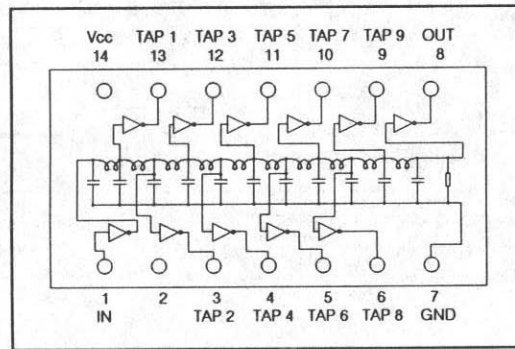


**DUAL - IN - LINE PACKAGE (TOP VIEW)**

- ☐ Schottky TTL compatible
- ☐ 10 equally spaced taps
- ☐ 14 pin package
- ☐ Low profile
- ☐ TTL compatible
- ☐ Auto insert or surface mount package styles

**description**

The 50A series of Digital Delay Modules are Schottky TTL buffered delay lines providing precise delay times and direct compatibility with TTL. Ten equally spaced fixed delay taps are packaged in a low profile 14 pin dual-in-line configuration. Internal termination of the delay line and compensation for propagation delays and thermal drift are incorporated in the design so that no additional external components are required. These modules are particularly suitable for high density board designs.

The 52A series is the auto insertable version.

The 52S series is the surface mount version which may be vapour phased at temperatures below 218C for durations of up to 2 minutes.

**absolute maximum ratings over operating free-air temperature range**

|                                                 |                      |
|-------------------------------------------------|----------------------|
| Supply voltage $V_{CC}$                         | .7V                  |
| Input voltage                                   | .5.5V                |
| Min. pulse width as % of total delay            | .40%                 |
| Input pulse repetition rate PRR                 | 3 x pulse width min. |
| Operating free-air temperature range            | .0C to 70C           |
| Storage temperature range                       | .-55C to 125C        |
| Temperature coefficient of delay                | .±500ppm/C           |
| Lead temperature 1.5mm from case for 10 seconds | .300C                |

**drive capabilities**

|                |                                                           |
|----------------|-----------------------------------------------------------|
| Logic 0 output | .10 TTL loads per tap max.<br>.20 TTL loads per unit max. |
| Logic 1 output | .20 TTL loads per unit max.                               |

**electrical specifications over operating free-air temperature range**

| PARAMETER                            | TEST CONDITIONS                                    | MIN | TYP | MAX | UNIT    |
|--------------------------------------|----------------------------------------------------|-----|-----|-----|---------|
| $V_{IH}$ High-level input voltage    |                                                    | 2   |     |     | V       |
| $V_{IL}$ Low-level input voltage     |                                                    |     |     | 0.8 | V       |
| $V_{OH}$ High-level output voltage   | $V_{IH} = 2V, I_{OH} = -1mA$<br>$V_{CC} = 4.75V$   | 2.7 | 3.4 |     | V       |
| $V_{OL}$ Low-level output voltage    | $V_{CC} = 4.75V$<br>$I_{OL} = 20mA, V_{IL} = 0.8V$ |     |     | 0.5 | V       |
| $I_{IH}$ High-level input current    | $V_{CC} = 5.25V, V_{IH} = 2.7V$                    |     |     | 50  | $\mu A$ |
| $I_{IL}$ Low-level input current     | $V_{CC} = 5.25V, V_{IL} = 0.5V$                    |     |     | -2  | mA      |
| $I_{CC}$ Supply current outputs high | $V_{CC} = 5.25V$                                   |     |     | 48  | mA      |
| $I_{CC}$ Supply current outputs low  | $V_{CC} = 5.25V$                                   |     |     | 108 | mA      |

**delay characteristics  $V_{cc} = 5V$ ,  $T_a = 25^\circ C$ , no load at taps, input pulse width 100% of total delay, input rise time 3ns.**

delay tolerance from input to tap  $\pm 2ns$  or  $\pm 5\%$  whichever is greater

**50A SERIES 10 Tap 14 Pin DIP  
Package style I**

| <b>PART No.<br/>(1)</b> | <b>TOTAL DELAY<br/>(ns)<br/><math>\pm 5\%</math></b> | <b>TAP TO TAP DELAY<br/>(ns)</b> | <b>OUTPUT RISE TIME<br/>(ns)</b> |
|-------------------------|------------------------------------------------------|----------------------------------|----------------------------------|
| 50A - 10250             | 25                                                   | $2.5 \pm 2$                      | 3                                |
| 50A - 10500             | 50                                                   | $5 \pm 2$                        | 3                                |
| 50A - 10750             | 75                                                   | $7.5 \pm 2$                      | 3                                |
| 50A - 10101             | 100                                                  | $10 \pm 2$                       | 3                                |
| 50A - 10151             | 150                                                  | $15 \pm 2$                       | 3                                |
| 50A - 10201             | 200                                                  | $20 \pm 2$                       | 4                                |
| 50A - 10251             | 250                                                  | $25 \pm 3$                       | 4                                |
| 50A - 10301             | 300                                                  | $30 \pm 3$                       | 4                                |
| 50A - 10351             | 350                                                  | $35 \pm 4$                       | 4                                |
| 50A - 10401             | 400                                                  | $40 \pm 4$                       | 4                                |
| 50A - 10451             | 450                                                  | $45 \pm 5$                       | 4                                |
| 50A - 10501             | 500                                                  | $50 \pm 5$                       | 4                                |

Note: Delays measured at 1.5V on leading edge, Rise Time measured from 0.75V to 2.4V

(1) Auto insert part No. starts with 52A package style C. Surface mount part No. starts with 52S package style D