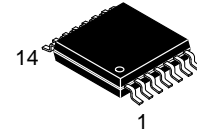


Low Voltage Dual D-Type Edge-Triggered Flip-Flop

74LVX74



TSSOP-14 WB
CASE 948G

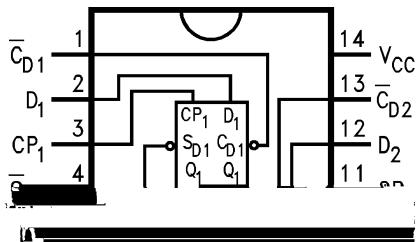
General Description

-
-
-
-

Features

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-
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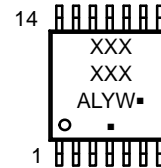
Connection Diagram



Pin Description

Pin Names	Description
D ₁ , D ₂	Data Inputs
CP ₁ , CP ₂	Clock Pulse Inputs
\overline{C}_{D1} , \overline{C}_{D2}	Direct Clear Inputs
\overline{S}_{D1} , \overline{S}_{D2}	Direct Set Inputs
Q ₁ , \overline{Q}_1 , Q ₂ , \overline{Q}_2	Outputs

MARKING DIAGRAM



- XXX = Specific Device Code
- A = Assembly Location
- L = Wafer Lot
- Y = Year
- W = Work Week
- = Pb Free Package

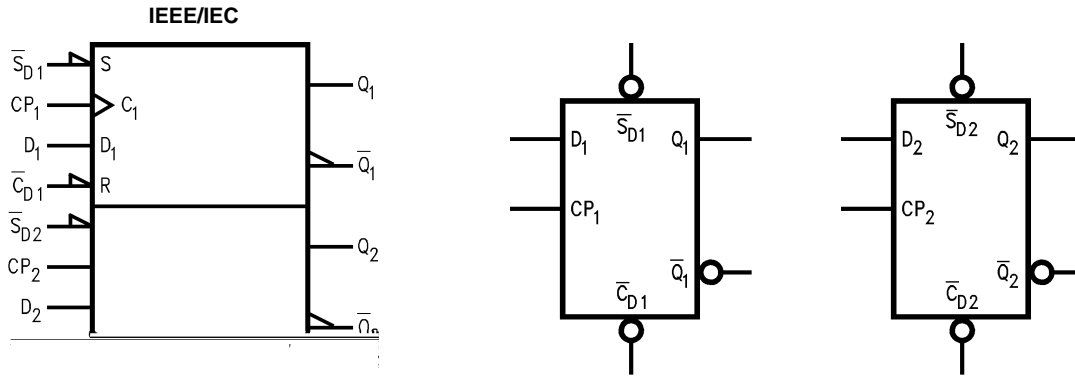
(Note: Microdot may be in either location)

ORDERING INFORMATION

See detailed ordering and shipping information on page 5 of this data sheet.

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Logic Symbols



Truth Table (Each Half)

Inputs				Outputs	
\bar{S}_D	\bar{C}_D	CP	D	Q	\bar{Q}
L	H	X	X	H	L
H	L	X	X	L	H
L	L	X	X	H	H

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ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Rating	Unit	
V_{CC}	Supply Voltage	-0.5 to +6.5	V	
I_{IK}	DC Input Diode Current, $V_I = -0.5$ V	20	mA	
V_I	DC Input Voltage	-0.5 to +6.5	V	
I_{OK}	DC Output Diode Current	$V_O = -0.5$ V	20	mA
		$V_O = V_{CC} + 0.5$ V	+20	mA
V_O	DC Output Voltage	-0.5 to $V_{CC} + 0.5$	V	
I_O	DC Output Source or Sink Current	± 25	mA	
I_{CC} or I_{GND}	DC V_{CC} or Ground Current	± 50	mA	
T_{STG}	Storage Temperature	-65 to +150	$^{\circ}$ C	
P_D	50			

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DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	V _{CC} (V)	Conditions	T _A = 25°C			T _A = -40°C to +85°C		Unit
				Min	Typ	Max	Min	Max	
V _{IH}	HIGH Level Input Voltage	2.0		1.5			1.5		V
		3.0		2.0			2.0		
		3.6		2.4			2.4		
V _{IL}	LOW Level Input Voltage	2.0				0.5		0.5	V
		3.0				0.8		0.8	
		3.6				0.8		0.8	
V _{OH}	HIGH Level Output Voltage	2.0	V _{IN} = V _{IL} or V _{IH} , I _{OH} = -50 μA	1.9	2.0		1.9		V
		3.0	V _{IN} = V _{IL} or V _{IH} , I _{OH} = -50 μA	2.9	3.0		2.9		
			V _{IN} = V _{IL} or V _{IH} , I _{OH} = -4 mA	2.58			2.48		
V _{OL}	LOW Level Output Voltage	2.0	V _{IN} = V _{IL} or V _{IH} , I _{OL} = 50 μA		0.0	0.1		0.1	V
		3.0	V _{IN} = V _{IL} or V _{IH} , I _{OL} = 50 μA V _{IN} = V _{IL}		0.0	0.1		0.1	

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AC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	V _{CC} (V)	C _L (pF)	T _A = 25°C			T _A = -40 to 85°C		Unit
				Min	Typ	Max	Min	Max	
t _{PLH} , t _{PHL}	Propagation Delay C \overline{P}_n to Q _n or \overline{Q}_n	2.7	15		7.3	15.0	1.0	18.5	ns
			50		9.8	18.5	1.0	22.0	
		3.3 ± 0.3	15		5.7	9.7	1.0	11.5	
			50		8.2	13.2	1.0	15.0	
t _{PLH} , t _{PHL}	Propagation Delay \overline{C}_{Dn} to \overline{S}_{Dn} to Q _n or \overline{Q}_n	2.7	15		8.4	15.6	1.0	18.5	ns
			50		10.9	19.1	1.0	22.0	
		3.3 ± 0.3	15		6.6	10.1			
			50		9.1	13.6			

	0.10 (0.004)
	SEATING PLANE

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