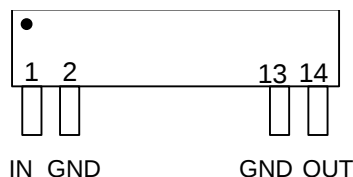


FIXED SIP DELAY LINE

$T_D/T_R = 10$
(SERIES 1515)

**FEATURES**

- Fast rise time for high freq. applications
- Very narrow device (SIP package)
- Stackable for PC board economy
- Low profile
- Epoxy encapsulated
- Meets or exceeds MIL-D-23859C

PACKAGES

1515-xxz
 xx = Delay (T_D)
 z = Impedance Code

FUNCTIONAL DESCRIPTION

The 1515-series device is a fixed, single-input, single-output, passive delay line. The signal input (IN) is reproduced at the output (OUT), shifted by a time (T_D) 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

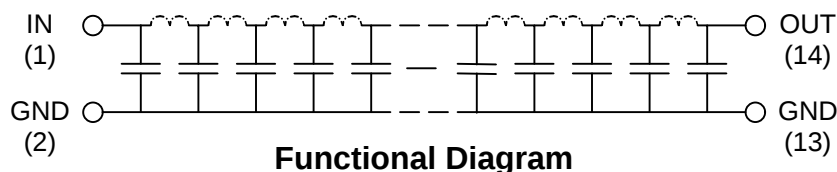
IN Signal Input
 OUT Signal Output
 GND Ground

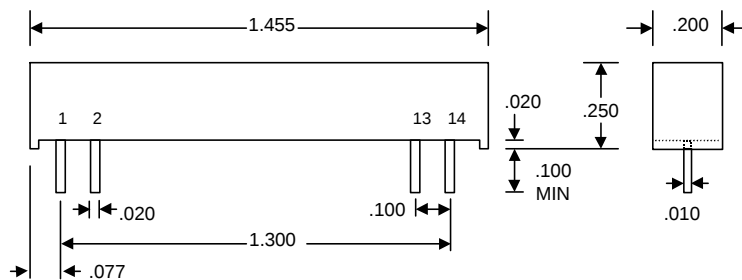
SERIES SPECIFICATIONS

- **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	Delay (ns)	Impedance (Ω)	Ins. Loss (dB)	Cut-Off (MHz)
1515-10A	10 $\pm$ 1.0	50	< 0.5	350
1515-20A	20 $\pm$ 1.0	50	< 0.5	175
1515-30A	30 $\pm$ 1.5	50	< 0.5	116
1515-40A	40 $\pm$ 2.0	50	< 0.5	87
1515-50A	50 $\pm$ 2.5	50	< 0.5	70
1515-60A	60 $\pm$ 3.0	50	< 1.0	58
1515-70A	70 $\pm$ 3.5	50	< 1.0	50
1515-80A	80 $\pm$ 4.0	50	< 1.0	43
1515-90A	90 $\pm$ 4.5	50	< 1.0	38
1515-100A	100 $\pm$ 5.0	50	< 1.0	35
1515-10Y	10 $\pm$ 1.0	75	< 0.5	350
1515-20Y	20 $\pm$ 1.0	75	< 0.5	175
1515-30Y	30 $\pm$ 1.5	75	< 0.5	116
1515-40Y	40 $\pm$ 2.0	75	< 0.5	87
1515-50Y	50 $\pm$ 2.5	75	< 0.5	70
1515-60Y	60 $\pm$ 3.0	75	< 1.0	58
1515-70Y	70 $\pm$ 3.5	75	< 1.0	50
1515-10B	10 $\pm$ 1.0	100	< 0.5	350
1515-20B	20 $\pm$ 1.0	100	< 0.5	175
1515-30B	30 $\pm$ 1.5	100	< 0.5	116
1515-40B	40 $\pm$ 2.0	100	< 0.5	87
1515-50B	50 $\pm$ 2.5	100	< 0.5	70





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}: 10MΩ
C_{load}: 10pf
Threshold: 50% (Rising & Falling)

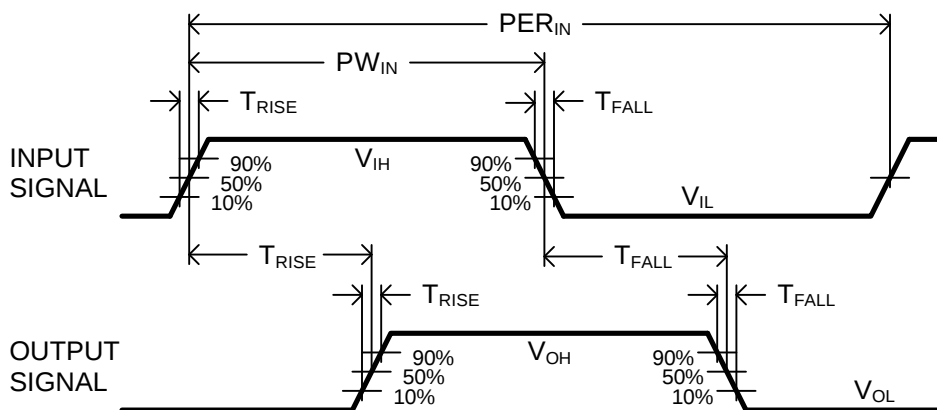
Pulse Width (TD ≤ 75ns): PW_{IN} = 100ns

Period (TD ≤ 75ns): PER_{IN} = 1000ns

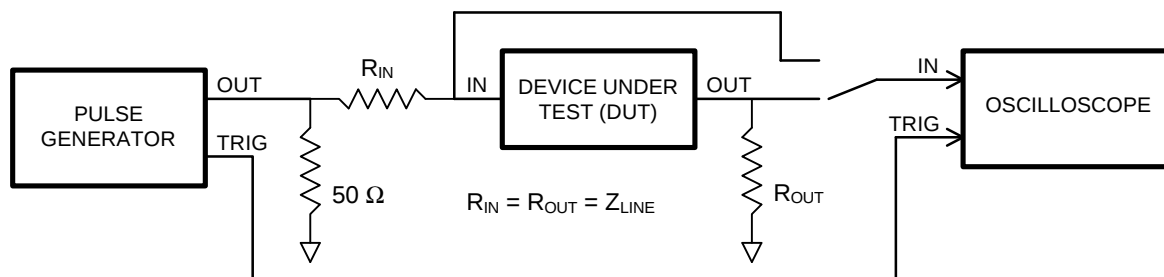
Pulse Width (TD > 75ns): PW_{IN} = 2 × T_D

Period (TD > 75ns): PER_{IN} = 10 × 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