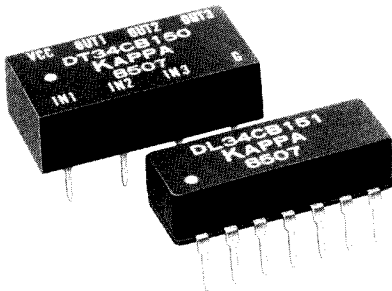


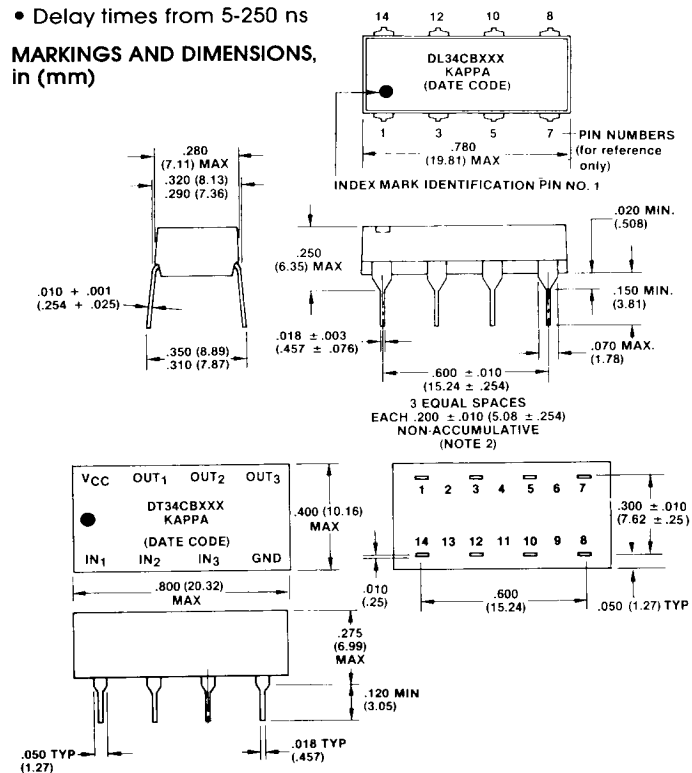
# TRIPLE DELAY LINES (14-PIN)



## FEATURES

- Available in auto-insertable (DL34) and standard (DT34) 14-Pin package
- Risetime: 4 ns max<sup>(5)(6)</sup>
- 3 independent equal delays
- TTL Schottky interfaced
- Delay times from 5-250 ns

## MARKINGS AND DIMENSIONS, in (mm)



### Marking and dimensions notes:

- A notch may be substituted for PIN #1 Dot Index.
- Each terminal is located within ±.010 of its nominal multiple of .100 along this longitudinal dimension relative to terminals 7 and 8.

## RECOMMENDED OPERATING CONDITIONS

|                                               | MIN  | TYP  | MAX  | UNIT |
|-----------------------------------------------|------|------|------|------|
| V <sub>CC</sub> Supply Voltage                | 4.75 | 5.00 | 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   |
| T <sub>A</sub> Operating Free-Air Temperature | 0    | +25  | +70  | °C   |

## DC ELECTRICAL CHARACTERISTICS

|                                              |                                                                     |
|----------------------------------------------|---------------------------------------------------------------------|
| V <sub>OH</sub> High-Level Output Voltage    | V <sub>CC</sub> = min, V <sub>IH</sub> = min, I <sub>OH</sub> = max |
| V <sub>OL</sub> Low-Level Output Voltage     | V <sub>CC</sub> = min, V <sub>IL</sub> = max, I <sub>OL</sub> = max |
| V <sub>IK</sub> Input Clamp Voltage          | V <sub>CC</sub> = min, I <sub>I</sub> = I <sub>IK</sub>             |
| I <sub>IH</sub> High-Level Input Current     | V <sub>CC</sub> = max, V <sub>IN</sub> = 2.7V                       |
|                                              | V <sub>CC</sub> = max, V <sub>IN</sub> = 5.25V                      |
| I <sub>IL</sub> Low-Level Input Current      | V <sub>CC</sub> = max, V <sub>IN</sub> = 0.5V                       |
| I <sub>OS</sub> Short Circuit Output Current | V <sub>CC</sub> = max, V <sub>OUT</sub> = 0, one output at a time   |
| I <sub>CCH</sub> High-Level Supply Current   | V <sub>CC</sub> = max, V <sub>IN</sub> = OPEN                       |
| I <sub>CCL</sub> Low-Level Supply Current    | V <sub>CC</sub> = max, V <sub>IN</sub> = 0                          |
| N <sub>H</sub> Fanout High-Level Output      | V <sub>CC</sub> = max, V <sub>OH</sub> = 2.7V                       |
| N <sub>L</sub> Fanout Low-Level Output       | V <sub>CC</sub> = max, V <sub>OL</sub> = 0.5V                       |

## TEST CONDITIONS

|                                                                     |     |     |      |          |
|---------------------------------------------------------------------|-----|-----|------|----------|
| V <sub>CC</sub> = min, V <sub>IH</sub> = min, I <sub>OH</sub> = max | 2.7 | 3.4 |      | V        |
| V <sub>CC</sub> = min, V <sub>IL</sub> = max, I <sub>OL</sub> = max |     |     | 0.5  | V        |
| V <sub>CC</sub> = min, I <sub>I</sub> = I <sub>IK</sub>             |     |     | -1.2 | V        |
| 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       |
| V <sub>CC</sub> = max, V <sub>IN</sub> = 0.5V                       |     |     | -2   | mA       |
| V <sub>CC</sub> = max, V <sub>OUT</sub> = 0, one output at a time   | -40 |     | -100 | mA       |
| V <sub>CC</sub> = max, V <sub>IN</sub> = OPEN                       |     |     | 90   | mA       |
| V <sub>CC</sub> = max, V <sub>IN</sub> = 0                          |     |     | 115  | mA       |
| V <sub>CC</sub> = max, V <sub>OH</sub> = 2.7V                       |     |     | 10   | TTL load |
| V <sub>CC</sub> = max, V <sub>OL</sub> = 0.5V                       |     |     | 10   | TTL load |

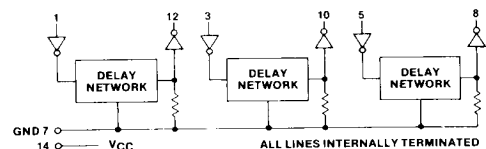
## INPUT PULSE TEST CONDITIONS

|                                            |     |      |     |    |
|--------------------------------------------|-----|------|-----|----|
| E <sub>IN</sub> Pulse Voltage              | 3.1 | 3.2  | 3.3 | V  |
| T <sub>RI</sub> Pulse Rise-Time            |     |      | 2.0 | ns |
| T <sub>W</sub> Pulse Width, of Total Delay | 100 |      |     | %  |
| d Duty Cycle                               |     | 33.3 | 50  | %  |

| PART NUMBER <sup>(7)</sup> | Total Delay (ns) <sup>(1) (2)</sup> |
|----------------------------|-------------------------------------|
| DL34/DT34CB250             | 25                                  |
| DL34/DT34CB500             | 50                                  |
| DL34/DT34CB750             | 75                                  |
| DL34/DT34CB101             | 100                                 |
| DL34/DT34CB251             | 250                                 |

## Notes:

- Delays measured at 1.5V level on leading edge only.
- Delay tolerances: ±5% or ±2 ns, whichever is greater, referenced from input and guaranteed only under the following test conditions: V<sub>CC</sub> = Typ, T<sub>A</sub> = Typ, E<sub>IN</sub> = Typ, T<sub>RI</sub> = max, T<sub>W</sub> = min, P<sub>RR</sub> = 1MHz (or d/tw, whichever is less), R<sub>L</sub> 1 megohm and C<sub>L</sub> 2pf.
- Temperature coefficient of delay will vary, depending upon total delay, according to the formula: T<sub>PTA</sub> = (100 + (25,000/T<sub>PLH</sub>)).
- Delay will inversely vary about 4% for every 5% change in supply voltage.
- Risetime measured from 0.75V to 2.4V level.
- Measured with no loads.
- Other delays also available upon request.



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