Quad Buffer/Line Driver; 3-state

CJ74HC/HCT125 Logic

1 Introduction

The CJ74HC/HCT125 is a quad buffer/line driver with 3-state outputs controlled by the output enable inputs (n/OE). A HIGH on n/OE 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
CJ74HC125	SOP14
	TSSOP14
CJ74HCT125	SOP14
	TSSOP14

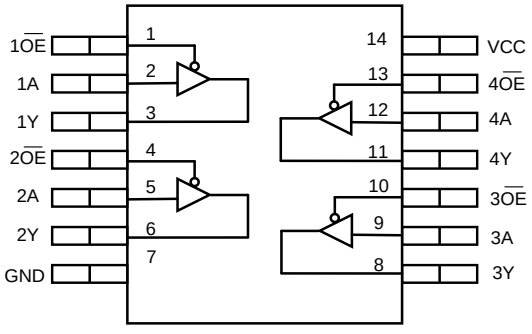
Note: For all available packages, please refer to the part Orderable Information.

3 Features

- Input levels:
  - For CJ74HC125: CMOS level
  - For CJ74HCT125: TTL level
- Specified from -40°C to +125°C

4 Applications

- Enable digital signals



Functional pinout

5 Orderable Information

DEVICE	PACKAGE	OP TEMP	ECO PLAN	MSL	PACKING OPTION	SORT
CJ74HC125ADN	SOP14	-40~125°C	RoHS & Green	Level 3 168HR	Tape and Reel 4000 Units / Reel	Active
CJ74HCT125ADN	SOP14	-40~125°C	RoHS & Green	Level 3 168HR	Tape and Reel 4000 Units / Reel	Active
CJ74HC125BDN	TSSOP14	-40~125°C	RoHS & Green	Level 3 168HR	Tape and Reel 5000 Units / Reel	Active
CJ74HCT125BDN	TSSOP14	-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.

6 Pin Configuration and Marking Information

6.1 Pin Configuration

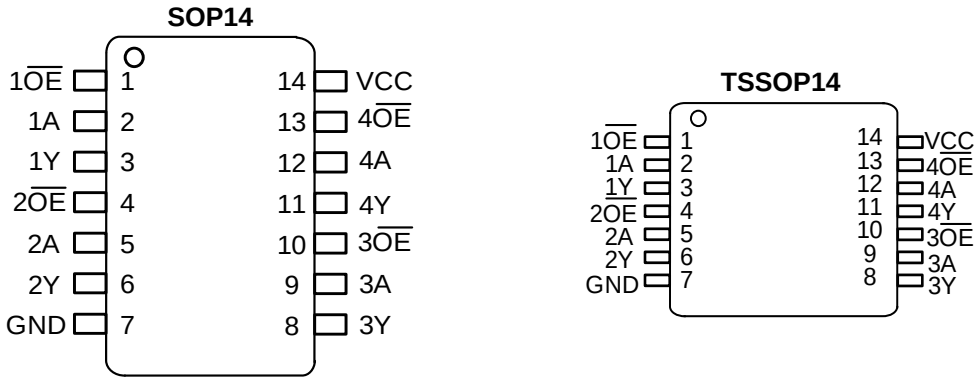


Figure 6-1 Pin Configuration

6.2 Pin Function

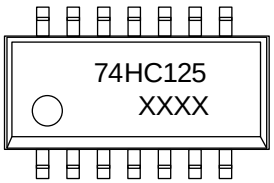
PIN		I/O(1)	DESCRIPTION
No.	NAME		
1	$1\overline{OE}$	I	Output enable input (active LOW)
2	1A	I	Data input
3	1Y	O	Data output
4	$2\overline{OE}$	I	Output enable input (active LOW)
5	2A	I	Data input
6	2Y	O	Data output
7	GND	G	Ground (0V)
8	3Y	O	Data output
9	3A	I	Data input
10	$3\overline{OE}$	I	Output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

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

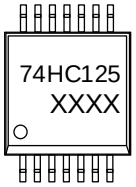
6.3 Marking Information

6.3.1 CJ74HC125

SOP14



TSSOP14

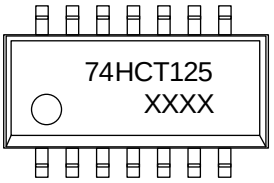


74HC125: Device number.

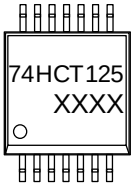
XXXX: Code, indicates weekly record information.

6.3.2 CJ74HCT125

SOP14



TSSOP14



74HCT125: Device number.

XXXX: Code, indicates weekly record information.

7 Specifications

7.1 Absolute Maximum Ratings

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

SYMBOL	CHARACTERISTIC	CONDITIONS		MIN.	MAX.	UNIT
V_{CC}	Supply voltage	-		-0.5	+7	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
P_{tot}	Total power dissipation	-		-	500	mW
T_{stg}	Storage temperature	-		-65	+150	°C
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.

7.2 Recommended Operating Conditions

SYMBOL	PARAMETER	CONDITIONS	MIN.	Typ.	MAX.	UNIT
CJ74HC125						
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
CJ74HCT125						
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

7.3 ESD Ratings

SYMBOL	ESD RATINGS		VALUE	UNIT
$V_{ESD-HBM}$	Electrostatic discharge	Human body model (HBM) (1)	±2000	V

(1) JEDEC document JEP155 states that 500-V H1BM allows safe manufacturing with a standard ESD control process.

7.4 Electrical Characteristics

7.4.1 DC Characteristics 1

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

SYMBOL	CHARACTERISTIC	CONDITIONS		MIN.	TYP.	MAX.	UNIT
CJ74HC125							
V_{IH}	HIGH-level input voltage	V_{CC}=2.0V		1.5	1.2	-	V
		V_{CC}=4.5V		3.15	2.4	-	V
		V_{CC}=6.0V		4.2	3.2	-	V
V_{IL}	LOW-level input voltage	V_{CC}=2.0V		-	0.8	0.5	V
		V_{CC}=4.5V		-	2.1	1.35	V
		V_{CC}=6.0V		-	2.8	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 current	V_I=V_{IH} or V_{IL}; V_O=V_{CC} or GND; V_{CC}=6.0V		-	-	±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
CJ74HCT125							
V_{IH}	HIGH-level input voltage	V_{CC}=4.5V to 5.5V		2.0	1.6	-	V
V_{IL}	LOW-level input voltage	V_{CC}=4.5V to 5.5V		-	1.2	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	uA
I_{OZ}	OFF-state output current	V_I=V_{IH} or V_{IL}; V_O=V_{CC} or GND; V_{CC}=5.5V		-	-	±1	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	Per input pin; V_I=V_{CC}-2.1V; I_O=0A; Other inputs at V_{CC} or GND; V_{CC}=4.5V to 5.5V		-	-	360	uA
C_I	Input capacitance	-		-	3.5	-	pF

7.4.2 DC Characteristics 2

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

SYMBOL	CHARACTERISTIC	CONDITIONS		MIN.	TYP.	MAX.	UNIT
CJ74HC125							
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	uA
I_{OZ}	OFF-state output current	V_I=V_{IH} or V_{IL}; V_O=V_{CC} or GND; V_{CC}=6.0V		-	-	±5	uA
I_{CC}	Supply current	V_I=V_{CC} or GND; I_O=0A; V_{CC}=6.0V		-	-	80	uA
CJ74HCT125							
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	uA
I_{OZ}	OFF-state output current	V_I=V_{IH} or V_{IL}; V_O=V_{CC} or GND; V_{CC}=5.5V		-	-	±5	uA
I_{CC}	Supply current	V_I=V_{CC} or GND; I_O=0A; V_{CC}=5.5V		-	-	80	uA
ΔI_{CC}	Additional supply current	Per input pin; V_I=V_{CC}-2.1V; I_O=0A; Other inputs at V_{CC} or GND; V_{CC}=4.5V to 5.5V		-	-	450	uA

7.4.3 DC Characteristics 3

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

SYMBOL	CHARACTERISTIC	CONDITIONS		MIN.	TYP.	MAX.	UNIT
CJ74HC125							
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	uA
I_{OZ}	OFF-state output current	V_I=V_{IH} or V_{IL}; V_O=V_{CC} or GND; V_{CC}=6.0V		-	-	±10	uA
I_{CC}	Supply current	V_I=V_{CC} or GND; I_O=0A; V_{CC}=6.0V		-	-	160	uA
CJ74HCT125							
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	uA
I_{OZ}	OFF-state output current	V_I=V_{IH} or V_{IL}; V_O=V_{CC} or GND; V_{CC}=5.5V		-	-	±10	uA
I_{CC}	Supply current	V_I=V_{CC} or GND; I_O=0A; V_{CC}=5.5V		-	-	160	uA
ΔI_{CC}	Additional supply current	Per input pin; V_I=V_{CC}-2.1V; I_O=0A; Other inputs at V_{CC} or GND; V_{CC}=4.5V to 5.5V		-	-	490	uA

7.4.4 AC Characteristics 1

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

SYMBOL	CHARACTERISTIC	CONDITIONS		MIN.	TYP.	MAX.	UNIT
CJ74HC125							
t_{pd}	nA to nY propagation delay	See Figure 8-5(1)	V_{CC}=2.0V	-	30	100	ns
			V_{CC}=4.5V	-	11	20	ns
			V_{CC}=5.0V;C_L=15pF	-	9	-	ns
			V_{CC}=6.0V	-	9	17	ns
t_{en}	$n\overline{OE}$ to nY enable time	See Figure 8-6(2)	V_{CC}=2.0V	-	41	125	ns
			V_{CC}=4.5V	-	15	25	ns
			V_{CC}=6.0V	-	12	21	ns
t_{dis}	$n\overline{OE}$ to nY disable time	See Figure 8-6(3)	V_{CC}=2.0V	-	41	125	ns
			V_{CC}=4.5V	-	15	25	ns
			V_{CC}=6.0V	-	12	21	ns
t_t	Transition time	See Figure 8-5(4)	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	C_L=50pF; f=1MHz; V_I=GND to V_{CC}(5)		-	22	-	pF
CJ74HCT125							
t_{pd}	nA to nY propagation delay	See Figure 8-5(1)	V_{CC}=4.5V	-	15	25	ns
			V_{CC}=5.0V; C_L=15pF	-	12	-	ns
t_{en}	$n\overline{OE}$ to nY enable time	See Figure 8-6(2)	V_{CC}=4.5V	-	15	28	ns
t_{dis}	$n\overline{OE}$ to nY disable time	See Figure 8-6(3)	V_{CC}=4.5V	-	15	25	ns
t_t	Transition time	See Figure 8-5(4)	V_{CC}=4.5V	-	5	12	ns
C_{PD}	Power dissipation capacitance	C_L=50pF; f=1MHz; V_I=GND to V_{CC}-1.5V(5)		-	24	-	pF

(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.

7.4.5 AC Characteristics 2

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

SYMBOL	CHARACTERISTIC	CONDITIONS		MIN.	TYP.	MAX.	UNIT
CJ74HC125							
t_{pd}	nA to nY propagation delay	See Figure 8-5(1)	V_{CC}=2.0V	-	-	125	ns
			V_{CC}=4.5V	-	-	25	ns
			V_{CC}=6.0V	-	-	21	ns
t_{en}	$n\overline{OE}$ to nY enable time	See Figure 8-6(2)	V_{CC}=2.0V	-	-	155	ns
			V_{CC}=4.5V	-	-	31	ns
			V_{CC}=6.0V	-	-	26	ns
t_{dis}	$n\overline{OE}$ to nY disable time	See Figure 8-6(3)	V_{CC}=2.0V	-	-	155	ns
			V_{CC}=4.5V	-	-	31	ns
			V_{CC}=6.0V	-	-	26	ns
t_t	Transition time	See Figure 8-5(4)	V_{CC}=2.0V	-	-	75	ns
			V_{CC}=4.5V	-	-	15	ns
			V_{CC}=6.0V	-	-	13	ns
CJ74HCT125							
t_{pd}	nA to nY propagation delay	See Figure 8-5(1)	V_{CC}=4.5V	-	-	31	ns
t_{en}	$n\overline{OE}$ to nY enable time	See Figure 8-6(2)	V_{CC}=4.5V	-	-	35	ns
t_{dis}	$n\overline{OE}$ to nY disable time	See Figure 8-6(3)	V_{CC}=4.5V	-	-	31	ns
t_t	Transition time	See Figure 8-5(4)	V_{CC}=4.5V	-	-	15	ns

(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}.

7.4.6 AC Characteristics 3

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

SYMBOL	CHARACTERISTIC	CONDITIONS		MIN.	TYP.	MAX.	UNIT
CJ74HC125							
t_{pd}	nA to nY propagation delay	See Figure 8-5(1)	V_{CC}=2.0V	-	-	150	ns
			V_{CC}=4.5V	-	-	30	ns
			V_{CC}=6.0V	-	-	26	ns
t_{en}	$n\overline{OE}$ to nY enable time	See Figure 8-6(2)	V_{CC}=2.0V	-	-	190	ns
			V_{CC}=4.5V	-	-	38	ns
			V_{CC}=6.0V	-	-	32	ns
t_{dis}	$n\overline{OE}$ to nY disable time	See Figure 8-6(3)	V_{CC}=2.0V	-	-	190	ns
			V_{CC}=4.5V	-	-	38	ns
			V_{CC}=6.0V	-	-	32	ns
t_t	Transition time	See Figure 8-5(4)	V_{CC}=2.0V	-	-	90	ns
			V_{CC}=4.5V	-	-	18	ns
			V_{CC}=6.0V	-	-	15	ns
CJ74HCT125							
t_{pd}	nA to nY propagation delay	See Figure 8-5(1)	V_{CC}=4.5V	-	-	38	ns
t_{en}	$n\overline{OE}$ to nY enable time	See Figure 8-6(2)	V_{CC}=4.5V	-	-	42	ns
t_{dis}	$n\overline{OE}$ to nY disable time	See Figure 8-6(3)	V_{CC}=4.5V	-	-	38	ns
t_t	Transition time	See Figure 8-5(4)	V_{CC}=4.5V	-	-	18	ns

(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}.

8 Detailed Description

8.1 Overview

The CJ74HC/HCT125 is a quad buffer/line driver with 3-state outputs controlled by the output enable inputs (n/OE). A HIGH on n/OE 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}.

8.2 Functional Block Diagram

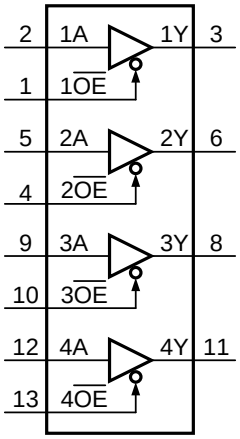


Figure 8-1 Logic symbol

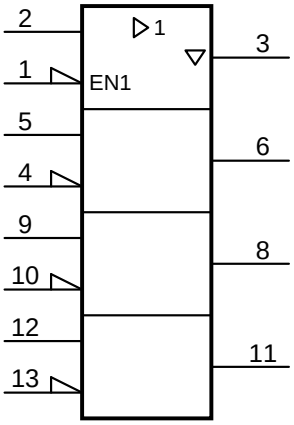


Figure 8-2 IEC logic symbol

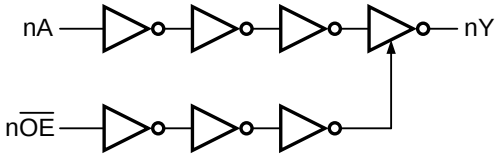


Figure 8-3 Logic diagram for one gate

8.3 Function Table(1)

CONTROL	INPUT	OUTPUT
$\overline{nOE}$	**nA**	**nY**
L	L	L
L	H	H
H	X	Z

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

8.4 Testing Circuit

8.4.1 AC Testing Circuit

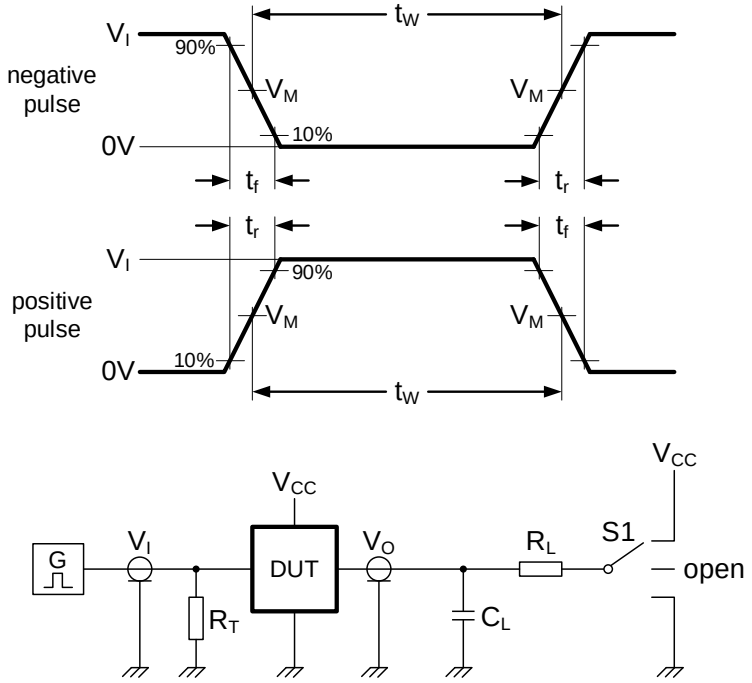


Figure 8-4 Test circuit for measuring switching times

Definitions for test circuit:

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.

R_L=Load resistance.

S1=Test selection switch.

8.4.2 AC Testing Waveforms

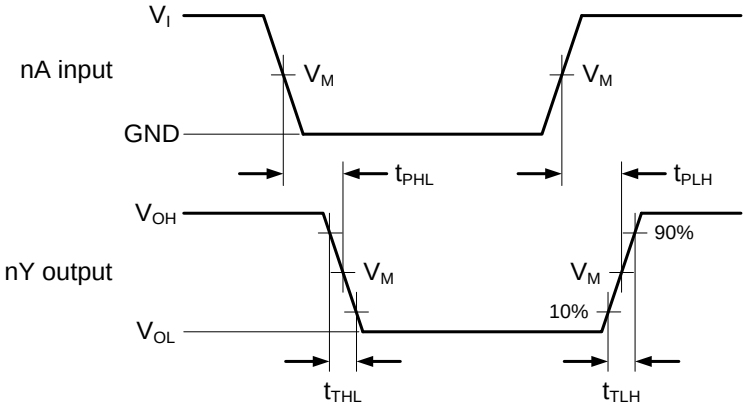


Figure 8-5 Propagation delay input (nA) to output (nY)

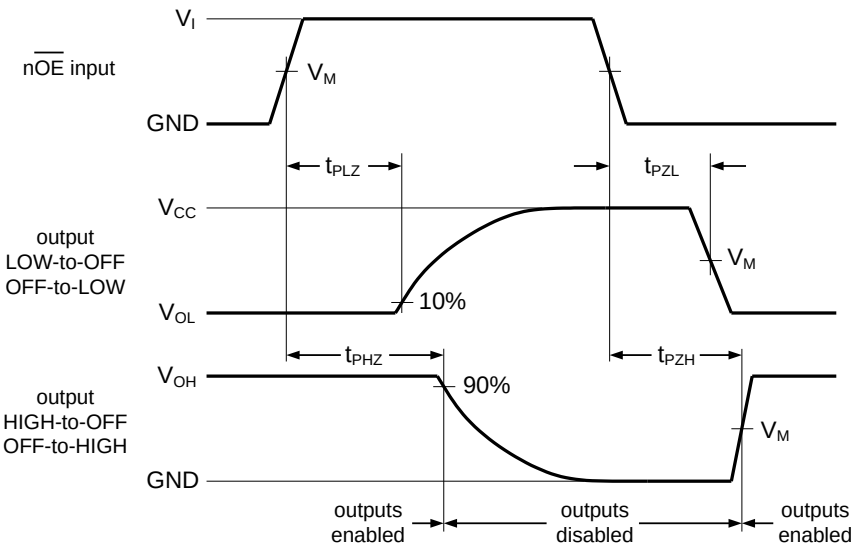


Figure 8-6 Enable and disable times

8.4.3 Measurement Points

TYPE	INPUT	OUTPUT
	V_M	V_M
CJ74HC125	0.5xV_{CC}	0.5xV_{CC}
CJ74HCT125	1.3V	1.3V

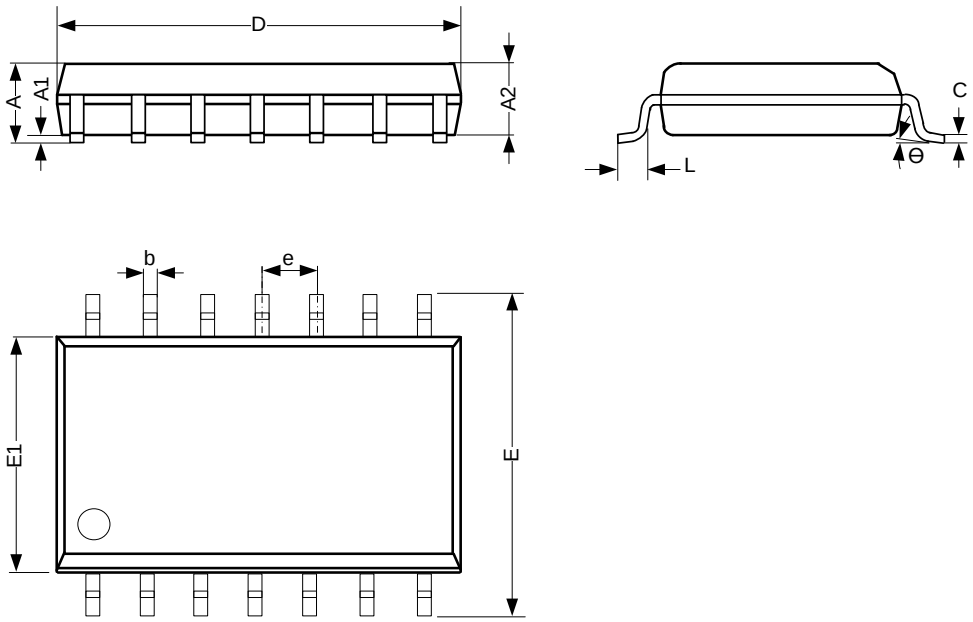
8.4.4 Test Data

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}
CJ74HC125	V_{CC}	6ns	15pF, 50pF	1kΩ	Open	GND	V_{CC}
CJ74HCT125	3V	6ns	15pF, 50pF	1kΩ	Open	GND	V_{CC}

9 Mechanical Information

9.1 SOP14 Mechanical Information

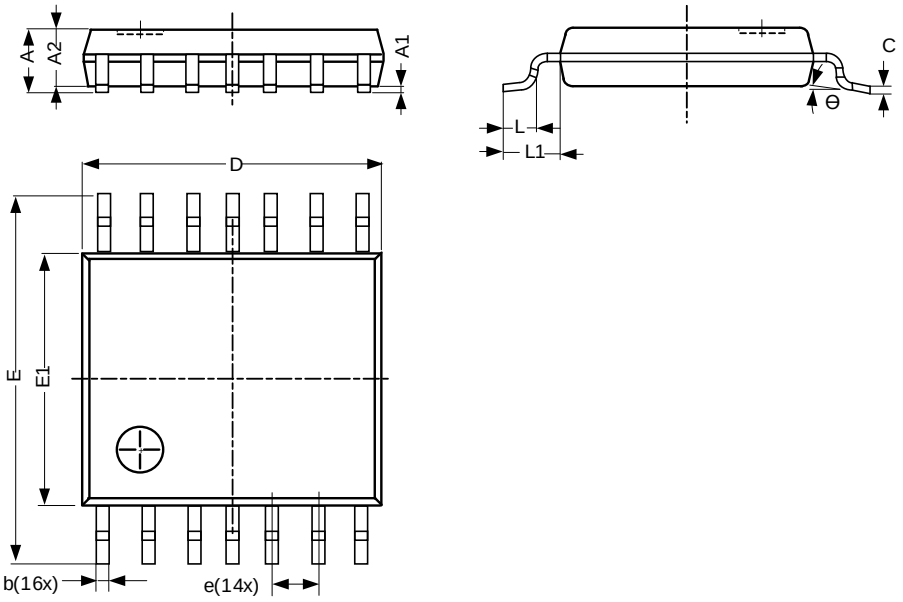
9.1.1 SOP14 Outline Dimensions



SYMBOL	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	1.50	-	1.75
A1	0.05	-	0.25
A2	1.30	-	-
b	0.33	-	0.50
c	0.19	-	0.25
D	8.43	-	8.76
E	5.80	-	6.25
E1	3.75	-	4.00
e	1.27 BSC		
L	0.40	-	0.89
Θ	0°	-	8°
Unit: mm			

9.2 TSSOP14 Mechanical Information

9.2.1 TSSOP14 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
L1	-	1.00	-
Θ	0°	-	8°
Unit: mm			

10 Notes and Revision History

10.1 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.

10.2 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.

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