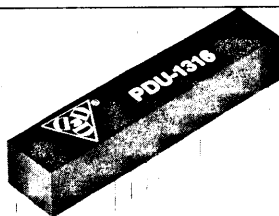


Digitally Programmable Delay Units

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

data delay devices, inc.



Features:

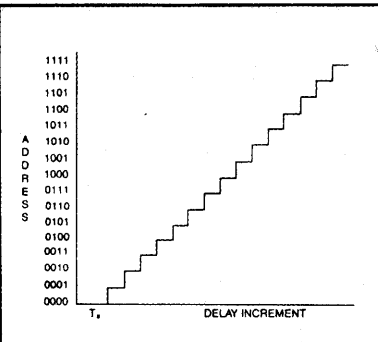
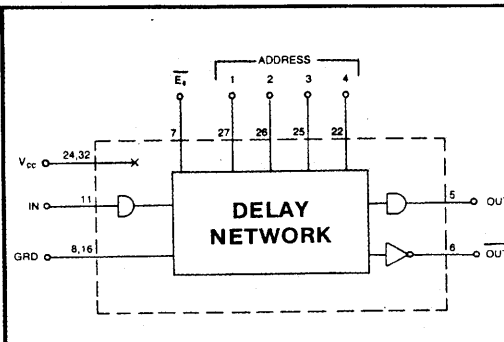
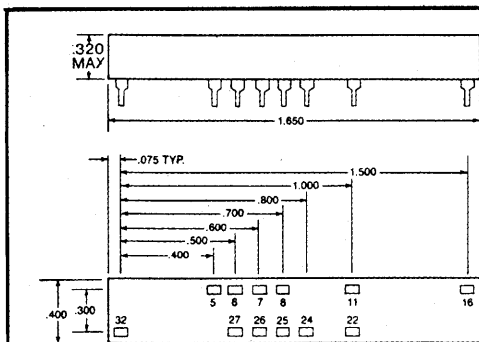
- Input & output TTL buffered
- 4-BIT TTL programmable delay line
- Two (2) separate outputs; inverting & non-inverting
- Completely interfaced
- Compact & low profile

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_{D0}):
 - 19 ns $\pm$ 1 ns on pin 5
 - 15 ns $\pm$ 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 @ $T_a = 25^\circ\text{C}$; $V_{CC} = 5V$.



TRUTH TABLE

Enable (E0)	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	$\emptyset$	$\emptyset$	$\emptyset$	$\emptyset$	0

0 = Logic 0 1 = Logic 1 $\emptyset$ = 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 (ns)	Total Programmed Delay (ns)
PDU-1316-5	.5 $\pm$.3	7.5
PDU-1316-1	1 $\pm$.5	15.0
PDU-1316-2	2 $\pm$.5	30.0
PDU-1316-3	3 $\pm$ 1.0	45.0
PDU-1316-4	4 $\pm$ 1.0	60.0
PDU-1316-5	5 $\pm$ 1.0	75.0
PDU-1316-6	6 $\pm$ 1.0	90.0
PDU-1316-8	8 $\pm$ 1.0	120.0
PDU-1316-10	10 $\pm$ 1.5	150.0
PDU-1316-12	12 $\pm$ 1.5	180.0
PDU-1316-15	15 $\pm$ 1.5	225.0
PDU-1316-20	20 $\pm$ 2.0	300.0
PDU-1316-25	25 $\pm$ 2.5	375.0
PDU-1316-30	30 $\pm$ 3.0	450.0
PDU-1316-35	35 $\pm$ 3.5	525.0
PDU-1316-40	40 $\pm$ 4.0	600.0
PDU-1316-45	45 $\pm$ 4.5	675.0
PDU-1316-50	50 $\pm$ 5.0	750.0
PDU-1316-60	60 $\pm$ 6.0	900.0
PDU-1316-80	80 $\pm$ 8.0	1,200.0
PDU-1316-100	100 $\pm$ 10.0	1,500.0