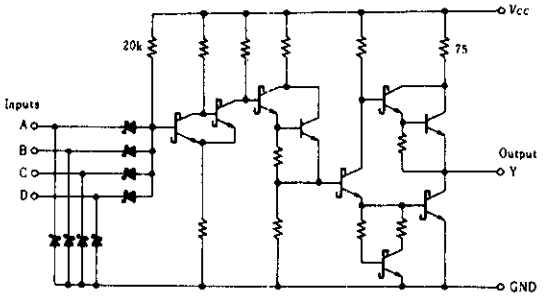
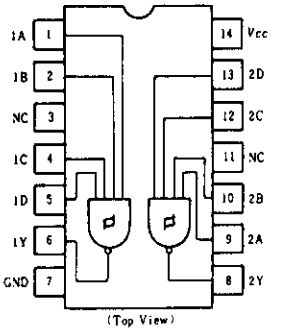
HD74LS13 ●Dual 4-input Positive NAND Schmitt Triggers

■CIRCUIT SCHEMATIC(½)



■PIN ARRANGEMENT



■ELECTRICAL CHARACTERISTICS ($Ta=-20\sim+75℃$)

Item	Symbol	Test Conditions		min	typ*	max	Unit
Input threshold voltage	V_{T^+}	$V_{CC}=5V$		1.4	1.6	1.9	V
	V_{T^-}	$V_{CC}=5V$		0.5	0.7	1.0	V
Hysteresis	$V_{T^+}-V_{T^-}$	$V_{CC}=5V$		0.4	0.9	–	V
Output voltage	V_{OH}	$V_{CC}=4.75V$, $I_{OH}=-400\mu A$, $V_I=0.5V$		2.7	–	–	V
	V_{OL}	$V_{CC}=4.75V$, $V_I=1.9V$	$I_{OL}=8mA$	–	–	0.5	V
			$I_{OL}=4mA$	–	–	0.4	
Input threshold current	I_{T^+}	$V_{CC}=5V$, $V_I=V_{T^+}$		–	−0.14	–	mA
	I_{T^-}	$V_{CC}=5V$, $V_I=V_{T^-}$		–	−0.18	–	mA
Input current	I_{IH}	$V_{CC}=5.25V$, $V_I=2.7V$		–	–	20	μA
	I_{IL}	$V_{CC}=5.25V$, $V_I=0.4V$		–	–	−0.4	mA
	I_I	$V_{CC}=5.25V$, $V_I=7V$		–	–	0.1	mA
Short-circuit output current	I_{OS}	$V_{CC}=5.25V$		−20	–	−100	mA
Supply current	I_{CCH}	$V_{CC}=5.25V$		–	2.9	6	mA
	I_{CCL}	$V_{CC}=5.25V$		–	4.1	7	mA
Input clamp voltage	V_{IK}	$V_{CC}=4.75V$, $I_{IN}=-18mA$		–	–	−1.5	V

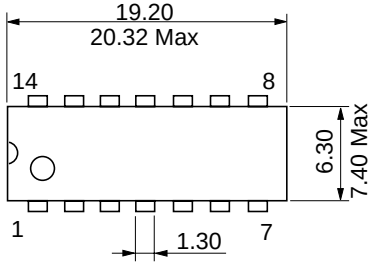
* V_{CC}=5V, Ta=25°C

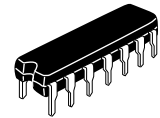
■SWITCHING CHARACTERISTICS ($V_{CC}=5V$, $Ta=25℃$)

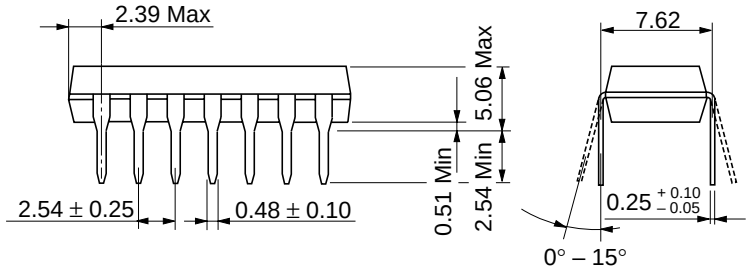
Item	Symbol	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	$C_L=15pF$, $R_L=2k\Omega$	–	15	22	ns
	t_{PHL}		–	18	27	ns

Note) Refer to Test Circuit and Waveform of the Common Item

Unit: mm

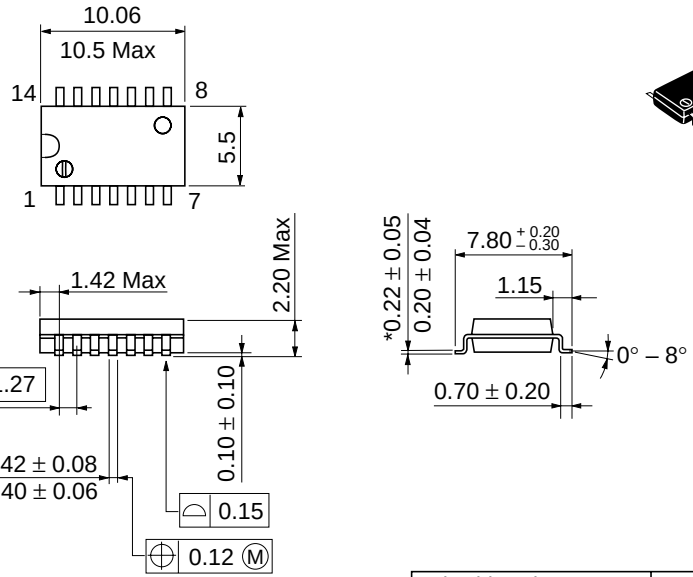


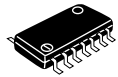




Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.97 g

Unit: mm

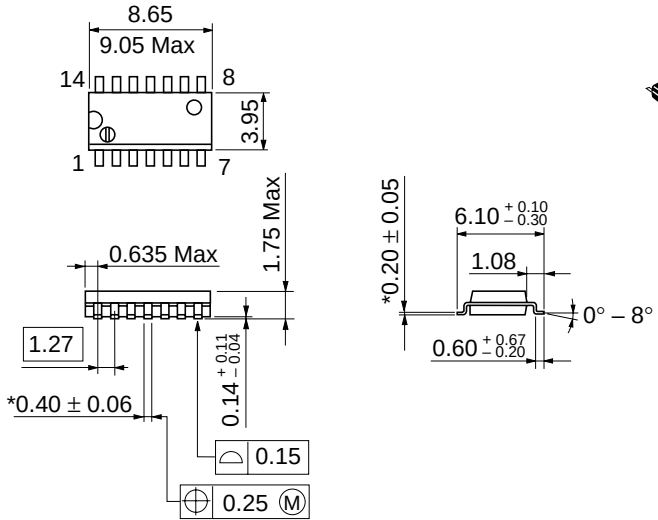




Hitachi Code	FP-14DA
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.23 g

*Dimension including the plating thickness
Base material dimension

Unit: mm



Hitachi Code	FP-14DN
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.13 g

*Pd plating

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