

# hytek

**HY5100**

T-47-13

## 3 INPUT/3 OUTPUT DIGITAL DELAY LINE (Hi-Rel Package)

### FEATURES

- TTL SCHOTTKY BUFFERED INPUTS AND OUTPUTS
- HERMETICALLY SEALED METAL PACKAGE
- LOW PROFILE 14-PIN DIP
- HIGH MTBF
- CUSTOMS ALSO AVAILABLE

### SPECIFICATIONS

#### INPUT TEST CONDITIONS:

- SUPPLY VOLTAGE ( $V_{cc}$ ) 5.0 Vdc
- 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.

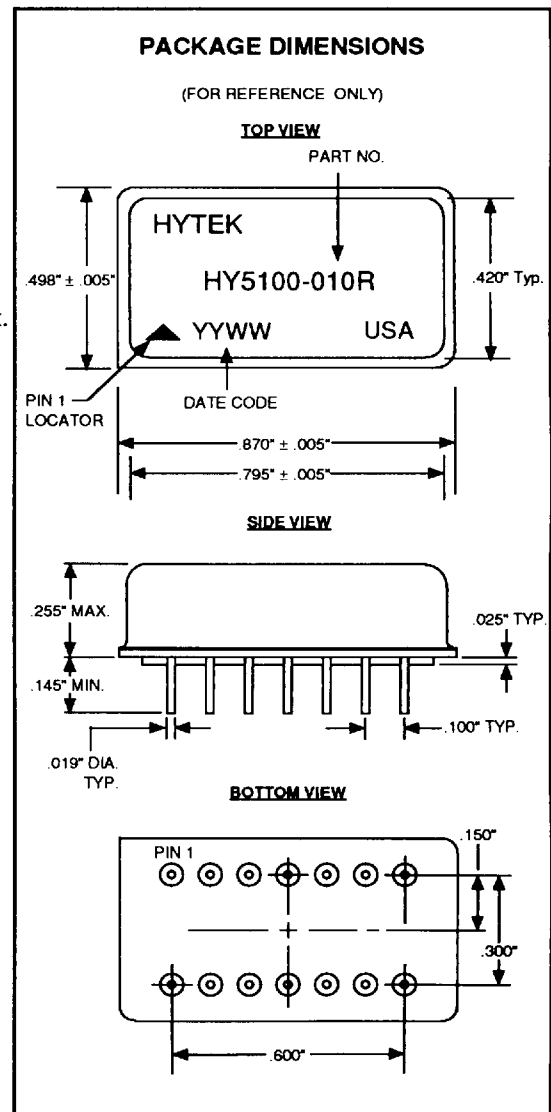
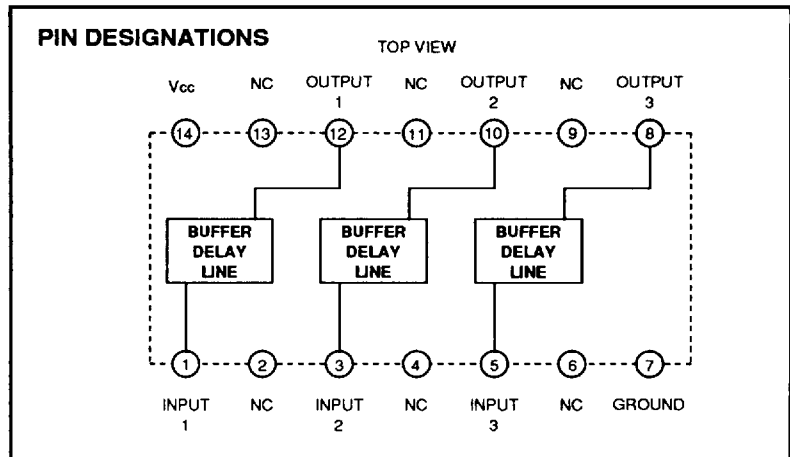
#### DRIVE CAPABILITIES:

- 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  $\pm 2$  nSec. or  $\pm 5\%$  whichever is greater.
- SUPPLY CURRENT 65 mA max., 45mA typical
- SUPPLY VOLTAGE ( $V_{cc}$ ) 4.75 to 5.25 Vdc
- LOGIC 1 INPUT CURRENT 50  $\mu$ 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
- STORAGE TEMPERATURE (optional -55° C to +125° C)
- HERMETICITY -55° C to 150° C  
leak rate  $< 10^{-6}$  ATM. CC/S

Specifications Subject to Change Without Notice.



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## DELAYED OUTPUT CHARACTERISTICS

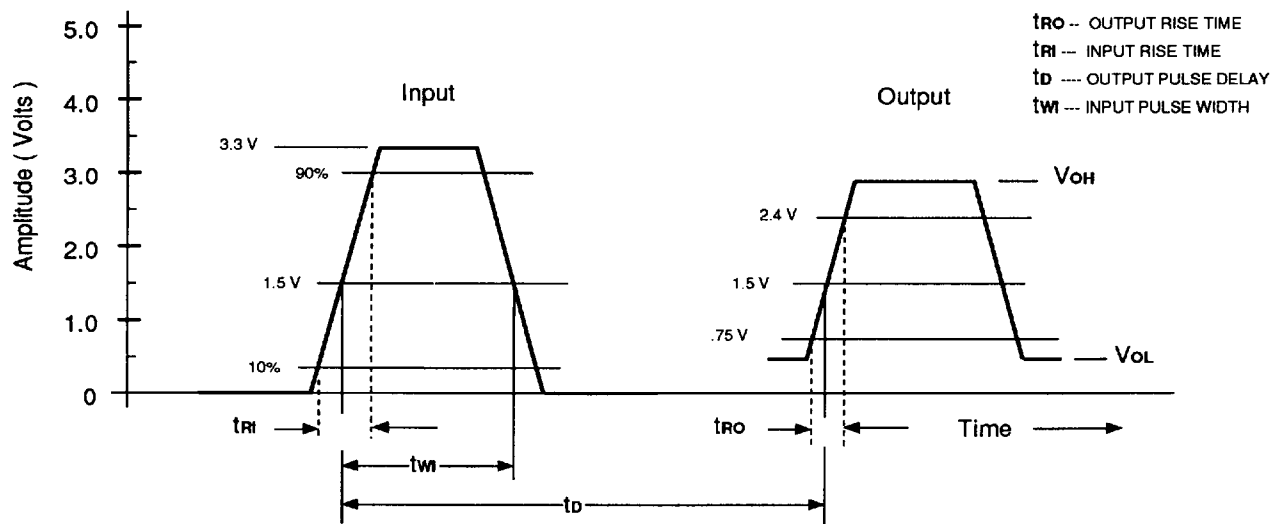
Hytek Part No.*	Delay at Each Output ( $t_D$ ) nSec.
HY5100-010R	10.0 $\pm$ 2 nS
HY5100-014R	12.0 $\pm$ 2 nS
HY5100-016R	14.0 $\pm$ 2 nS
HY5100-018R	16.0 $\pm$ 2 nS
HY5100-020R	18.0 $\pm$ 2nS
HY5100-025R	20.0 $\pm$ 2 nS
HY5100-030R	25.0 $\pm$ 2 nS
HY5100-035R	30.0 $\pm$ 2 nS
HY5100-040R	40.0 $\pm$ 5%
HY5100-045R	45.0 $\pm$ 5%
HY5100-050R	50.0 $\pm$ 5%

\* Suffix designates:

R = standard 0° C to 70° C operation

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

## REFERENCE WAVEFORMS



2-15-93

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