

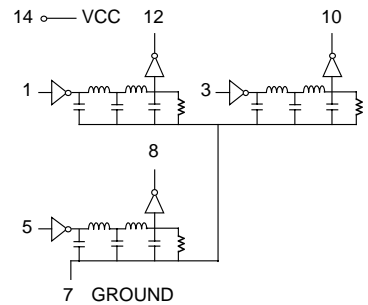
# 14 Pin DIP Triple TTL High Speed Delay Line

| DELAY TIME<br>±5% or 2nS† | PART<br>NUMBER | DELAY TIME<br>±5% or 2nS† | PART<br>NUMBER | DELAY TIME<br>±5% or 2nS† | PART<br>NUMBER |
|---------------------------|----------------|---------------------------|----------------|---------------------------|----------------|
| 5                         | EPA313-5       | 19                        | EPA313-19      | 65                        | EPA313-65      |
| 6                         | EPA313-6       | 20                        | EPA313-20      | 70                        | EPA313-70      |
| 7                         | EPA313-7       | 21                        | EPA313-21      | 75                        | EPA313-75      |
| 8                         | EPA313-8       | 22                        | EPA313-22      | 80                        | EPA313-80      |
| 9                         | EPA313-9       | 23                        | EPA313-23      | 85                        | EPA313-85      |
| 10                        | EPA313-10      | 24                        | EPA313-24      | 90                        | EPA313-90      |
| 11                        | EPA313-11      | 25                        | EPA313-25      | 95                        | EPA313-95      |
| 12                        | EPA313-12      | 30                        | EPA313-30      | 100                       | EPA313-100     |
| 13                        | EPA313-13      | 35                        | EPA313-35      | 125                       | EPA313-125     |
| 14                        | EPA313-14      | 40                        | EPA313-40      | 150                       | EPA313-150     |
| 15                        | EPA313-15      | 45                        | EPA313-45      | 175                       | EPA313-175     |
| 16                        | EPA313-16      | 50                        | EPA313-50      | 200                       | EPA313-200     |
| 17                        | EPA313-17      | 55                        | EPA313-55      | 225                       | EPA313-225     |
| 18                        | EPA313-18      | 60                        | EPA313-60      | 250                       | EPA313-250     |

† Whichever is greater. Delay Times referenced from input to leading edges at 25°C, 5.0V, with no load.

| DC Electrical Characteristics |                              | Test Conditions   | Min | Max         | Unit |
|-------------------------------|------------------------------|---|-----|-------------|------|
| V <sub>OH</sub>               | High-Level Output Voltage    | V <sub>CC</sub> = min. V <sub>IL</sub> = max. I <sub>OH</sub> = max | 2.7 |             | V    |
| V <sub>OL</sub>               | Low-Level Output Voltage     | V <sub>CC</sub> = min. V <sub>IH</sub> = min. I <sub>OL</sub> = max |     | 0.5         | V    |
| V <sub>IK</sub>               | Input Clamp Voltage          | V <sub>CC</sub> = min. I <sub>I</sub> = I <sub>IK</sub>             |     | -1.2V       | V    |
| I <sub>IH</sub>               | High-Level Input Current     | V <sub>CC</sub> = max. V <sub>IN</sub> = 2.7V                       |     | 50          | µA   |
|                               |                              | V <sub>CC</sub> = max. V <sub>IN</sub> = 5.25V                      |     | 1.0         | mA   |
| I <sub>IL</sub>               | Low-Level Input Current      | V <sub>CC</sub> = max. V <sub>IN</sub> = 0.5V                       |     | -2          | mA   |
| I <sub>OS</sub>               | Short Circuit Output Current | V <sub>CC</sub> = max. V <sub>OUT</sub> = 0.                        | -40 | -100        | mA   |
|                               |                              | (One output at a time)  |     |             |      |
| I <sub>CC</sub> H             | High-Level Supply Current    | V <sub>CC</sub> = max. V <sub>IN</sub> = OPEN                       |     | 115         | mA   |
| I <sub>CC</sub> L             | Low-Level Supply Current     | V <sub>CC</sub> = max. V <sub>IN</sub> = 0                          |     | 115         | mA   |
| T <sub>RO</sub>               | Output Rise Time             | T <sub>d</sub> ≤ 500 nS (0.75 to 2.4 Volts)                         |     | 4           | nS   |
| N <sub>H</sub>                | Fanout High-Level Output     | V <sub>CC</sub> = max. V <sub>OH</sub> = 2.7V                       |     | 20 TTL LOAD |      |
| N <sub>L</sub>                | Fanout Low-Level Output      | V <sub>CC</sub> = max. V <sub>OL</sub> = 0.5V                       |     | 10 TTL LOAD |      |

## Schematic



| Recommended Operating Conditions |                                | Min  | Max  | Unit |
|----------------------------------|--------------------------------|------|------|------|
| V <sub>CC</sub>                  | Supply Voltage                 | 4.75 | 5.25 | V    |
| V <sub>IH</sub>                  | High-Level Input Voltage       | 2.0  |      | V    |
| V <sub>IL</sub>                  | Low-Level Input Voltage        |      | 0.8  | V    |
| I <sub>IK</sub>                  | Input Clamp Current            |      | -18  | mA   |
| I <sub>OH</sub>                  | High-Level Output Current      |      | -1.0 | mA   |
| I <sub>OL</sub>                  | Low-Level Output Current       |      | 20   | mA   |
| PW*                              | Pulse Width of Total Delay     | 40   |      | %    |
| d*                               | Duty Cycle                     |      | 40   | %    |
| T <sub>A</sub>                   | Operating Free-Air Temperature | 0    | +70  | °C   |

\*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25° C |   | Unit      |
|-------------------------------------|---|-----------|
| E <sub>IN</sub>                     | Pulse Input Voltage                             | 3.2 Volts |
| PW                                  | Pulse Width % of Total Delay                    | 110 %     |
| T <sub>RI</sub>                     | Pulse Rise Time (0.75 - 2.4 Volts)              | 2.0 nS    |
| PRR                                 | Pulse Repetition Rate @ T <sub>d</sub> ≤ 200 nS | 1.0 MHz   |
|                                     | Pulse Repetition Rate @ T <sub>d</sub> > 200 nS | 100 KHz   |
| V <sub>CC</sub>                     | Supply Voltage                                  | 5.0 Volts |

## Package Dimensions

