

# SERIES EL515 ECL (10K COMPATIBLE) PROGRAMMABLE LOGIC DELAY MODULES (3-BIT)

- Digitally Programmable in 8 Delay Steps • 16 Pin DIP Package
- ECL Input and Output Levels • 70 ECL DC Fan-out Capacity

T-47-17

## Specifications:

- Supply Voltage : -5.2VDC to Vee
- Logic 1 Input Voltage : -0.98v Min
- Logic 1 Input Current : 265 $\mu$ A Max
- Logic 0 Input Voltage : -1.63v Max
- Logic 0 Input Current : 0.5 $\mu$ A Min
- Logic 1 Output : -0.96v Min
- Logic 0 Output : -1.65v Max
- Output Rise Time<sup>(2)</sup> : 5NSEC Typ.
- Operating Temperature : 30°C to 85°C
- Storage Temperature : -55°C to +125°C
- Temperature Coefficient : 100 PPM/°C
- Power Dissipation : -290mW Typ. (No load)

## Test Conditions:

- Input Pulse-Width : 150% of Total Delay
- Input Pulse Rise Time : 2NSEC Max
- Input Pulse Voltage : 1.0v (-0.75vH to -1.75vL)
- Vee Supply Voltage : -5.2VDC

## Truth Table

| Enable<br>Eo | Address Bit No. |   |   | Total<br>Delay |
|--------------|-----------------|---|---|----------------|
|              | 3               | 2 | 1 |                |
| 0            | 0               | 0 | 0 | 1D             |
| 0            | 0               | 0 | 1 | 1D+T           |
| 0            | 0               | 1 | 0 | 1D+2T          |
| 0            | 0               | 1 | 1 | 1D+3T          |
| 0            | 1               | 0 | 0 | 1D+4T          |
| 0            | 1               | 0 | 1 | 1D+5T          |
| 0            | 1               | 1 | 0 | 1D+6T          |
| 0            | 1               | 1 | 1 | 1D+7T          |

1 = High 0 = Low

When Eo is 1, no output

1D = Inherent Delay 3 $\pm$ 0.3T = Multiplier of Incremental Delay  
(Delay change per step)

## Electrical Specification at 25°C

| Part Number | Inherent Delay Time (NS) (1) | Incremental Delay Per Step (NS) (1) | Max Delay Time (NS) (1) |
|-------------|------------------------------|-------------------------------------|-------------------------|
| EL515-3-0.5 | 3 $\pm$ 1                    | 0.5 $\pm$ 0.2                       | 6.5 $\pm$ 0.5           |
| EL515-3-1   | 3 $\pm$ 1                    | 1 $\pm$ 0.3                         | 10 $\pm$ 0.5            |
| EL515-3-2   | 3 $\pm$ 1                    | 2 $\pm$ 0.4                         | 17 $\pm$ 0.7            |
| EL515-3-3   | 3 $\pm$ 1                    | 3 $\pm$ 0.5                         | 24 $\pm$ 1              |
| EL515-3-4   | 3 $\pm$ 1                    | 4 $\pm$ 0.5                         | 31 $\pm$ 1              |
| EL515-3-5   | 3 $\pm$ 1                    | 5 $\pm$ 0.5                         | 38 $\pm$ 1.2            |
| EL515-3-6   | 3 $\pm$ 1                    | 6 $\pm$ 0.6                         | 45 $\pm$ 1.2            |
| EL515-3-7   | 3 $\pm$ 1                    | 7 $\pm$ 0.7                         | 52 $\pm$ 2              |
| EL515-3-8   | 3 $\pm$ 1                    | 8 $\pm$ 0.8                         | 59 $\pm$ 2              |
| EL515-3-9   | 3 $\pm$ 1                    | 9 $\pm$ 0.9                         | 66 $\pm$ 2.5            |
| EL515-3-10  | 3 $\pm$ 1                    | 10 $\pm$ 1                          | 73 $\pm$ 2.5            |
| EL515-3-15  | 3 $\pm$ 1                    | 15 $\pm$ 1                          | 108 $\pm$ 3.5           |
| EL515-3-20  | 3 $\pm$ 1                    | 20 $\pm$ 1.5                        | 143 $\pm$ 5             |
| EL515-3-25  | 3 $\pm$ 1                    | 25 $\pm$ 1.5                        | 178 $\pm$ 6             |
| EL515-3-30  | 3 $\pm$ 1                    | 30 $\pm$ 2                          | 213 $\pm$ 6             |
| EL515-3-35  | 3 $\pm$ 1                    | 35 $\pm$ 2                          | 248 $\pm$ 7             |
| EL515-3-40  | 3 $\pm$ 1                    | 40 $\pm$ 2.5                        | 283 $\pm$ 8             |
| EL515-3-45  | 3 $\pm$ 1                    | 45 $\pm$ 2.5                        | 318 $\pm$ 9             |
| EL515-3-50  | 3 $\pm$ 1                    | 50 $\pm$ 2.5                        | 353 $\pm$ 10            |

Note: (1) Measured at -1.3v level leading edge.

(2) Measured from 20% to 80% Pulse Amplitude.

(3) Outputs terminated through 270 ohms to -5.2VDC.

