Hex Buffer/Line Driver; 3-state

CJ74HC/HCT365 Logic

1 Introduction

The CJ74HC/HCT365 is a hex buffer/line driver with 3-state outputs controlled by the output enable inputs (/OEn). A HIGH on /OEn causes the outputs to assume a high impedance OFF-state. Inputs include clamp diodes. This enables the use of current limiting resistors to interface inputs to voltages in excess of V_{CC}.

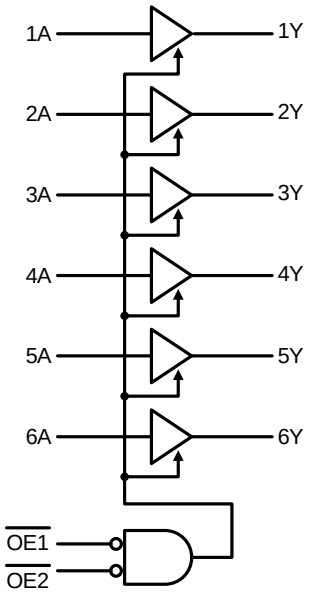
2 Available Packages

PART NUMBER	PACKAGE
CJ74HC365	SOP16
	TSSOP16
CJ74HCT365	SOP16
	TSSOP16

Note: For all available packages, please refer to the part Orderable Information.

3 Features

- Input levels:
  - For CJ74HC365: CMOS level
  - For CJ74HCT365: TTL level
- 3-state outputs
- Specified from -40°C to +125°C



Logic symbol

4 Orderable Information

DEVICE	PACKAGE	OP TEMP	ECO PLAN	MSL	PACKING OPTION	SORT
CJ74HC365AEN	SOP16	-40~125°C	RoHS & Green	Level 3 168HR	Tape and Reel 4000 Units / Reel	Active
CJ74HCT365AEN	SOP16	-40~125°C	RoHS & Green	Level 3 168HR	Tape and Reel 4000 Units / Reel	Active
CJ74HC365BEN	TSSOP16	-40~125°C	RoHS & Green	Level 3 168HR	Tape and Reel 5000 Units / Reel	Active
CJ74HCT365BEN	TSSOP16	-40~125°C	RoHS & Green	Level 3 168HR	Tape and Reel 5000 Units / Reel	Active

Note:

ECO PLAN: For the RoHS and Green certification standards of this product, please refer to the official report provided by JSCJ.

MSL: Moisture Sensitivity Level. Determined according to JEDEC industry standard classification.

SORT: Specifically defined as follows:
Active: Recommended for new products;
Customized: Products manufactured to meet the specific needs of customers;
Preview: The device has been released and has not been fully mass produced. The sample may or may not be available;
NoRD: It is not recommended to use the device for new design. The device is only produced for the needs of existing customers;
Obsolete: The device has been discontinued.

5 Pin Configuration and Marking Information

5.1 Pin Configuration

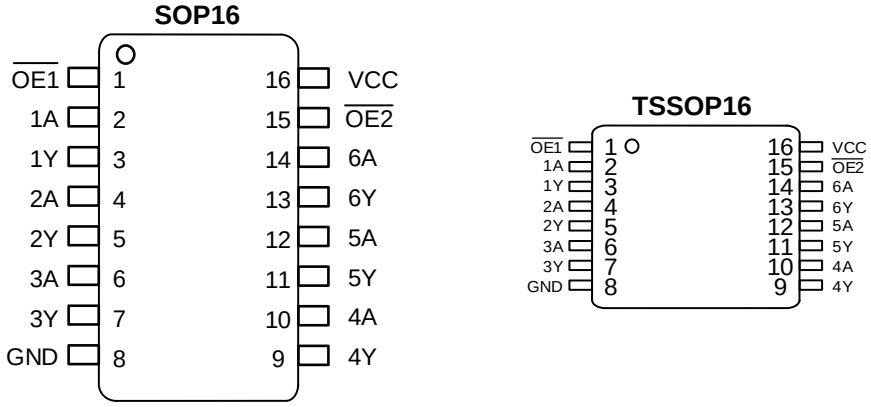


Figure 5-1 Pin configuration

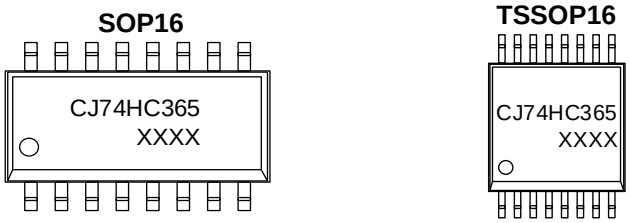
5.2 Pin Function

PIN		I/O(1)	DESCRIPTION
No.	NAME		
1	$\overline{OE1}$	I	Output enable input 1 (active LOW)
2	1A	I	Data input 1
3	1Y	O	Data output 1
4	2A	I	Data input 2
5	2Y	O	Data output 2
6	3A	I	Data input 3
7	3Y	O	Data output 3
8	GND	G	Ground (0V)
9	4Y	O	Data output 4
10	4A	I	Data input 4
11	5Y	O	Data output 5
12	5A	I	Data input 5
13	6Y	O	Data output 6
14	6A	I	Data input 6
15	$\overline{OE2}$	I	Output enable input 2 (active LOW)
16	VCC	P	Supply voltage

(1) I-Input, O-Output, P-Power, G-Ground

5.3 Marking Information

5.3.1 CJ74HC365



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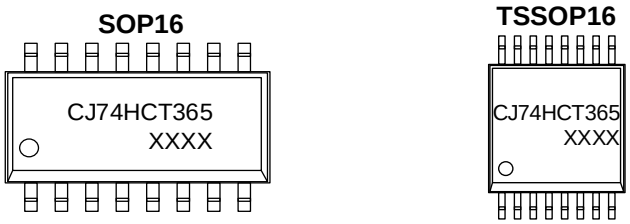
5.3.2 CJ74HCT365



XXXX: Code, indicates weekly record information.

6 Specifications

6.1 Absolute Maximum Ratings

Voltages are referenced to GND (ground=0V), unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS		MIN.	MAX.	UNIT
V_{CC}	Supply voltage	-		-0.5	+7.0	V
I_{IK}	Input clamping current	$V_I < -0.5V$ or $V_I > V_{CC}+0.5V$		-	±20	mA
I_{OK}	Output clamping current	$V_O < -0.5V$ or $V_O > V_{CC}+0.5V$		-	±20	mA
I_O	Output current	$-0.5V < V_O < V_{CC}+0.5V$		-	±35	mA
I_{CC}	Supply current	-		-	70	mA
I_{GND}	Ground current	-		-70	-	mA
T_{stg}	Storage temperature	-		-65	+150	°C
P_{tot}	Total power dissipation	-		-	500	mW
T_L	Soldering temperature	10s	SOP/TSSOP	-	260	°C

Note: Absolute maximum ratings indicate sustained limits beyond which damage to the device may occur. All voltage parameters are absolute voltages referenced to GND. The thermal resistance and power dissipation ratings are measured under board mounted and still air conditions.

6.2 Recommended Operating Conditions

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
CJ74HC365						
V_{CC}	Supply voltage	-	2.0	5.0	6.0	V
V_I	Input voltage	-	0	-	V_{CC}	V
V_O	Output voltage	-	0	-	V_{CC}	V
Δt/ΔV	Input transition rise and fall rate	V_{CC}=2.0V	-	-	625	ns/V
		V_{CC}=4.5V	-	1.67	139	ns/V
		V_{CC}=6.0V	-	-	83	ns/V
T_{amb}	Ambient temperature	-	-40	-	+125	°C
CJ74HCT365						
V_{CC}	Supply voltage	-	4.5	5.0	5.5	V
V_I	Input voltage	-	0	-	V_{CC}	V
V_O	Output voltage	-	0	-	V_{CC}	V
Δt/ΔV	Input transition rise and fall rate	V_{CC}=4.5V	-	1.67	139	ns/V
T_{amb}	Ambient temperature	-	-40	-	+125	°C

6.3 Electrical Characteristics

6.3.1 DC Characteristics 1

T_{amb}=25°C, voltages are referenced to GND (ground=0V), unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS		MIN.	TYP.	MAX.	UNIT
CJ74HC365							
V_{IH}	HIGH-level input voltage	V_{CC}=2.0V		1.5	-	-	V
		V_{CC}=4.5V		3.15	-	-	V
		V_{CC}=6.0V		4.2	-	-	V
V_{IL}	LOW-level input voltage	V_{CC}=2.0V		-	-	0.5	V
		V_{CC}=4.5V		-	-	1.35	V
		V_{CC}=6.0V		-	-	1.8	V
V_{OH}	HIGH-level output voltage	V_I=V_{IH} or V_{IL}	I_O=-20uA; V_{CC}=2.0V	1.9	2.0	-	V
			I_O=-20uA; V_{CC}=4.5V	4.4	4.5	-	V
			I_O=-20uA; V_{CC}=6.0V	5.9	6.0	-	V
			I_O=-6.0mA; V_{CC}=4.5V	3.98	4.32	-	V
			I_O=-7.8mA; V_{CC}=6.0V	5.48	5.81	-	V
V_{OL}	LOW-level output voltage	V_I=V_{IH} or V_{IL}	I_O=20uA; V_{CC}=2.0V	-	0	0.1	V
			I_O=20uA; V_{CC}=4.5V	-	0	0.1	V
			I_O=20uA; V_{CC}=6.0V	-	0	0.1	V
			I_O=6.0mA; V_{CC}=4.5V	-	0.15	0.26	V
			I_O=7.8mA; V_{CC}=6.0V	-	0.16	0.26	V
I_I	Input leakage current	V_I=V_{CC} or GND; V_{CC}=6.0V		-	-	±1.0	uA
I_{OZ}	OFF-state output curren	V_I=V_{IH} or V_{IL}; V_{CC}=6.0V; V_O=V_{CC} or GND		-	-	±1.0	uA
I_{CC}	Supply current	V_I=V_{CC} or GND; I_O=0A; V_{CC}=6.0V		-	-	8.0	uA
C_I	Input capacitance	-		-	3.5	-	pF
CJ74HCT365							
V_{IH}	HIGH-level input voltage	V_{CC}=4.5V to 5.5V		2.0	-	-	V
V_{IL}	LOW-level input voltage	V_{CC}=4.5V to 5.5V		-	-	0.8	V
V_{OH}	HIGH-level output voltage	V_I=V_{IH} or V_{IL}	I_O=-20uA; V_{CC}=4.5V	4.4	4.5	-	V
			I_O=-6.0mA; V_{CC}=4.5V	3.98	4.32	-	V
V_{OL}	LOW-level output voltage	V_I=V_{IH} or V_{IL}	I_O=20uA; V_{CC}=4.5V	-	0	0.1	V
			I_O=6.0mA; V_{CC}=4.5V	-	0.16	0.26	V
I_I	Input leakage current	V_I=V_{CC} or GND; V_{CC}=5.5V		-	-	±1.0	uA
I_{OZ}	OFF-state output current	V_I=V_{IH} or V_{IL}; V_{CC}=5.5V; V_O=V_{CC} or GND		-	-	±1.0	uA
I_{CC}	Supply current	V_I=V_{CC} or GND; I_O=0A; V_{CC}=5.5V		-	-	8.0	uA
ΔI_{CC}	Additional supply current	V_I=V_{CC}-2.1V; Other inputs at V_{CC} or GND; I_O=0A	Pins nA	-	-	360	uA
			Pin $\overline{OE1}$	-	-	360	uA
			Pin $\overline{OE2}$	-	-	324	uA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
C_I	Input capacitance	-	-	3.5	-	pF

6.3.2 DC Characteristics 2

T_{amb}=-40°C to +85°C, voltages are referenced to GND (ground=0V), unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS		MIN.	TYP.	MAX.	UNIT
CJ74HC365							
V_{IH}	HIGH-level input voltage	V_{CC}=2.0V		1.5	-	-	V
		V_{CC}=4.5V		3.15	-	-	V
		V_{CC}=6.0V		4.2	-	-	V
V_{IL}	LOW-level input voltage	V_{CC}=2.0V		-	-	0.5	V
		V_{CC}=4.5V		-	-	1.35	V
		V_{CC}=6.0V		-	-	1.8	V
V_{OH}	HIGH-level output voltage	V_I=V_{IH} or V_{IL}	I_O=-20uA; V_{CC}=2.0V	1.9	-	-	V
			I_O=-20uA; V_{CC}=4.5V	4.4	-	-	V
			I_O=-20uA; V_{CC}=6.0V	5.9	-	-	V
			I_O=-6.0mA; V_{CC}=4.5V	3.84	-	-	V
			I_O=-7.8mA; V_{CC}=6.0V	5.34	-	-	V
V_{OL}	LOW-level output voltage	V_I=V_{IH} or V_{IL}	I_O=20uA; V_{CC}=2.0V	-	-	0.1	V
			I_O=20uA; V_{CC}=4.5V	-	-	0.1	V
			I_O=20uA; V_{CC}=6.0V	-	-	0.1	V
			I_O=6.0mA; V_{CC}=4.5V	-	-	0.33	V
			I_O=7.8mA; V_{CC}=6.0V	-	-	0.33	V
I_I	Input leakage current	V_I=V_{CC} or GND; V_{CC}=6.0V		-	-	±1.0	uA
I_{OZ}	OFF-state output current	V_I=V_{IH} or V_{IL}; V_{CC}=6.0V; V_O=V_{CC} or GND		-	-	±5.0	uA
I_{CC}	Supply current	V_I=V_{CC} or GND; I_O=0A; V_{CC}=6.0V		-	-	80	uA
CJ74HCT365							
V_{IH}	HIGH-level input voltage	V_{CC}=4.5V to 5.5V		2.0	-	-	V
V_{IL}	LOW-level input voltage	V_{CC}=4.5V to 5.5V		-	-	0.8	V
V_{OH}	HIGH-level output voltage	V_I=V_{IH} or V_{IL}	I_O=-20uA; V_{CC}=4.5V	4.4	-	-	V
			I_O=-6.0mA; V_{CC}=4.5V	3.84	-	-	V
V_{OL}	LOW-level output voltage	V_I=V_{IH} or V_{IL}	I_O=20uA; V_{CC}=4.5V	-	-	0.1	V
			I_O=6.0mA; V_{CC}=4.5V	-	-	0.33	V
I_I	Input leakage current	V_I=V_{CC} or GND; V_{CC}=5.5V		-	-	±1.0	uA
I_{OZ}	OFF-state output current	V_I=V_{IH} or V_{IL}; V_{CC}=5.5V; V_O=V_{CC} or GND		-	-	±5.0	uA
I_{CC}	Supply current	V_I=V_{CC} or GND; I_O=0A; V_{CC}=5.5V		-	-	80	uA

SYMBOL	PARAMETER	CONDITIONS		MIN.	TYP.	MAX.	UNIT
ΔI_{CC}	Additional supply current	$V_I=V_{CC}$-2.1V; Other inputs at V_{CC} or GND; I_O=0A	Pins nA	-	-	450	uA
			Pin $\overline{OE1}$	-	-	450	uA
			Pin $\overline{OE2}$	-	-	405	uA

6.3.3 DC Characteristics 3

T_{amb}=-40°C to +125°C, voltages are referenced to GND (ground=0V), unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS		MIN.	TYP.	MAX.	UNIT
CJ74HC365							
V_{IH}	HIGH-level input voltage	V_{CC}=2.0V		1.5	-	-	V
		V_{CC}=4.5V		3.15	-	-	V
		V_{CC}=6.0V		4.2	-	-	V
V_{IL}	LOW-level input voltage	V_{CC}=2.0V		-	-	0.5	V
		V_{CC}=4.5V		-	-	1.35	V
		V_{CC}=6.0V		-	-	1.8	V
V_{OH}	HIGH-level output voltage	$V_I=V_{IH}$ or V_{IL}	I_O=-20uA; V_{CC}=2.0V	1.9	-	-	V
			I_O=-20uA; V_{CC}=4.5V	4.4	-	-	V
			I_O=-20uA; V_{CC}=6.0V	5.9	-	-	V
			I_O=-6.0mA; V_{CC}=4.5V	3.7	-	-	V
			I_O=-7.8mA; V_{CC}=6.0V	5.2	-	-	V
V_{OL}	LOW-level output voltage	$V_I=V_{IH}$ or V_{IL}	I_O=20uA; V_{CC}=2.0V	-	-	0.1	V
			I_O=20uA; V_{CC}=4.5V	-	-	0.1	V
			I_O=20uA; V_{CC}=6.0V	-	-	0.1	V
			I_O=6.0mA; V_{CC}=4.5V	-	-	0.4	V
			I_O=7.8mA; V_{CC}=6.0V	-	-	0.4	V
I_I	Input leakage current	$V_I=V_{CC}$ or GND; V_{CC}=6.0V		-	-	±1.0	uA
I_{OZ}	OFF-state output current	$V_I=V_{IH}$ or V_{IL}; V_{CC}=6.0V; $V_O=V_{CC}$ or GND		-	-	±10	uA
I_{CC}	Supply current	$V_I=V_{CC}$ or GND; I_O=0A; V_{CC}=6.0V		-	-	160	uA
CJ74HCT365							
V_{IH}	HIGH-level input voltage	V_{CC}=4.5V to 5.5V		2.0	-	-	V
V_{IL}	LOW-level input voltage	V_{CC}=4.5V to 5.5V		-	-	0.8	V
V_{OH}	HIGH-level output voltage	$V_I=V_{IH}$ or V_{IL}	I_O=-20uA; V_{CC}=4.5V	4.4	-	-	V
			I_O=-6.0mA; V_{CC}=4.5V	3.7	-	-	V
V_{OL}	LOW-level output voltage	$V_I=V_{IH}$ or V_{IL}	I_O=20uA; V_{CC}=4.5V	-	-	0.1	V
			I_O=6.0mA; V_{CC}=4.5V	-	-	0.4	V
I_I	Input leakage current	$V_I=V_{CC}$ or GND; V_{CC}=5.5V		-	-	±1.0	uA
I_{OZ}	OFF-state output current	$V_I=V_{IH}$ or V_{IL}; V_{CC}=5.5V; $V_O=V_{CC}$ or GND		-	-	±10	uA
I_{CC}	Supply current	$V_I=V_{CC}$ or GND; I_O=0A; V_{CC}=5.5V		-	-	160	uA

SYMBOL	PARAMETER	CONDITIONS		MIN.	TYP.	MAX.	UNIT
ΔI_{CC}	Additional supply current	$V_I=V_{CC}$-2.1V; Other inputs at V_{CC} or GND; I_O=0A	Pins nA	-	-	490	uA
			Pin $\overline{OE1}$	-	-	490	uA
			Pin $\overline{OE2}$	-	-	441	uA

6.3.4 AC Characteristics 1

T_{amb}=25°C, GND =0V, C_L=50pF, unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS		MIN.	TYP.	MAX.	UNIT
CJ74HC365							
t_{pd}	nA to nY propagation delay	See Figure 7-6	V_{CC}=2.0V	-	30	95	ns
			V_{CC}=4.5V	-	11	19	ns
			V_{CC}=5.0V; C_L=15pF	-	9	-	ns
			V_{CC}=6.0V	-	9	16	ns
t_{en}	$\overline{OE}$n to nY enable time	See Figure 7-7	V_{CC}=2.0V	-	47	150	ns
			V_{CC}=4.5V	-	17	30	ns
			V_{CC}=6.0V	-	14	26	ns
t_{dis}	$\overline{OE}$n to nY disable time	See Figure 7-7	V_{CC}=2.0V	-	61	150	ns
			V_{CC}=4.5V	-	22	30	ns
			V_{CC}=6.0V	-	18	26	ns
t_t	Transition time	See Figure 7-6	V_{CC}=2.0V	-	14	60	ns
			V_{CC}=4.5V	-	5	12	ns
			V_{CC}=6.0V	-	4	10	ns
C_{PD}	Power dissipation capacitance	Per buffer; V_I=GND to V_{CC}		-	40	-	pF
CJ74HCT365							
t_{pd}	nA to nY propagation delay	See Figure 7-6	V_{CC}=4.5V	-	14	25	ns
			V_{CC}=5.0V; C_L=15pF	-	11	-	ns
t_{en}	$\overline{OE}$n to nY enable time	See Figure 7-7	V_{CC}=4.5V	-	18	35	ns
t_{dis}	$\overline{OE}$n to nY disable time	See Figure 7-7	V_{CC}=4.5V	-	23	35	ns
t_t	Transition time	See Figure 7-6	V_{CC}=4.5V	-	5	12	ns
C_{PD}	Power dissipation capacitance	Per buffer; V_I=GND to V_{CC}-1.5V		-	40	-	pF

Note:

(1) t_{pd} is the same as t_{PLH} and t_{PHL}.

(2) t_{en} is the same as t_{PZL} and t_{PZH}.

(3) t_{dis} is the same as t_{PLZ} and t_{PHZ}.

(4) t_t is the same as t_{THL} and t_{TLH}.

(5) C_{PD} is used to determine the dynamic power dissipation (P_D in uW).

$P_D=C_{PD}xV_{CC}^2xf_ixN+\sum(C_LxV_{CC}^2xf_o)$ 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; $\sum(C_LxV_{CC}^2xf_o)$=sum of outputs.

6.3.5 AC Characteristics 2

T_{amb}=-40°C to +85°C, GND=0V, C_L=50pF, unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS		MIN.	TYP.	MAX.	UNIT
CJ74HC365							
t_{pd}	nA to nY propagation delay	See Figure 7-6	V_{CC}=2.0V	-	-	120	ns
			V_{CC}=4.5V	-	-	24	ns
			V_{CC}=6.0V	-	-	20	ns
t_{en}	$\overline{OE}$n to nY enable time	See Figure 7-7	V_{CC}=2.0V	-	-	190	ns
			V_{CC}=4.5V	-	-	38	ns
			V_{CC}=6.0V	-	-	33	ns
t_{dis}	$\overline{OE}$n to nY disable time	See Figure 7-7	V_{CC}=2.0V	-	-	190	ns
			V_{CC}=4.5V	-	-	38	ns
			V_{CC}=6.0V	-	-	33	ns
t_t	Transition time	See Figure 7-6	V_{CC}=2.0V	-	-	75	ns
			V_{CC}=4.5V	-	-	15	ns
			V_{CC}=6.0V	-	-	13	ns
CJ74HCT365							
t_{pd}	nA to nY propagation delay	See Figure 7-6	V_{CC}=4.5V	-	-	31	ns
t_{en}	$\overline{OE}$n to nY enable time	See Figure 7-7	V_{CC}=4.5V	-	-	44	ns
t_{dis}	$\overline{OE}$n to nY disable time	See Figure 7-7	V_{CC}=4.5V	-	-	44	ns
t_t	Transition time	See Figure 7-6	V_{CC}=4.5V	-	-	15	ns

Note:

(1) t_{pd} is the same as t_{PLH} and t_{PHL}.

(2) t_{en} is the same as t_{PZL} and t_{PZH}.

(3) t_{dis} is the same as t_{PLZ} and t_{PHZ}.

(4) t_t is the same as t_{THL} and t_{TLH}.

6.3.6 AC Characteristics 3

T_{amb}=-40°C to +125°C, GND=0V, C_L=50pF, unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS		MIN.	TYP.	MAX.	UNIT
CJ74HC365							
t_{pd}	nA to nY propagation delay	See Figure 7-6	V_{CC}=2.0V	-	-	145	ns
			V_{CC}=4.5V	-	-	29	ns
			V_{CC}=6.0V	-	-	25	ns
t_{en}	$\overline{OE}$n to nY enable time	See Figure 7-7	V_{CC}=2.0V	-	-	225	ns
			V_{CC}=4.5V	-	-	45	ns
			V_{CC}=6.0V	-	-	38	ns
t_{dis}	$\overline{OE}$n to nY disable time	See Figure 7-7	V_{CC}=2.0V	-	-	225	ns
			V_{CC}=4.5V	-	-	45	ns
			V_{CC}=6.0V	-	-	38	ns
t_t	Transition time	See Figure 7-6	V_{CC}=2.0V	-	-	90	ns
			V_{CC}=4.5V	-	-	18	ns
			V_{CC}=6.0V	-	-	15	ns
CJ74HCT365							
t_{pd}	nA to nY propagation delay	See Figure 7-6	V_{CC}=4.5V	-	-	38	ns
t_{en}	$\overline{OE}$n to nY enable time	See Figure 7-7	V_{CC}=4.5V	-	-	53	ns
t_{dis}	$\overline{OE}$n to nY disable time	See Figure 7-7	V_{CC}=4.5V	-	-	53	ns
t_t	Transition time	See Figure 7-6	V_{CC}=4.5V	-	-	18	ns

Note:

(1) t_{pd} is the same as t_{PLH} and t_{PHL}.

(2) t_{en} is the same as t_{PZL} and t_{PZH}.

(3) t_{dis} is the same as t_{PLZ} and t_{PHZ}.

(4) t_t is the same as t_{THL} and t_{TLH}.

7 Detailed Description

7.1 Overview

The CJ74HC/HCT365 is a hex buffer/line driver with 3-state outputs controlled by the output enable inputs (/OEn). A HIGH on /OEn causes the outputs to assume a high impedance OFF-state. Inputs include clamp diodes. This enables the use of current limiting resistors to interface inputs to voltages in excess of V_{CC}.

7.2 Functional Block Diagram

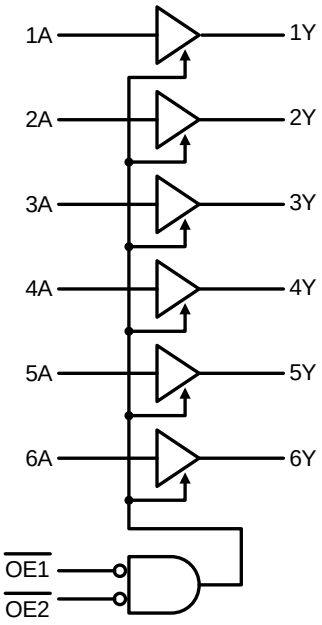


Figure 7-1 Logic symbol

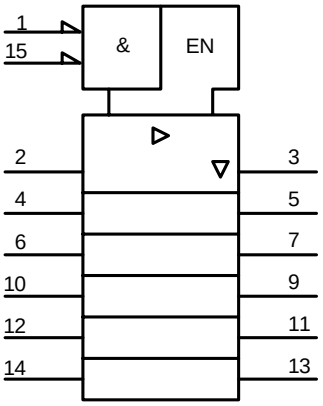


Figure 7-2 IEC logic symbol

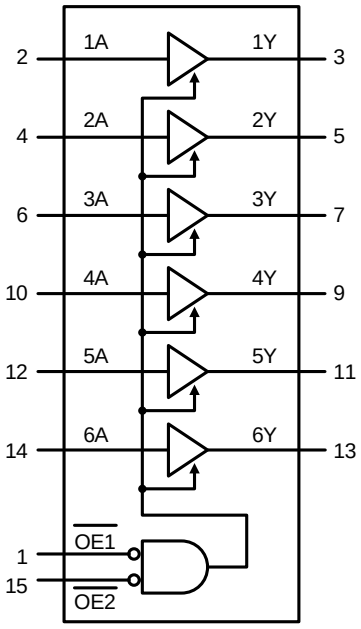


Figure 7-3 Functional diagram

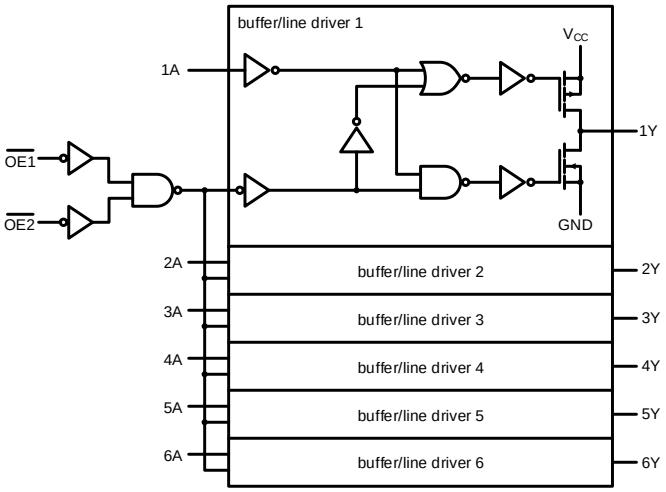


Figure 7-4 Logic diagram

7.3 Function Table

INPUT			OUTPUT
$\overline{OE1}$	$\overline{OE2}$	nA	nY
L	L	L	L
L	L	H	H
X	H	X	Z
H	X	X	Z

Note: H=HIGH voltage level; L=LOW voltage level; X=don't care; Z=high-impedance OFF-state.

7.4 Testing Circuit

7.4.1 AC Testing Circuit

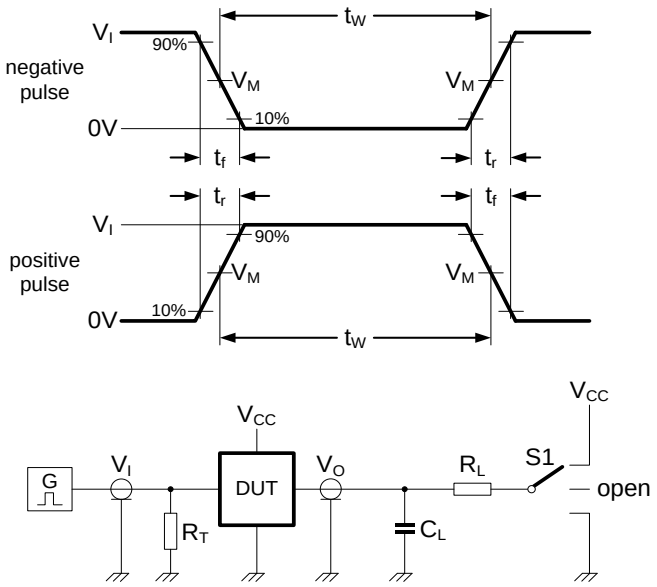


Figure 7-5 Test circuit for measuring switching times

Definitions for test circuit:

R_L=Load resistance.

C_L=Load capacitance including jig and probe capacitance.

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

S1=Test selection switch.

7.4.2 AC Testing Waveforms

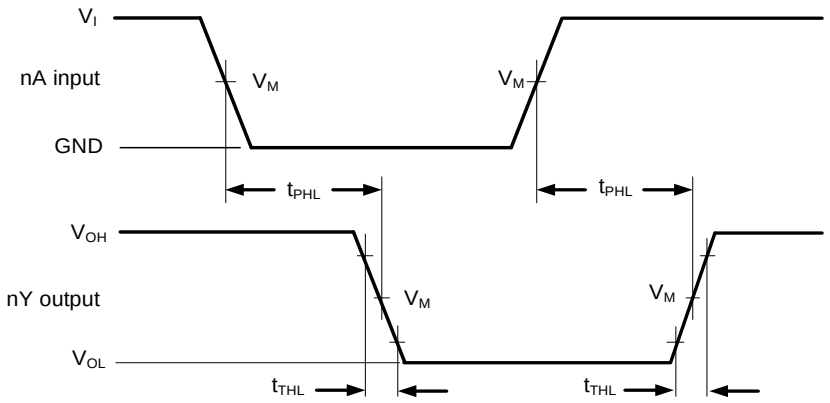


Figure 7-6 Input (nA) to output (nY) propagation delays and output transition times

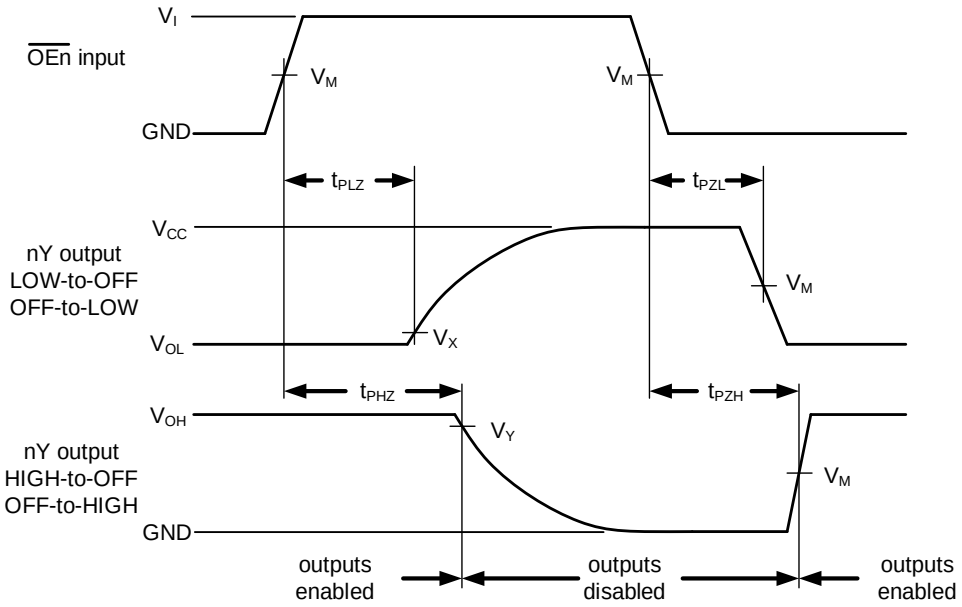


Figure 7-7 3-state enable and disable times

7.4.3 Measurement Points

TYPE	INPUT	OUTPUT		
	V_M	V_M	V_X	V_Y
CJ74HC365	$0.5xV_{CC}$	$0.5xV_{CC}$	$0.1xV_{CC}$	$0.9xV_{CC}$
CJ74HCT365	1.3V	1.3V	$0.1xV_{CC}$	$0.9xV_{CC}$

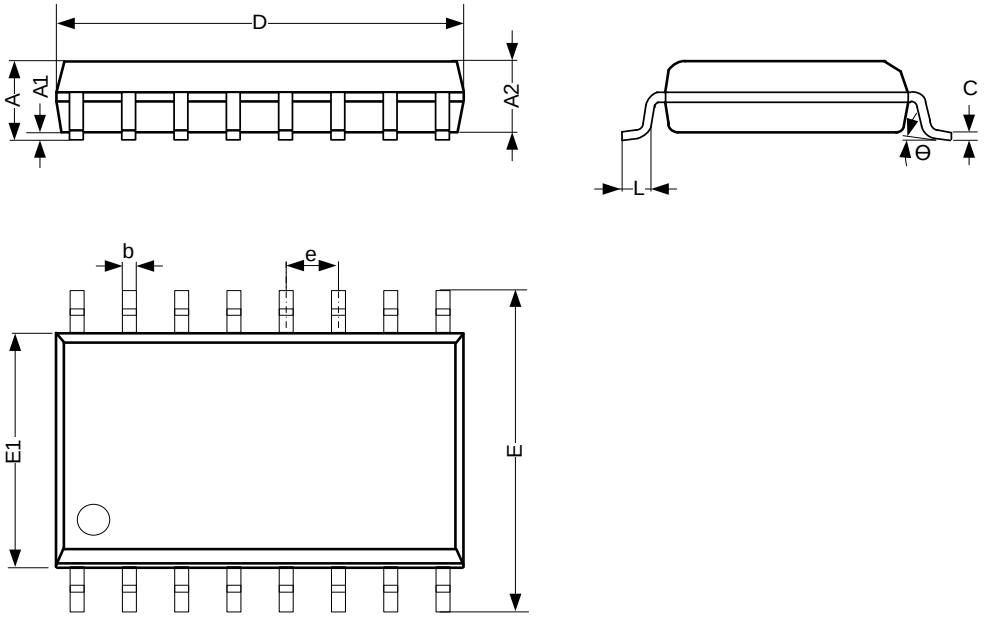
7.4.4 Test Data

TYPE	INPUT		LOAD		S1 POSITION		
	V_I	t_r, t_f	C_L	R_L	t_{PHL}, t_{PLH}	t_{PZH}, t_{PHZ}	t_{PZL}, t_{PLZ}
CJ74HC365	V_{CC}	6ns	15pF, 50pF	1kΩ	Open	GND	V_{CC}
CJ74HCT365	3V	6ns	15pF, 50pF	1kΩ	Open	GND	V_{CC}

8 Mechanical Information

8.1 SOP16 Mechanical Information

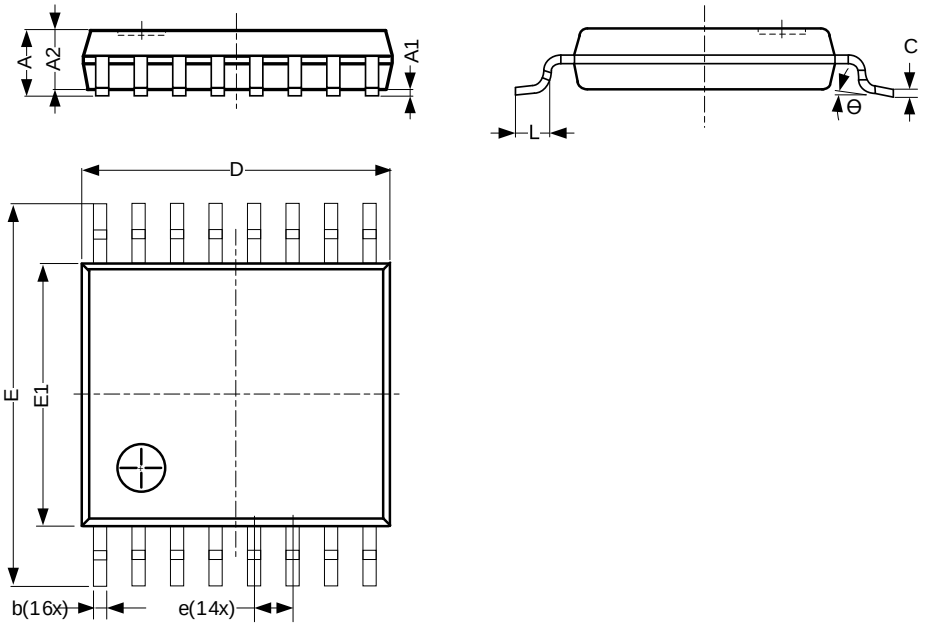
8.1.1 SOP16 Outline Dimensions



SYMBOL	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	1.35	-	1.80
A1	0.10	-	0.25
A2	1.25	-	1.55
b	0.33	-	0.51
c	0.19	-	0.25
D	9.50	-	10.10
E	5.80	-	6.30
E1	3.70	-	4.10
e	1.27 BSC		
L	0.35	-	0.89
θ	0°	-	8°
Unit: mm			

8.2 TSSOP16 Mechanical Information

8.2.1 TSSOP16 Outline Dimensions



SYMBOL	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	-	-	1.20
A1	0.05	-	0.15
A2	0.80	-	1.05
b	0.19	-	0.30
c	0.09	-	0.20
D	4.90	-	5.10
E	6.20	-	6.60
E1	4.30	-	4.50
e	0.65 BSC		
L	0.45	-	0.75
Θ	0°	-	8°
Unit: mm			

9 Notes and Revision History

9.1 Associated Product Family and Others

To view other products of the same type or IC products of other types, click the official website of JSCJ -- ***https:www.jscj-elec.com*** for more details.

9.2 Notes

Electrostatic Discharge Caution

This IC may be damaged by ESD. Relevant personnel shall comply with correct installation and use specifications to avoid ESD damage to the IC. If appropriate measures are not taken to prevent ESD damage, the hazards caused by ESD include but are not limited to degradation of integrated circuit performance or complete damage of integrated circuit. For some precision integrated circuits, a very small parameter change may cause the whole device to be inconsistent with its published specifications.

9.3 Revision History

January, 2026: rev - 1.1A, Change pin function.

DISCLAIMER

IMPORTANT NOTICE, PLEASE READ CAREFULLY

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