

hytek**HY5203**

T-47-17

3 BIT PROGRAMMABLE TTL DIGITAL DELAY LINE (Hi-Rel Package)

FEATURES

- DIGITALLY PROGRAMMABLE IN 8 DELAY STEPS
- STABLE AND PRECISE DELAYS
- TTL SCHOTTKY BUFFERED INPUTS AND OUTPUTS
- HERMETICALLY SEALED METAL PACKAGE
- LOW PROFILE 16-PIN DIP
- CUSTOMS ALSO AVAILABLE

SPECIFICATIONS

INPUT TEST CONDITIONS:

- SUPPLY VOLTAGE (V_{CC}) 5.0 V_{DC}
- PULSE VOLTAGE Logic 1 = 3.3 Volts
Logic 0 = 0.0 Volts
- RISE TIME 3.0 nSec max.
- PULSE WIDTH 2.5 x max. delay
- DUTY CYCLE 50% max.

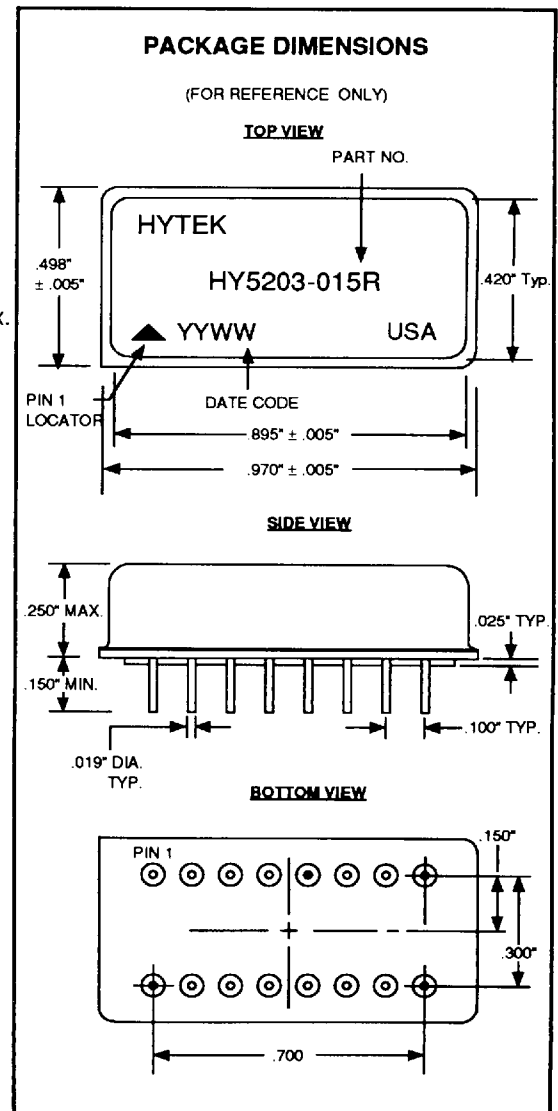
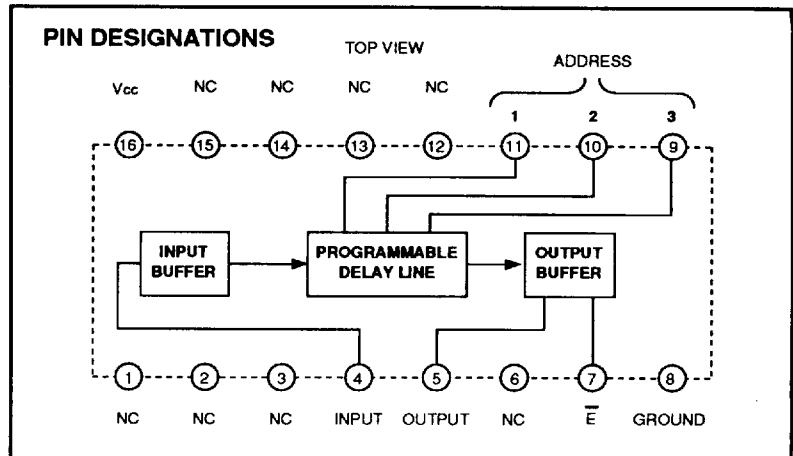
DRIVE CAPABILITIES:

- LOGIC 0 10 TTL Schottky loads/tap max.
20 TTL Schottky loads/unit max. (20 mA max.)
- LOGIC 1 20 TTL Schottky loads/tap and unit max. (-1 mA max.)

OPERATING CHARACTERISTICS:

- OUTPUT RISE TIME (t_{ro}) 4 nSec. max. (measured from 0.75V to 2.4V)
- TOTAL DELAY TOLERANCE ± 2 nSec. or $\pm 5\%$ whichever is greater.
- SUPPLY CURRENT 100 mA max.
- SUPPLY VOLTAGE (V_{CC}) 4.75 to 5.25 V_{DC}
- LOGIC 1 INPUT CURRENT 50 μ A @ $V_{CC} = 5.25$ V and $V_{IH} = 2.7$ V
- LOGIC 0 INPUT CURRENT -2 mA max. @ $V_{CC} = 5.25$ V and $V_{IL} = 0.5$ V
- LOGIC 1 OUTPUT VOLTAGE 2.7V min., 3.4 V typical
- LOGIC 0 OUTPUT VOLTAGE 0.5V max.
- LOGIC 1 INPUT VOLTAGE 2V min. TO 5.25V max.
- LOGIC 0 INPUT VOLTAGE 0.8 V max.
- SHORT CIRCUIT OUTPUT CURRENT -40 mA min. to -100 mA max.
 $V_{CC} = 5.25$ V, one output shorted for max. 1 Sec. duration
- OPERATING TEMPERATURE 0° C to 70° C
(optional -55° C to +125° C)
- STORAGE TEMPERATURE -55° C to 150° C
- HERMETICITY leak rate $< 10^{-6}$ ATM. CC/S

Specifications Subject to Change Without Notice.



HY5203**DELAYED OUTPUT CHARACTERISTICS TRUTH TABLE**

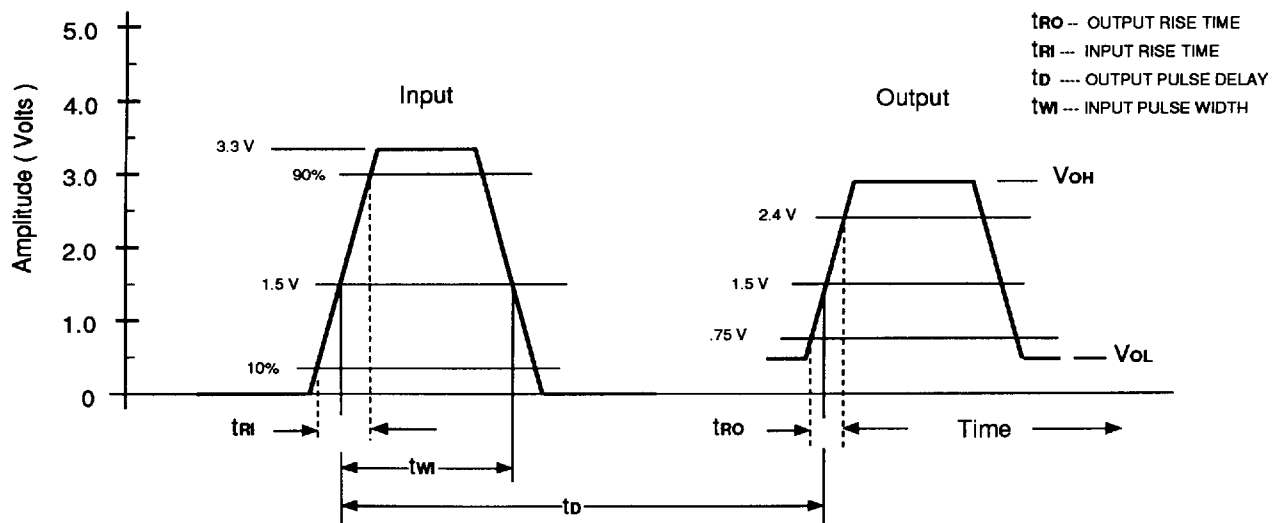
Enable ($\bar{E}$)	Address			Delay at Each Output (t_D) nSec.			
	3	2	1	HY5203-015R	HY5203-022R	HY5203-029R	HY5203-043R
0	0	0	0	8	8	8	8
0	0	0	1	9	10	11	13
0	0	1	0	10	12	14	18
0	0	1	1	11	14	17	23
0	1	0	0	12	16	20	28
0	1	0	1	13	18	23	33
0	1	1	0	14	20	26	38
0	1	1	1	15	22	29	43
1	X	X	X	N.A.	N.A.	N.A.	N.A.

Part No.*	Min. Delay	Max. Delay (nom.)	Delay Change Per Step
HY5203-015R	8 nS $\pm$ 1	15 nS	1 nS $\pm$ 0.3
HY5203-022R	8 nS $\pm$ 1	22 nS	2 nS $\pm$ 0.4
HY5203-029R	8 nS $\pm$ 1	29 nS	3 nS $\pm$ 0.5
HY5203-043R	8 nS $\pm$ 1	43 nS	5 nS $\pm$ 0.5

* Suffix designates:

R = standard 0° C to 70° C operation

M = standard -55° C to +125° C operation

REFERENCE WAVEFORMS

2-15-93