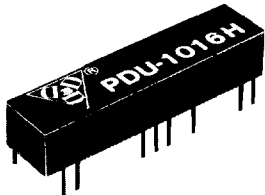


Digitally Programmable Delay Units

**SERIES: PDU-1016H
(4-Bit) ECL Interfaced**



Features:

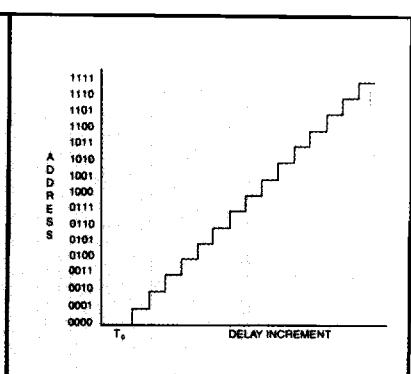
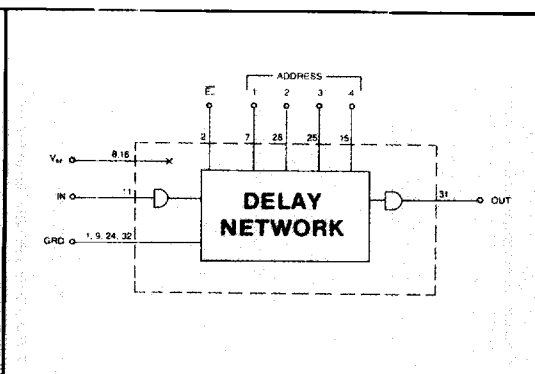
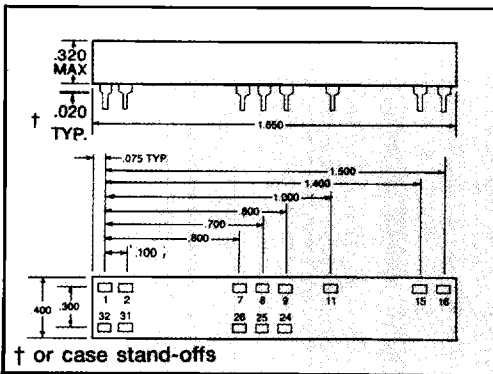
- Low propagation delay
- Input & output ECL buffered
- 4-BIT programmable delay line
- Output same polarity of input
- Completely interfaced
- Compact & low profile

Specifications:

- Delay variation: Monotonic in one direction.
- Programmed delay tolerance: $\pm 5\%$ or 1 ns whichever is greater.
- Inherent delay (T_0): 5.5 ns \pm 1 ns for PDU-1016H-1 thru -5. Greater for rest of part numbers.
- Propagation delay:
 - Address to output (T_{SUA}) = 3.6 ns typ.
 - Enable to output (T_{SUE}) = 1.7 ns typ.
- Power dissipation: 615 mw typ.
- Supply voltage: ± 5 Vdc $\pm 5\%$.
- Operating Temperature: 0-70 C.
- Temperature Coefficient: 100 PPM/ C.
- DC parameters: See ECL-10KH Logic Table on Page 6.

Test Conditions

- Input pulse-width: $\geq 150\%$ of Max. delay.
- Input pulse spacing: ≥ 3 times of Max. delay.
- Input pulse voltage: ECL logic.
- Measurements taken @ $T_a = 25^\circ\text{C}$, $V_{EE} = -5\text{V}$.



TRUTH TABLE

Enable (E ₀)	Address (Bit No.)				Delay Out
	4	3	2	1	
0	0	0	0	0	T ₀
0	0	0	0	1	T ₁
0	0	0	1	0	T ₂
0	0	0	1	1	T ₃
0	0	1	0	0	T ₄
0	0	1	0	1	T ₅
0	0	1	1	0	T ₆
0	0	1	1	1	T ₇
0	1	0	0	0	T ₈
0	1	0	0	1	T ₉
0	1	0	1	0	T ₁₀
0	1	0	1	1	T ₁₁
0	1	1	0	0	T ₁₂
0	1	1	0	1	T ₁₃
0	1	1	1	0	T ₁₄
0	1	1	1	1	T ₁₅
1	0	0	0	0	T ₀

Part No.	Incremental Delay Per Step (ns)	Total Programmed Delay (ns)
PDU-1016H-5	5 \pm .3	7.5
PDU-1016H-1	1 \pm .5	15
PDU-1016H-2	2 \pm .5	30
PDU-1016H-3	3 \pm 1.0	45
PDU-1016H-4	4 \pm 1.0	60
PDU-1016H-5	5 \pm 1.0	75
PDU-1016H-6	6 \pm 1.0	90
PDU-1016H-8	8 \pm 1.0	120
PDU-1016H-10	10 \pm 1.5	150
PDU-1016H-12	12 \pm 1.5	180
PDU-1016H-15	15 \pm 1.5	225
PDU-1016H-20	20 \pm 2.0	300
PDU-1016H-25	25 \pm 2.5	375
PDU-1016H-30	30 \pm 3.0	450
PDU-1016H-35	35 \pm 3.5	525
PDU-1016H-40	40 \pm 4.0	600
PDU-1016H-45	45 \pm 4.5	675
PDU-1016H-50	50 \pm 5.0	750
PDU-1016H-60	60 \pm 6.0	900
PDU-1016H-80	80 \pm 8.0	1,200
PDU-1016H-100	100 \pm 10.0	1,500

0 = Logic 0 1 = Logic 1 0 = Don't care.
 T₀ = Reference or inherent delay of unit.
 T₁ → T₁₅ = Multiplier of incremental delay.