

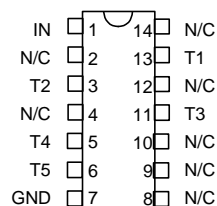
**5-TAP DIP DELAY LINE**

$T_D/T_R = 3$   
**(SERIES 1517)**

**data**  
**delay**  
**devices, inc.**


**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**

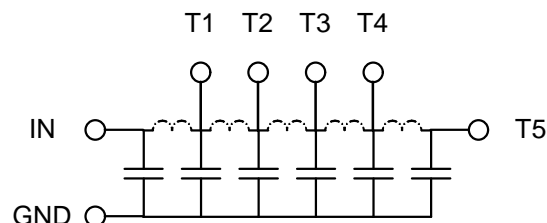
The 1517-series device is a fixed, single-input, five-output, passive delay line. The signal input (IN) is reproduced at the outputs (T1-T5) in equal increments. The delay from IN to T5 ( $T_D$ ) is given by the device dash number. The characteristic impedance of the line is given by the letter code 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**

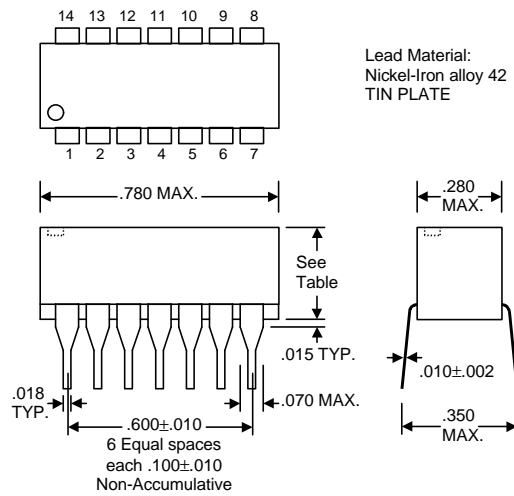
IN Signal Input  
 T1-T5 Tap Outputs  
 GND Ground

**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				



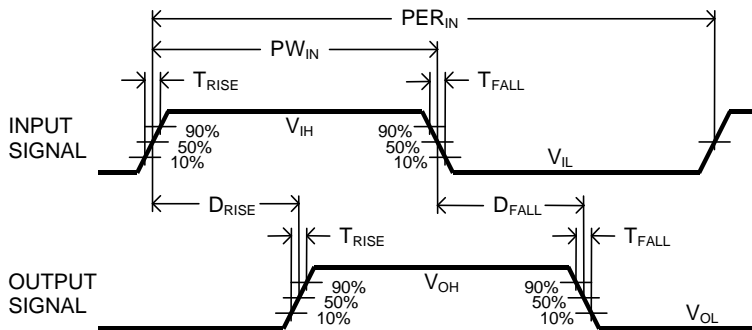
**Package Dimensions**

**PASSIVE DELAY LINE TEST SPECIFICATIONS**

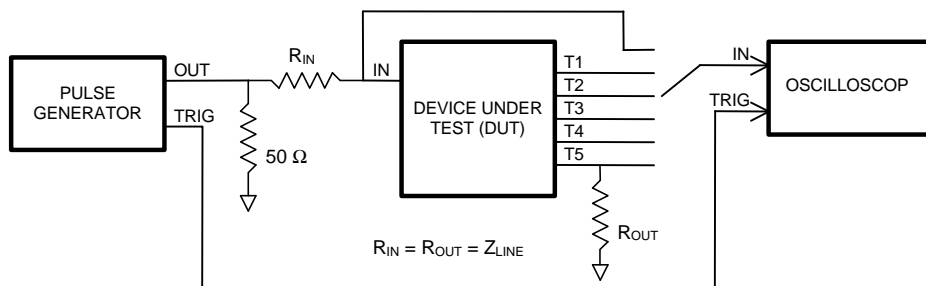
**TEST CONDITIONS**

<b>INPUT:</b>		<b>OUTPUT:</b>	
<b>Ambient Temperature:</b>	25°C ± 3°C	<b>R<sub>load</sub>:</b>	10MΩ
<b>Input Pulse:</b>	High = 3.0V typical Low = 0.0V typical	<b>C<sub>load</sub>:</b>	10pf
<b>Source Impedance:</b>	50Ω Max.	<b>Threshold:</b>	50% (Rising & Falling)
<b>Rise/Fall Time:</b>	3.0 ns Max. (measured at 10% and 90% levels)		
<b>Pulse Width (T<sub>D</sub> ≤ 75ns):</b>	PW <sub>IN</sub> = 100ns		
<b>Period (T<sub>D</sub> ≤ 75ns):</b>	PER <sub>IN</sub> = 1000ns		
<b>Pulse Width (T<sub>D</sub> &gt; 75ns):</b>	PW <sub>IN</sub> = 2 x T <sub>D</sub>		
<b>Period (T<sub>D</sub> &gt; 75ns):</b>	PER <sub>IN</sub> = 10 x T <sub>D</sub>		

**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**