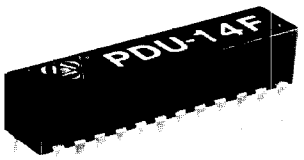
Fast Logic

Programmable Delay Units

SERIES: PDU-14F (4 Bit) TTL Interfaced

data delay devices, inc.



Features:

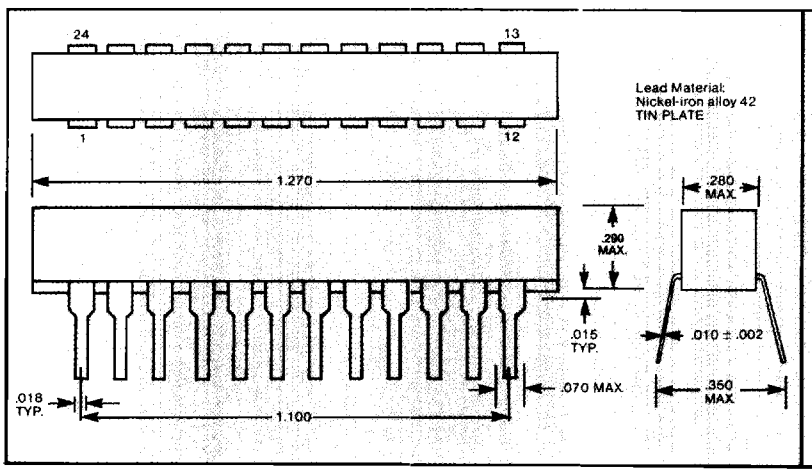
- **Input & Output TTL buffered**
- **4-Bit TTL programmable delay line**
- **Two (2) Separate outputs; inverting and non-inverting.**
- **Completely interfaced**
- **Compact & low profile**

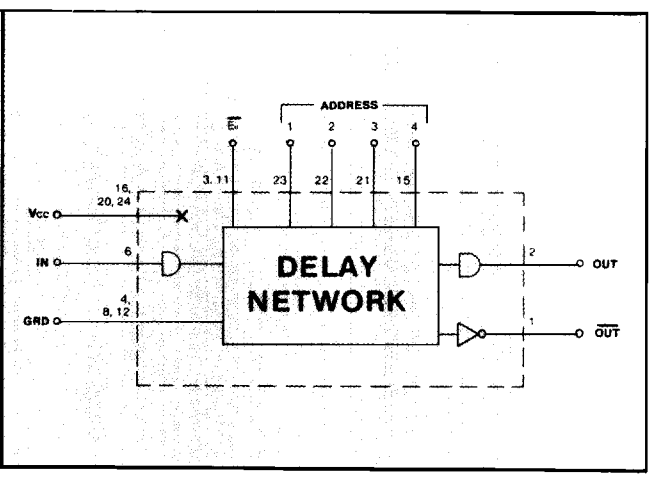
Specifications:

- **Delay variation:** Monotonic in one direction.
- **Programmed delay tolerance:** 5% or 1 ns whichever is greater.
- **Inherent delay (T_{DO}):** 9 ns on pin 2, 8 ns on pin 1 } typical
- **Propagation delay:**
  Address to output (T_{SUA}) 7 ns typ.
  Enable to output (T_{SUE}) 6 ns typ.
- **Supply voltage:** 5 Vdc ± 5%.
- **Operating temperature:** 0-70 °C.
- **Temperature coefficient:** 100 PPM/ °C.
- **DC parameters:** See TTL-Fast Schottky Logic Table on Page 6.
- **Supply current:** I_{CCH} = 74 ma. I_{CCL} = 30 ma.
- **Minimum pulse-width** = 10% of total delay.

Test Conditions:

- **Input pulse-width:** 150% of Max. delay.
- **Input pulse spacing:** 3 times of Max. delay.
- **Input pulse voltage:** TTL logic.
- **Measurements taken** @ T_a 25 C; Vcc 5V.





TRUTH TABLE

Enable (E_0)	Address 4	3	2	1	Delay Out
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	Φ	Φ	Φ	Φ	0

0 Logic 0 1 Logic 1 Φ 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-14F-.5	.5 ± .3	7.5
PDU-14F-1	1 ± .5	15
PDU-14F-2	2 ± .5	30
PDU-14F-3	3 ± 1.0	45
PDU-14F-4	4 ± 1.0	60
PDU-14F-5	5 ± 1.0	75
PDU-14F-6	6 ± 1.0	90
PDU-14F-8	8 ± 1.0	120
PDU-14F-10	10 ± 1.5	150
PDU-14F-12	12 ± 1.5	180
PDU-14F-15	15 ± 1.5	225
PDU-14F-20	20 ± 2.0	300
PDU-14F-25	25 ± 2.5	375
PDU-14F-30	30 ± 3.0	450
PDU-14F-35	35 ± 3.5	525
PDU-14F-40	40 ± 4.0	600
PDU-14F-45	45 ± 4.5	675
PDU-14F-50	50 ± 5.0	750
PDU-14F-60	60 ± 6.0	900
PDU-14F-80	80 ± 8.0	1,200
PDU-14F-100	100 ± 10.0	1,500

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