

10-TAP SIP DELAY LINE

$$T_D/T_R = 5$$

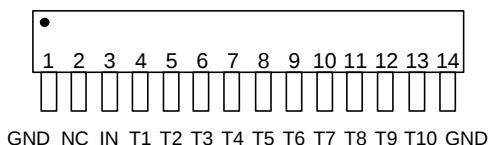
(SERIES 1507)



FEATURES

- 10 taps of equal delay increment
- Very narrow device (SIP package)
- Stackable for PC board economy
- Low profile
- Epoxy encapsulated
- Meets or exceeds MIL-D-23859C

PACKAGES



1507-xxz
xx = Delay (T_D)
z = Impedance Code

FUNCTIONAL DESCRIPTION

The 1507-series device is a fixed, single-input, ten-output, passive delay line. The signal input (IN) is reproduced at the outputs (T1-T10) in equal increments. The delay from IN to T10 (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 10% of T_D , and the 3dB bandwidth is given by $3.5 / T_D$.

PIN DESCRIPTIONS

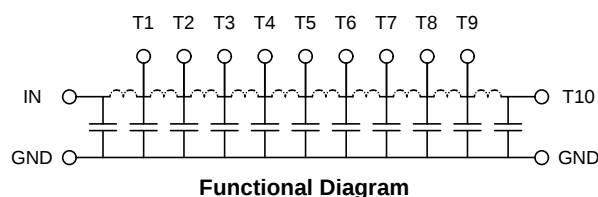
IN Signal Input
T1-T10 Tap Outputs
GND Ground

SERIES SPECIFICATIONS

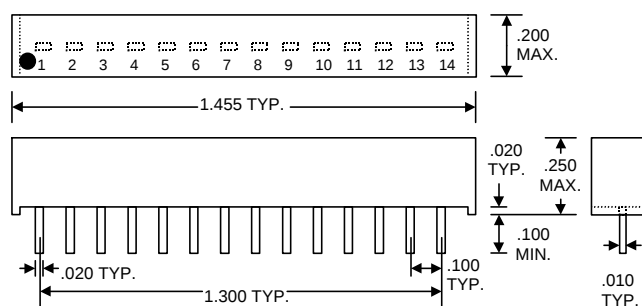
- **Dielectric breakdown:** 50 Vdc
- **Distortion @ output:** 10% max.
- **Operating temperature:** -55°C to +125°C
- **Storage temperature:** -55°C to +125°C
- **Temperature coefficient:** 100 PPM/°C

DASH NUMBER SPECIFICATIONS

Part Number	T_D (ns)	Delay per Tap (ns)	T_R (ns)	Impedance (Ω)	R_{DC} (Ω)
1507-20A	20.0 $\pm$ 2.0	2.0 $\pm$ 0.4	4.0	50	1.0
1507-40A	40.0 $\pm$ 2.0	4.0 $\pm$ 1.0	8.0	50	1.5
1507-50A	50.0 $\pm$ 2.5	5.0 $\pm$ 1.5	9.0	50	1.5
1507-100A	100 $\pm$ 5.0	10.0 $\pm$ 2.0	18.0	50	2.0
1507-150A	150 $\pm$ 7.5	15.0 $\pm$ 2.0	28.0	50	3.0
1507-200A	200 $\pm$ 10.0	20.0 $\pm$ 3.0	38.0	50	4.0
1507-20B	20.0 $\pm$ 2.0	2.0 $\pm$ 0.4	4.0	100	1.5
1507-50B	50.0 $\pm$ 2.5	5.0 $\pm$ 1.5	9.0	100	2.0
1507-100B	100 $\pm$ 5.0	10.0 $\pm$ 2.0	18.0	100	4.0
1507-200B	200 $\pm$ 10.0	20.0 $\pm$ 3.0	38.0	100	6.0
1507-250B	250 $\pm$ 13.0	25.0 $\pm$ 4.0	48.0	100	7.0
1507-20C	20.0 $\pm$ 2.0	2.0 $\pm$ 0.4	4.0	200	3.0
1507-50C	50.0 $\pm$ 2.5	5.0 $\pm$ 1.5	9.0	200	4.5
1507-100C	100 $\pm$ 5.0	10.0 $\pm$ 2.0	18.0	200	6.0
1507-200C	200 $\pm$ 13.0	20.0 $\pm$ 3.0	38.0	200	9.0
1507-50G	50.0 $\pm$ 2.5	5.0 $\pm$ 1.5	9.0	500	6.0
1507-100G	100 $\pm$ 5.0	10.0 $\pm$ 2.0	18.0	500	10.0
1507-200G	200 $\pm$ 10.0	20.0 $\pm$ 3.0	38.0	500	30.0
1507-300G	300 $\pm$ 15.0	30.0 $\pm$ 4.0	58.0	500	30.0
1507-500G	500 $\pm$ 25.0	50.0 $\pm$ 5.0	98.0	500	55.0



Functional Diagram



Package Dimensions

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PASSIVE DELAY LINE TEST SPECIFICATIONS

TEST CONDITIONS

INPUT:

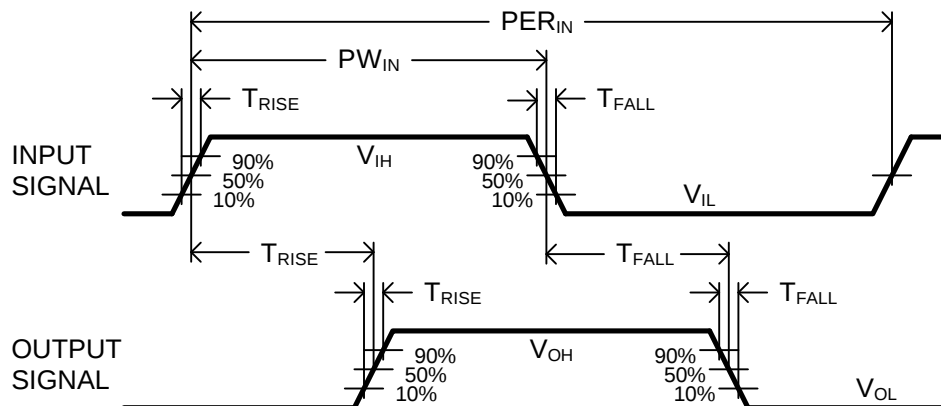
Ambient Temperature: $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$
Input Pulse: High = 3.0V typical
 Low = 0.0V typical
Source Impedance: 50Ω Max.
Rise/Fall Time: 3.0 ns Max. (measured at 10% and 90% levels)

Pulse Width ($T_D \leq 75\text{ns}$): $PW_{IN} = 100\text{ns}$
Period ($T_D \leq 75\text{ns}$): $PER_{IN} = 1000\text{ns}$
Pulse Width ($T_D > 75\text{ns}$): $PW_{IN} = 2 \times T_D$
Period ($T_D > 75\text{ns}$): $PER_{IN} = 10 \times T_D$

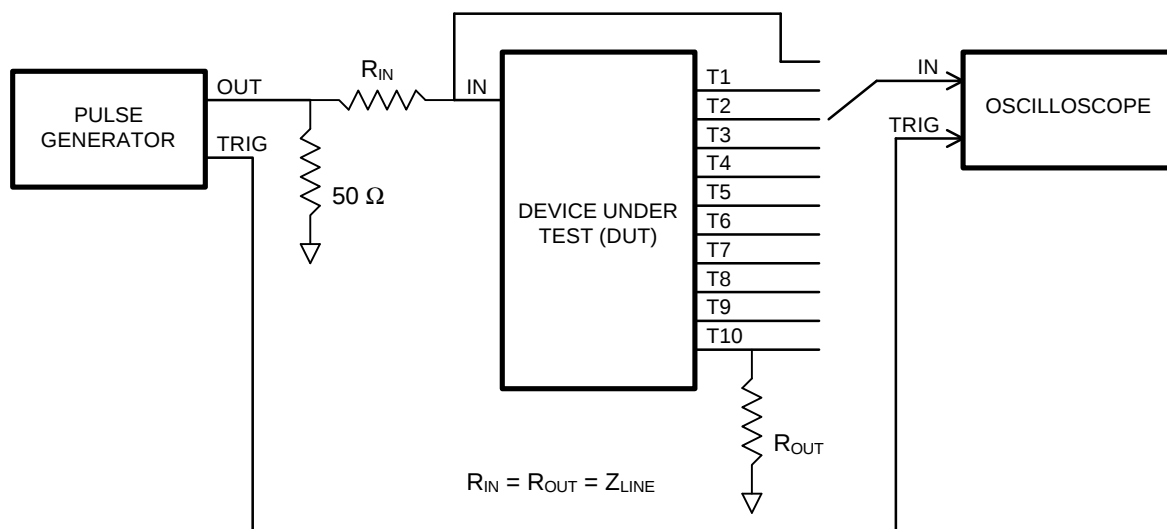
OUTPUT:

R_{load} : $10M\Omega$
 C_{load} : 10pf
Threshold: 50% (Rising & Falling)

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