

5-TAP DIP DELAY LINE

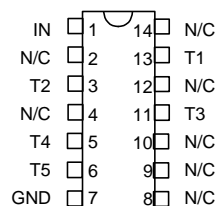
$T_D/T_R = 3$
(SERIES 1517)



FEATURES

- 5 taps of equal delay increment
- Delays as large as 300ns available
- Low DC resistance
- Standard 14-pin DIP package
- Epoxy encapsulated
- Meets or exceeds MIL-D-23859C

PACKAGES



1517-xxz

xx = Delay (T_D)

z = Impedance Code

FUNCTIONAL DESCRIPTION

The 1517-series device is a fixed, single-input, five-output, passive delay line. The signal input (IN) is reproduced at the outputs (T1-T5) in equal increments. The delay from IN to T5 (T_D) is given by the device dash number. The characteristic impedance of the line is given by the letter code that follows the dash number (See Table). The rise time (T_R) of the line is 33% of T_D , and the 3dB bandwidth is given by $1.05 / T_D$.

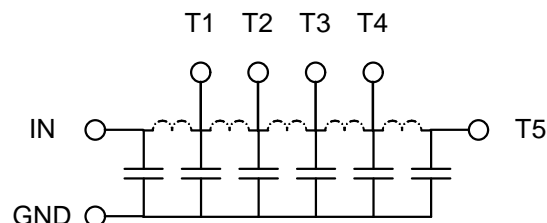
PIN DESCRIPTIONS

IN Signal Input
T1-T5 Tap Outputs
GND Ground

SERIES SPECIFICATIONS

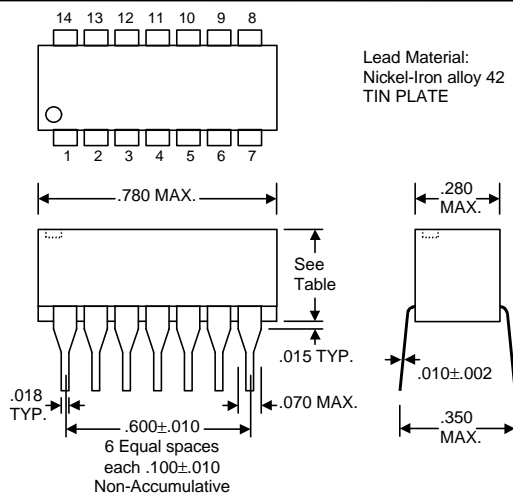
- Dielectric breakdown: 50 Vdc
- Distortion @ output: 10% max.
- Operating temperature: -55°C to +125°C
- Storage temperature: -55°C to +125°C
- Temperature coefficient: 100 PPM/°C

FUNCTIONAL DIAGRAM



DASH NUMBER SPECIFICATIONS

Part Number	Delay (ns)	Imped (Ω)	RDC (Ω)	Part Number	Delay (ns)	Imped (Ω)	RDC (Ω)	Part Number	Delay (ns)	Imped (Ω)	RDC (Ω)
1517-10A	10.0 ± 1.0	50	0.6	1517-80C	80.0 ± 4.0	200	3.5	1517-20F	20.0 ± 1.0	400	4.5
1517-15A	15.0 ± 1.0	50	0.6	1517-90C	90.0 ± 4.5	200	5.0	1517-40F	40.0 ± 2.0	400	5.0
1517-20A	20.0 ± 1.0	50	0.7	1517-120C	120.0 ± 6.0	200	5.0	1517-60F	60.0 ± 3.0	400	5.0
1517-30A	30.0 ± 1.5	50	0.7	1517-150C	150.0 ± 7.5	200	8.0	1517-80F	80.0 ± 4.0	400	8.0
1517-40A	40.0 ± 2.0	50	0.9	1517-25D	25.0 ± 1.3	250	2.5	1517-100F	100.0 ± 5.0	400	9.0
1517-5B	5.0 ± 1.0	100	0.5	1517-37D	37.0 ± 1.9	250	3.0	1517-120F	120.0 ± 6.0	400	10.0
1517-10B	10.0 ± 1.0	100	0.7	1517-50D	50.0 ± 2.5	250	3.5	1517-160F	160.0 ± 8.0	400	13.0
1517-15B	15.0 ± 1.0	100	0.7	1517-60D	60.0 ± 3.0	250	4.0	1517-180F	180.0 ± 9.0	400	14.0
1517-20B	20.0 ± 1.0	100	0.9	1517-75D	75.0 ± 3.8	250	4.0	1517-240F	240.0 ± 12.0	400	19.0
1517-25B	25.0 ± 1.3	100	1.0	1517-100D	100.0 ± 5.0	250	5.0	1517-300F	300.0 ± 15.0	400	23.0
1517-30B	30.0 ± 1.5	100	1.5	1517-150D	150.0 ± 7.5	250	8.5	1517-25G	25.0 ± 1.3	500	3.0
1517-40B	40.0 ± 2.0	100	1.8	1517-15E	15.0 ± 1.0	300	2.5	1517-50G	50.0 ± 2.5	500	5.0
1517-50B	50.0 ± 2.5	100	2.0	1517-30E	30.0 ± 1.5	300	3.0	1517-75G	75.0 ± 3.8	500	8.0
1517-60B	60.0 ± 3.0	100	2.0	1517-50E	50.0 ± 2.5	300	4.0	1517-100G	100.0 ± 5.0	500	15.0
1517-75B	75.0 ± 3.8	100	2.5	1517-60E	60.0 ± 3.0	300	4.0	1517-125G	125.0 ± 6.3	500	9.0
1517-10C	10.0 ± 1.0	200	1.5	1517-75E	75.0 ± 3.8	300	4.5	1517-150G	150.0 ± 7.5	500	13.0
1517-20C	20.0 ± 1.0	200	2.0	1517-90E	90.0 ± 4.5	300	5.5	1517-200G	200.0 ± 10.0	500	21.0
1517-30C	30.0 ± 1.5	200	2.5	1517-120E	120.0 ± 6.0	300	8.0	1517-225G	225.0 ± 11.3	500	23.0
1517-40C	40.0 ± 2.0	200	3.0	1517-130E	130.0 ± 6.5	300	9.0	1517-300G	300.0 ± 15.0	500	29.0
1517-50C	50.0 ± 2.5	200	3.0	1517-180E	180.0 ± 9.0	300	11.0				
1517-60C	60.0 ± 3.0	200	3.5	1517-220E	220.0 ± 11.0	300	13.0				



Package Dimensions

PASSIVE DELAY LINE TEST SPECIFICATIONS

TEST CONDITIONS

INPUT:

Ambient Temperature: $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$

Input Pulse: High = 3.0V typical
Low = 0.0V typical

Source Impedance: 50Ω Max.

Rise/Fall Time: 3.0 ns Max. (measured at 10% and 90% levels)

OUTPUT:

R_{load} : 10M Ω

C_{load} : 10pf

Threshold: 50% (Rising & Falling)

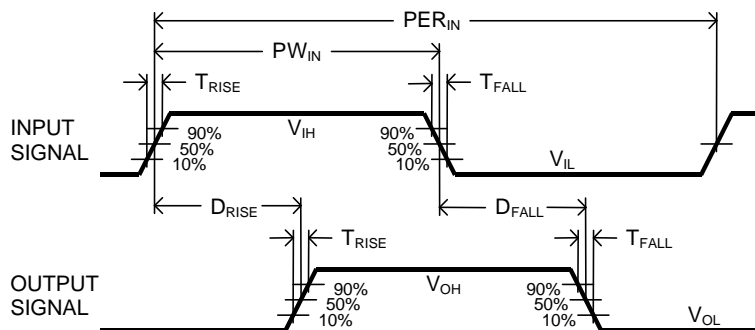
Pulse Width ($T_D \leq 75\text{ns}$): $PW_{\text{IN}} = 100\text{ns}$

Period ($T_D \leq 75\text{ns}$): $PER_{\text{IN}} = 1000\text{ns}$

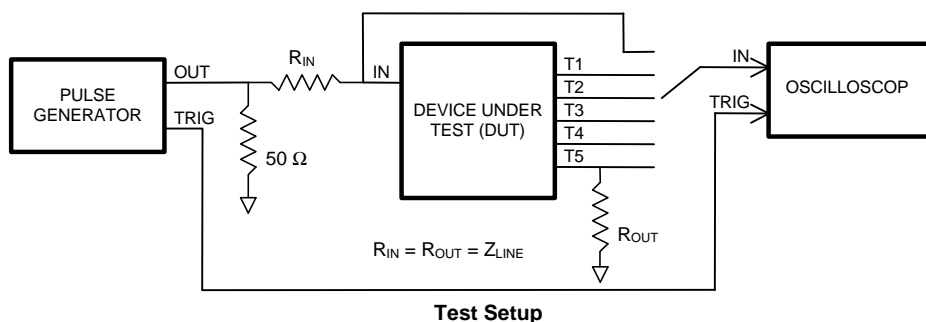
Pulse Width ($T_D > 75\text{ns}$): $PW_{\text{IN}} = 2 \times T_D$

Period ($T_D > 75\text{ns}$): $PER_{\text{IN}} = 10 \times T_D$

NOTE: The above conditions are for test only and do not in any way restrict the operation of the device.



Timing Diagram For Testing



Test Setup