

# 14 Pin DIP 5 Tap Fast-TTL Logic Compatible Active Delay Lines

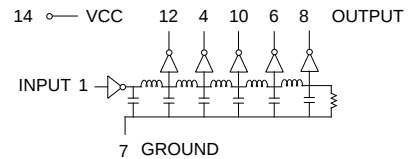
| TAP DELAYS<br>±5% or ±2 nS† | TOTAL DELAYS<br>±5% or ±2 nS† | PART<br>NUMBER | TAP DELAYS<br>±5% or ±2 nS† | TOTAL DELAYS<br>±5% or ±2 nS† | PART<br>NUMBER |
|-----------------------------|-------------------------------|----------------|-----------------------------|-------------------------------|----------------|
| *3±1, 1±.5, 2±.5, 3±.5      | 4                             | EPA1145-4      | 35, 70, 105, 140            | 175                           | EPA1145-175    |
| *3±1, 1.5±.5, 3±.5, 4.5±.5  | 6                             | EPA1145-6      | 40, 80, 120, 160            | 200                           | EPA1145-200    |
| *3±1, 2±.5, 4±.5, 6±.5      | 8                             | EPA1145-8      | 45, 90, 135, 180            | 225                           | EPA1145-225    |
| *3±1, 6±1.5, 9, 12          | 15                            | EPA1145-15     | 50, 100, 150, 200           | 250                           | EPA1145-250    |
| 4, 8, 12, 16                | 20                            | EPA1145-20     | 60, 120, 180, 240           | 300                           | EPA1145-300    |
| 5, 10, 15, 20               | 25                            | EPA1145-25     | 70, 140, 210, 280           | 350                           | EPA1145-350    |
| 6, 12, 18, 24               | 30                            | EPA1145-30     | 80, 160, 240, 320           | 400                           | EPA1145-400    |
| 8, 16, 24, 32               | 40                            | EPA1145-40     | 90, 180, 270, 360           | 450                           | EPA1145-450    |
| 10, 20, 30, 40              | 50                            | EPA1145-50     | 100, 200, 300, 400          | 500                           | EPA1145-500    |
| 12, 24, 36, 48              | 60                            | EPA1145-60     | 120, 240, 360, 480          | 600                           | EPA1145-600    |
| 15, 30, 45, 60              | 75                            | EPA1145-75     | 140, 280, 420, 560          | 700                           | EPA1145-700    |
| 20, 40, 60, 80              | 100                           | EPA1145-100    | 160, 320, 480, 640          | 800                           | EPA1145-800    |
| 25, 50, 75, 100             | 125                           | EPA1145-125    | 180, 360, 540, 720          | 900                           | EPA1145-900    |
| 30, 60, 90, 120             | 150                           | EPA1145-150    | 200, 400, 600, 800          | 1000                          | EPA1145-1000   |

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

\* First tap is inherent delay (3 ± 1 nS), all other taps are measured referenced from first tap.

| DC Electrical Characteristics |                              |                                                                     |      |          |  |
|-------------------------------|------------------------------|---------------------------------------------------------------------|------|----------|--|
| Parameter                     | 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>             | -1.2 | V        |  |
| I <sub>IH</sub>               | High-Level Input Current     | V <sub>CC</sub> = max. V <sub>IN</sub> = 2.7V                       | 50   | µA       |  |
| I <sub>IL</sub>               | Low-Level Input Current      | V <sub>CC</sub> = max. V <sub>IN</sub> = 5.25V                      | 1.0  | mA       |  |
| I <sub>OS</sub>               | Short Circuit Output Current | V <sub>CC</sub> = max. V <sub>IN</sub> = 0.5V                       | -0.6 | mA       |  |
| I <sub>CC</sub>               | High-Level Supply Current    | V <sub>CC</sub> = max. V <sub>IN</sub> = 0.5V                       | -150 | mA       |  |
| I <sub>CL</sub>               | Low-Level Supply Current     | V <sub>CC</sub> = max. V <sub>OUT</sub> = 0.                        |      |          |  |
| T <sub>RO</sub>               | Output Rise Time             | (One output at a time)                                              |      |          |  |
| N <sub>H</sub>                | Fanout High-Level Output     | V <sub>CC</sub> = max. V <sub>IN</sub> = OPEN                       | 15   | mA       |  |
| N <sub>L</sub>                | Fanout Low-Level Output      | V <sub>CC</sub> = max. V <sub>IN</sub> = 0                          | 50   | mA       |  |
|                               |                              | Td ≤ 500 nS (0.75 to 2.4 Volts)                                     | 3    | nS       |  |
|                               |                              | Td > 500 nS                                                         | 3    | nS       |  |
|                               |                              | V <sub>CC</sub> = max. V <sub>OH</sub> = 2.7V                       | 20   | TTL LOAD |  |
|                               |                              | 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 | -55  | +125 | °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    |
| P <sub>RR</sub>                     | Pulse Repetition Rate @ Td ≤ 200 nS | 1.0 | MHz   |
|                                     | Pulse Repetition Rate @ Td > 200 nS | 100 | KHz   |
| V <sub>CC</sub>                     | Supply Voltage                      | 5.0 | Volts |

## Package Dimensions

