
HD74HCT237

3-to-8-line Decoder/Demultiplexer with Address Latch

HITACHI

Description

The HD74HCT237 decodes a three-bit Address to one-of-eight active-high outputs. The device has a transparent latch for storage of the Address. Two Chip Selects, one active-low and one active-high, are provided to facilitate the demultiplexing, cascading, and chip-selecting functions.

The demultiplexing function is accomplished by using the Address inputs to select the desired device output, and then by using one of the Chip Select as a data input while holding the other one active.

The HD74HCT237 is the noninverting version of the HD74HCT137.

Features

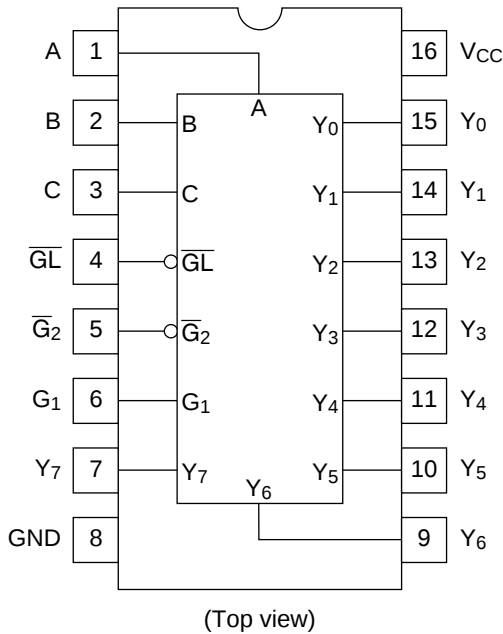
- LSTTL Output Logic Level Compatibility as well as CMOS Output Compatibility
- High Speed Operation: t_{pd} (A, B, C to Y) = 23 ns typ ($C_L = 50$ pF)
- High Output Current: Fanout of 10 LSTTL Loads
- Wide Operating Voltage: $V_{CC} = 4.5$ to 5.5 V
- Low Input Current: $1 \mu\text{A}$ max
- Low Quiescent Supply Current: I_{CC} (static) = $4 \mu\text{A}$ max ($T_a = 25^\circ\text{C}$)

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Function Table

Inputs													
Enable		Select				Outputs							
$\overline{GL}$	G_1	$\overline{G_2}$	C	B	A	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7
X	X	H	X	X	X	L	L	L	L	L	L	L	L
X	L	X	X	X	X	L	L	L	L	L	L	L	L
L	H	L	L	L	L	H	L	L	L	L	L	L	L
L	H	L	L	L	H	L	H	L	L	L	L	L	L
L	H	L	L	H	L	L	L	H	L	L	L	L	L
L	H	L	L	H	H	L	L	L	H	L	L	L	L
L	H	L	H	L	L	L	L	L	L	H	L	L	L
L	H	L	H	L	H	L	L	L	L	L	H	L	L
L	H	L	H	H	L	L	L	L	L	L	L	H	L
L	H	L	H	H	H	L	L	L	L	L	L	L	H
H	H	L	X	X	X	Output Corresponding to stored address L; all others H							

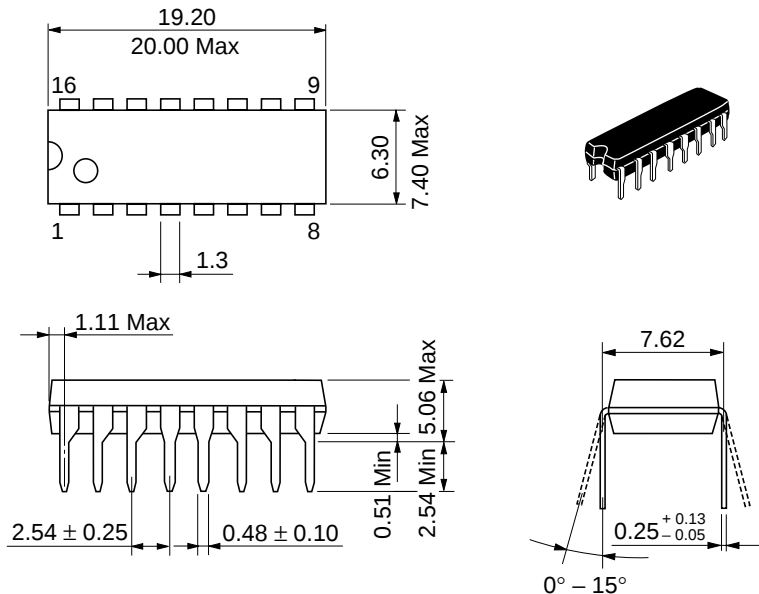
Pin Arrangement



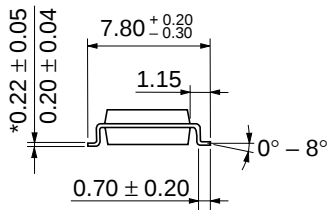
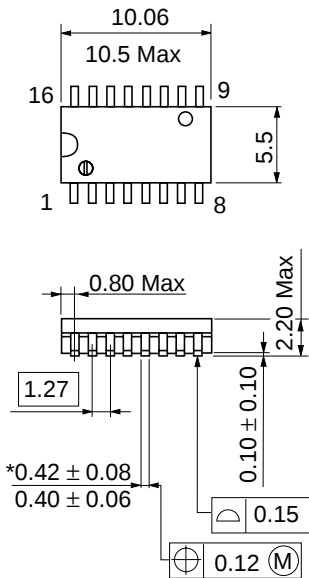
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AC Characteristics (C_L = 50 pF, Input t_r = t_f = 6 ns)

Item	Symbol	Ta = 25°C		Ta = -40 to +85°C		Unit	Test Conditions	
		Min	Typ	Max	Min	Max	V _{cc} (V)	
Propagation delay time	t _{PLH}	—	21	37	—	46	ns	4.5 A, B or C to Y
	t _{PHL}	—	25	37	—	46		4.5
	t _{PLH}	—	18	29	—	36	ns	4.5 $\overline{G_2}$ to Y
	t _{PHL}	—	14	29	—	36		4.5
	t _{PLH}	—	16	29	—	36	ns	4.5 G ₁ to Y
	t _{PHL}	—	18	29	—	36		4.5
	t _{PLH}	—	22	38	—	48	ns	4.5 $\overline{GL}$ to Y
	t _{PHL}	—	27	38	—	48		4.5
Pulse width	t _w	16	8	—	20	—	ns	4.5
Setup time	t _{su}	20	6	—	25	—	ns	4.5
Hold time	t _h	5	-1	—	5	—	ns	4.5
Output rise/fall time	t _{TLH}	—	5	15	—	19	ns	4.5
	t _{THL}							
Input capacitance	C _{in}	—	5	10	—	10	pF	—

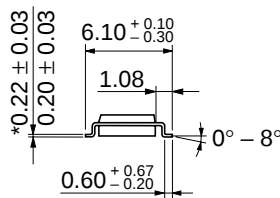
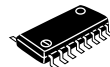
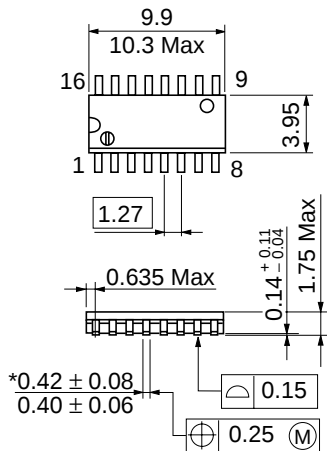


Hitachi Code	DP-16
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	1.07 g



*Dimension including the plating thickness
Base material dimension

Hitachi Code	FP-16DA
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.24 g



*Dimension including the plating thickness
Base material dimension

Hitachi Code	FP-16DN
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.15 g

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