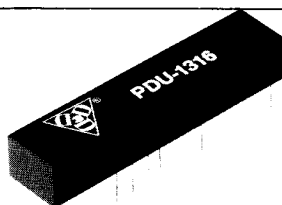


Digitally Programmable Delay Units

SERIES: PDU-1316
(4-Bit) TTL Interfaced

**data
delay
devices, inc.**



Features:

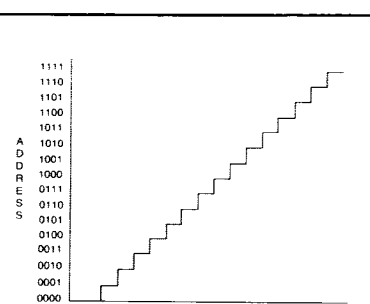
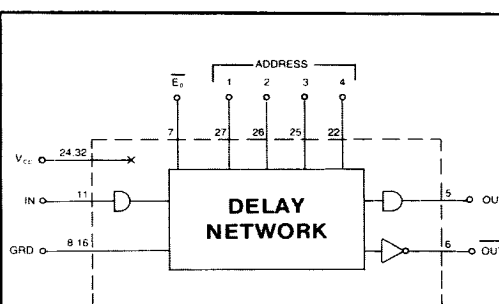
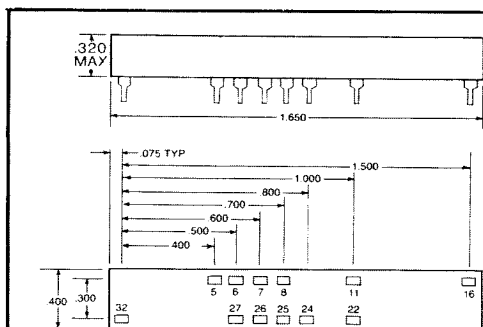
- Input & output TTL buffered
- 4-BIT TTL programmable delay line
- Two (2) separate outputs; inverting & non-inverting
- Completely interfaced
- Compact & low profile

Specifications:

- Input signal requirement: TTL logic
- Output fan-out: TTL schottky loads
- Delay variation: Monotonic in one direction
- Programmed delay tolerance: $\pm 5\%$ or 1 NS whichever is greater
- Inherent delay (T_{00}):
 - 19 NS = 1 NS on pin 5.
 - 15 NS = 1 NS on pin 6. } for PDU-1316-1 thru -10
 - greater for rest of Part Numbers.
- Propagation Delay:
 - Address to output (T_{SUA}) = 12 NS typ.
 - Enable to output (T_{SUE}) = 12 NS typ.
- Power dissipation: 740 MW Max.
- Supply voltage: 5 Vdc $\pm 5\%$.
- Operating temperature: 0-70°C
- Temperature Coefficient: 100 PPM/°C

Test Conditions:

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



TRUTH TABLE

Enable ($\bar{E}_0$)	Address				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	0

0 - Logic 0 1 - Logic 1 0 - Don't care.

T_0 - Reference or inherent delay of unit.

$T_1 \rightarrow T_{15}$ Multiplier of incremental delay.

Part No.	Incremental Delay Per Step	Total Programmed Delay NS
PDU-1316-5	.5 NS $\pm$.3 NS	7.5
PDU-1316-1	1 NS $\pm$.5 NS	15.0
PDU-1316-2	2 NS $\pm$.5 NS	30.0
PDU-1316-3	3 NS $\pm$ 1.0 NS	45.0
PDU-1316-4	4 NS $\pm$ 1.0 NS	60.0
PDU-1316-5	5 NS $\pm$ 1.0 NS	75.0
PDU-1316-6	6 NS $\pm$ 1.0 NS	90.0
PDU-1316-8	8 NS $\pm$ 1.0 NS	120.0
PDU-1316-10	10 NS $\pm$ 1.5 NS	150.0
PDU-1316-12	12 NS $\pm$ 1.5 NS	180.0
PDU-1316-15	15 NS $\pm$ 1.5 NS	225.0
PDU-1316-20	20 NS $\pm$ 2.0 NS	300.0
PDU-1316-25	25 NS $\pm$ 2.5 NS	375.0
PDU-1316-30	30 NS $\pm$ 3.0 NS	450.0
PDU-1316-35	35 NS $\pm$ 3.5 NS	525.0
PDU-1316-40	40 NS $\pm$ 4.0 NS	600.0
PDU-1316-45	45 NS $\pm$ 4.5 NS	675.0
PDU-1316-50	50 NS $\pm$ 5.0 NS	750.0
PDU-1316-60	60 NS $\pm$ 6.0 NS	900.0
PDU-1316-80	80 NS $\pm$ 8.0 NS	1,200.0
PDU-1316-100	100 NS $\pm$ 10.0 NS	1,500.0

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