Digitally Programmable Delay Lines

SERIES: PDU-2600 (DIP)
PDU-2600S (SMD)

High Accuracy[1]
Frequency Compensated[1]
[1]See Application Notes 1 & 2

data delay devices, inc. ®

Test Conditions (for F$_\phi$, F$_1$ = Logic ϕ)
- Input pulse-width:
  > 150% of max. delay.
- Input pulse spacing:
  > 3 times of max. delay.
- Input pulse voltage:
  TTL logic.
- Measurements taken @
  Ta = 25°C; Vcc = 5V.

Features:
- Guaranteed delay increments throughout range.
- Guaranteed programmed delay throughout range.
- Up to 3 separate frequencies compensated (customer specified).
- 6-Bit programmable delay.
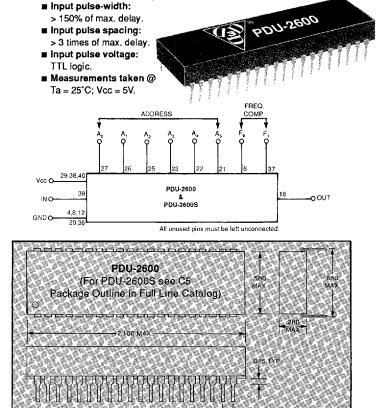- Fast-TTL interfaced.
- 40 pins DIP & SMD package.

Specifications:
- **Delay variation:** Monotonic
- **Programmed delay tolerance:** See Table 1.
- **Increment delay tolerance:** See Table 1.
- **Propagation delay:**
  Address to output (T$_{SUA}$) = 7 ns typ.
- **Supply voltage:** 5 Vdc ± 5%.
- **Supply current:**
  I$_{CCH}$ = 65 ma.
  I$_{CCL}$ = 128 ma.
- **Operating temperature:** 0-70°C
  (−55° to +125°C on request).
- **Temperature coefficient:** 100 PPM/°C.
- **DC parameter:** See TTL-Fast Schottky Logic Table on Page 6.
- **Minimum input pulse-width:** 10% of total delay.

ADDRESS   FREQ. COMP.

A$_0$ A$_1$ A$_2$ A$_3$ A$_4$ A$_5$ F$_\phi$ F$_1$

27 26 25 23 22 21 5 37

Vcc o 29,38,40
IN o 39   PDU-2600 & PDU-2600S   18 o OUT
GND o 4,8,12
        20,36

All unused pins must be left unconnected.

PDU-2600
(For PDU-2600S see C5
Package Outline in Full Line Catalog)

TABLE 1

P/N DIP	Delay Increments (ns)	Total Programmed Delay (ns)	Operating Frequency (F$_\phi$, F$_1$ = Logic ϕ)	Customer Specified Max. Frequency
PDU-2600-.5	.5 ± .4	31.5 ± .5	DC – 10 MHZ	50 MHZ
PDU-2600-1	1 ± .4	63 ± .5	DC – 5 MHZ	40 MHZ
PDU-2600-2	2 ± .5	126 ± .5	DC – 2.5 MHZ	35 MHZ
PDU-2600-3	3 ± 1	189 ± 1	DC – 1.7 MHZ	25 MHZ
PDU-2600-4	4 ± 1	252 ± 1	DC – 1.2 MHZ	20 MHZ
PDU-2600-5	5 ± 1.5	315 ± 2	DC – 1.0 MHZ	15 MHZ
PDU-2600-6	6 ± 1.5	378 ± 2	DC – .88 MHZ	13 MHZ
PDU-2600-7	7 ± 1.5	441 ± 2	DC – .75 MHZ	11 MHZ
PDU-2600-8	8 ± 2	504 ± 2	DC – .70 MHZ	10 MHZ
PDU-2600-9	9 ± 3	567 ± 3	DC – .58 MHZ	9 MHZ
PDU-2600-10	10 ± 3	630 ± 3	DC – .53 MHZ	8 MHZ

A. Any frequency betwween **"Customer Specified Max. Frequency"** & **"Operating Frequency"** can be programmed with compensation to guarantee the delay tolerances. A maximum of 3 separate frequencies can be programmed in each unit.

B. Other increments available. Contact Engineering.

C. Customer programmed frequencies can be specified by completing the P/N as follows:

PDU-2600(S)   XXXX   Z XXXX
────────   ──────   ──────────
SERIES   STEP DELAY   HOUSE ASSIGNED #
                             PER TABLE 2

TABLE 2

Customer Specified Frequency	Logic F$_\phi$	Level F$_1$
f$_1$	0	1
f$_2$	1	0
f$_3$	1	1

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