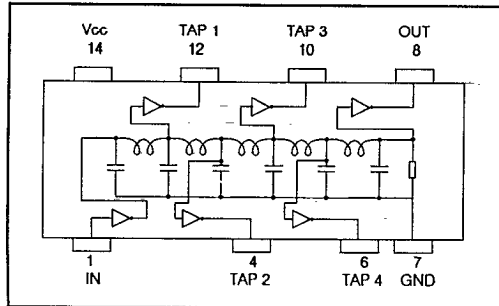


- Schottky TTL buffered
- 5 equally spaced taps
- 14 pin package
- Low profile
- TTL compatible
- Auto insert or surface mount package styles

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



**description**

The 42A series of Digital Delay Modules are Schottky TTL buffered delay lines providing precise delay times and direct compatibility with TTL. Five equally spaced fixed delay taps are mounted in a low profile 14 pin dual-in-line package. 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 42S 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	.80%
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	$\pm 300$ ppm/C
Lead temperature 1.5mm from case for 10 seconds	300C

**drive capabilities**

Logic 0 output	10 TTL loads per tap max. 20 TTL loads per unit max.
Logic 1 output	20 TTL loads per unit max.

**42A, 42S Series**  
**5 Tap 14 Pin DIL Package**

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

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>IH</sub> High-level input voltage		2			V
V <sub>IL</sub> Low-level input voltage				0.8	V
V <sub>OH</sub> High-level output voltage	V <sub>IH</sub> = 2V, I <sub>OH</sub> = -1mA V <sub>CC</sub> = 4.75V	2.7	3.4		V
V <sub>OL</sub> Low-level output voltage	V <sub>CC</sub> = 4.75V I <sub>OL</sub> = 20mA, V <sub>IL</sub> = 0.8V			0.5	V
I <sub>IH</sub> High-level input current	V <sub>CC</sub> = 5.25V, V <sub>IH</sub> = 2.7V			50	μA
I <sub>IL</sub> Low-level input current	V <sub>CC</sub> = 5.25V, V <sub>IL</sub> = 0.5V			-2	mA
I <sub>CC</sub> Supply current outputs high	V <sub>CC</sub> = 5.25V			24	mA
I <sub>CC</sub> Supply current outputs low	V <sub>CC</sub> = 5.25V			54	mA

**42A, 42S Series**  
**5 Tap 14 Pin DIL Package**

**delay characteristics Vcc = 5V, Ta = 25C, no load at taps, input test pulse width 100% of total delay, input rise time 3ns**

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

**42A SERIES 5 Tap 14 Pin DIP**  
**Package style C with pins 2, 3, 5, 9, 11 and 13 missing**

<b>PART No.</b> <b>(1)</b>	<b>TOTAL DELAY</b> <b>(ns)</b> <b><math>\pm 5\%</math> (2)</b>	<b>TAP TO TAP DELAY</b> <b>(ns)</b>	<b>OUTPUT RISE TIME</b> <b>(ns)</b>
42A - 5250 42A - 5500 42A - 5101	25 50 100	$5 \pm 2$ $10 \pm 2$ $20 \pm 2$	3 3 3
42A - 5151 42A - 5201 42A - 5251	150 200 250	$30 \pm 3$ $40 \pm 4$ $50 \pm 5$	4 4 4
42A - 5301 42A - 5351 42A - 5401	300 350 400	$60 \pm 6$ $70 \pm 7$ $80 \pm 8$	4 4 4
42A - 5451 42A - 5501	450 500	$90 \pm 9$ $100 \pm 10$	4 4

- (1) Surface mount part numbers start with 42S  
Package style D with pins 2, 3, 5, 9, 11 and 13 missing  
(2) or  $\pm 2\text{ns}$  whichever is greater

Note: Delays measured at 1.5V on leading edge, Rise Time measured from 0.7V to 2.4V.

