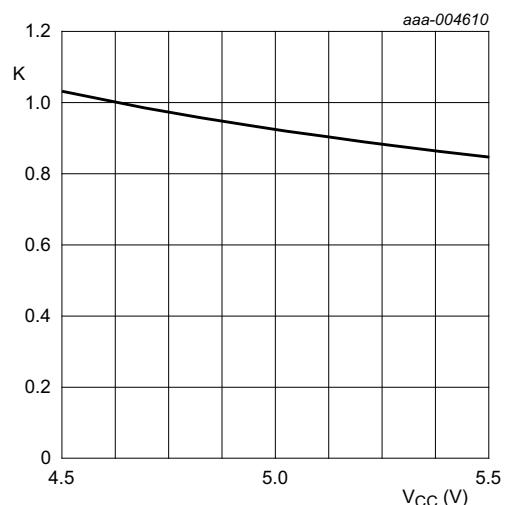
For 74HCT2G14-Q100:  $f = \frac{1}{T} \approx \frac{1}{0.67 \times RC}$

For K-factor, see [Figure 14](#)

**Fig 13. Relaxation oscillator**



a. K-factor for 74HC2G14-Q100



b. K-factor for 74HCT2G14-Q100

**Fig 14. Typical K-factor for relaxation oscillator**

## 17. Package outline

Plastic surface-mounted package; 6 leads

SOT363

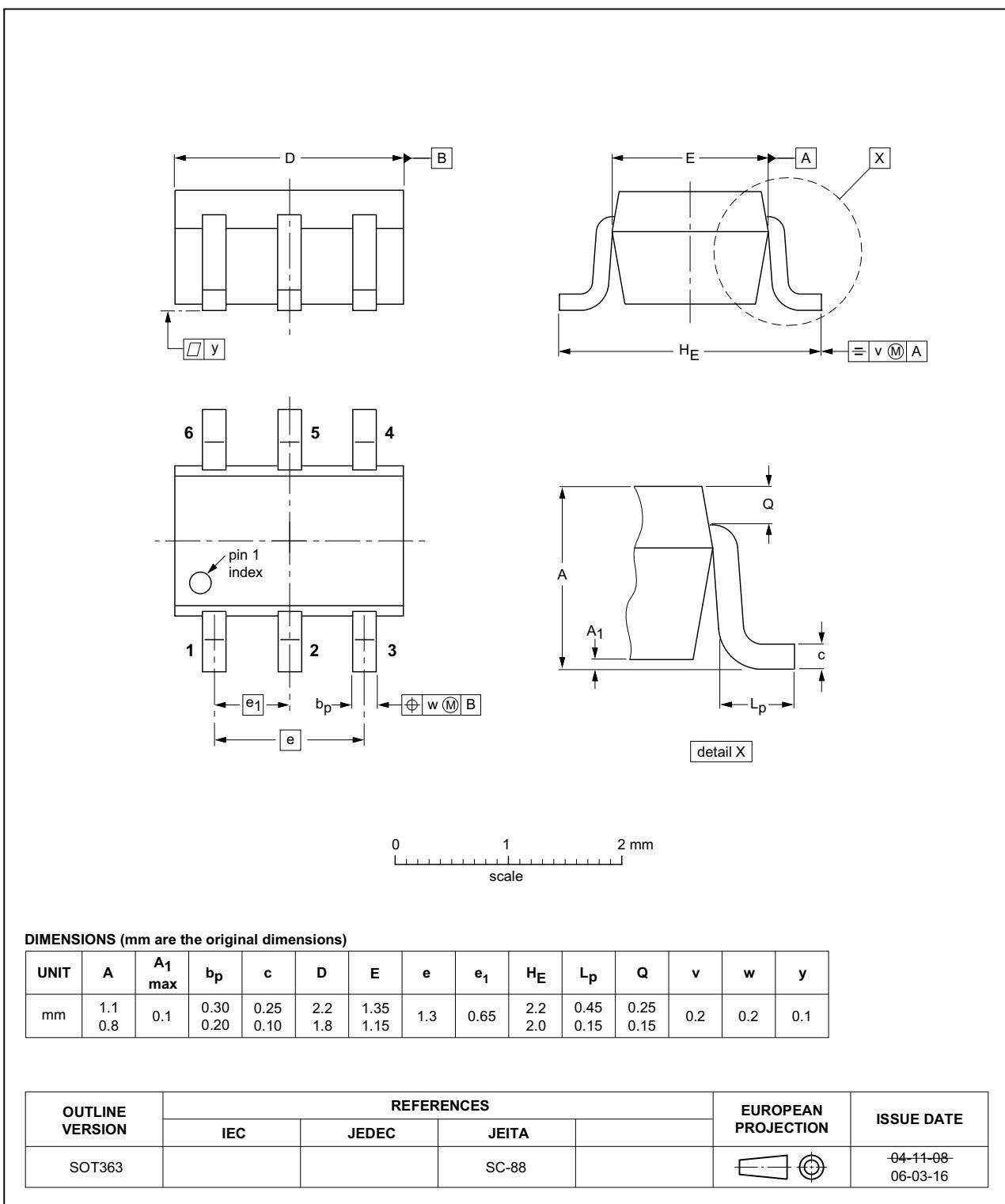


Fig 15. Package outline SOT363 (SC-88)

## Plastic surface-mounted package (TSOP6); 6 leads

SOT457

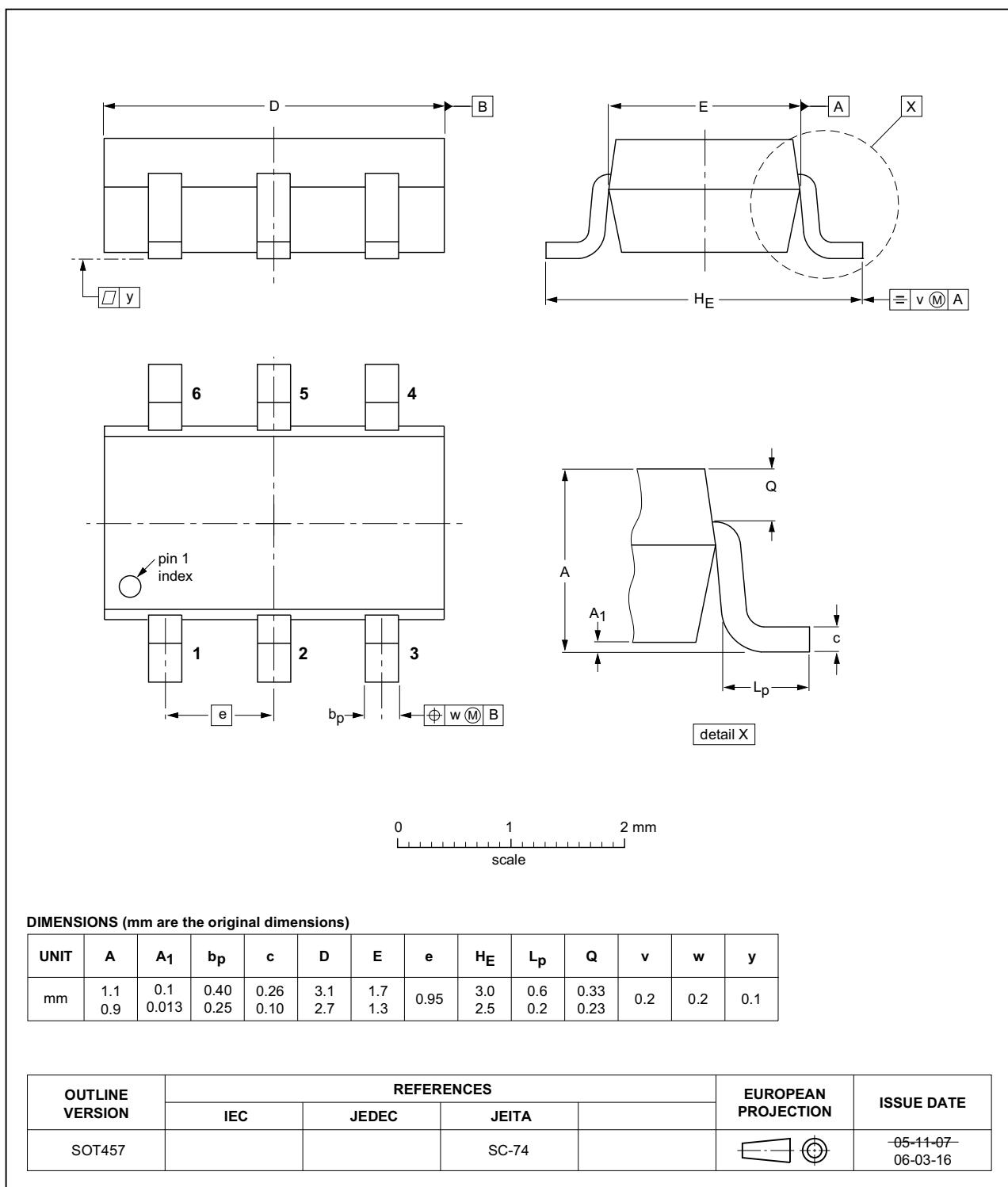


Fig 16. Package outline SOT457 (SC-74)

## 18. Abbreviations

**Table 13. Abbreviations**

Acronym	Description
CMOS	Complementary Metal-Oxide Semiconductor
DUT	Device Under Test
ESD	ElectroStatic Discharge
HBM	Human Body Model
MIL	Military
MM	Machine Model
TTL	Transistor-Transistor Logic

## 19. Revision history

**Table 14. Revision history**

Document ID	Release date	Data sheet status	Change notice	Supersedes
74HC_HCT2G14_Q100 v.1	20140320	Product data sheet	-	-

## 20. Legal information

### 20.1 Data sheet status

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

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

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## 22. Contents

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<b>1</b>	<b>General description</b> .....	<b>1</b>
<b>2</b>	<b>Features and benefits</b> .....	<b>1</b>
<b>3</b>	<b>Applications</b> .....	<b>1</b>
<b>4</b>	<b>Ordering information</b> .....	<b>2</b>
<b>5</b>	<b>Marking</b> .....	<b>2</b>
<b>6</b>	<b>Functional diagram</b> .....	<b>2</b>
<b>7</b>	<b>Pinning information</b> .....	<b>3</b>
7.1	Pinning .....	3
7.2	Pin description .....	3
<b>8</b>	<b>Functional description</b> .....	<b>3</b>
<b>9</b>	<b>Limiting values</b> .....	<b>4</b>
<b>10</b>	<b>Recommended operating conditions</b> .....	<b>4</b>
<b>11</b>	<b>Static characteristics</b> .....	<b>5</b>
<b>12</b>	<b>Dynamic characteristics</b> .....	<b>7</b>
<b>13</b>	<b>Waveforms and test circuit</b> .....	<b>8</b>
<b>14</b>	<b>Transfer characteristics</b> .....	<b>10</b>
<b>15</b>	<b>Waveforms transfer characteristics</b> .....	<b>11</b>
<b>16</b>	<b>Application information</b> .....	<b>13</b>
<b>17</b>	<b>Package outline</b> .....	<b>16</b>
<b>18</b>	<b>Abbreviations</b> .....	<b>18</b>
<b>19</b>	<b>Revision history</b> .....	<b>18</b>
<b>20</b>	<b>Legal information</b> .....	<b>19</b>
20.1	Data sheet status .....	19
20.2	Definitions.....	19
20.3	Disclaimers.....	19
20.4	Trademarks.....	20
<b>21</b>	<b>Contact information</b> .....	<b>20</b>
<b>22</b>	<b>Contents</b> .....	<b>21</b>