

# FIXED SUB-NS DELAY LINE

## $T_R < 1\text{ns}$

### (SERIES 2023 & 2024)

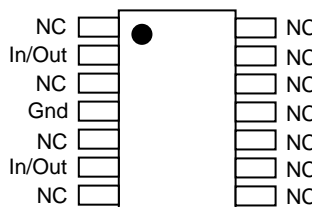


#### FEATURES

- Fast rise time for high frequency applications
- Delays available from 50ps to 800ps
- Surface-mount device
- Epoxy encapsulated
- Meets or exceeds MIL-D-23859C

IDEAL SUBSTITUTE FOR COAXIAL CABLES

#### PACKAGE/PINOUT



2023-xx  
2024-xx  
xx = Delay ( $T_D$ )

#### FUNCTIONAL DESCRIPTION

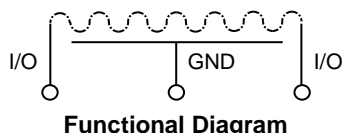
The 2023- and 2024-series devices are fixed, single-input, single-output, passive delay lines. The signal input (In) is reproduced at the output (Out), shifted by a time ( $T_D$ ) given by the device dash number. The characteristic impedance of the lines is nominally 50 ohms. The rise time ( $T_R$ ) of the line is less than 1ns, resulting in a 3dB bandwidth in excess of 700MHz. The unit is bidirectional – either terminal can be used as the input.

#### PIN DESCRIPTIONS

In/Out Signal In/Out  
Gnd Signal Ground

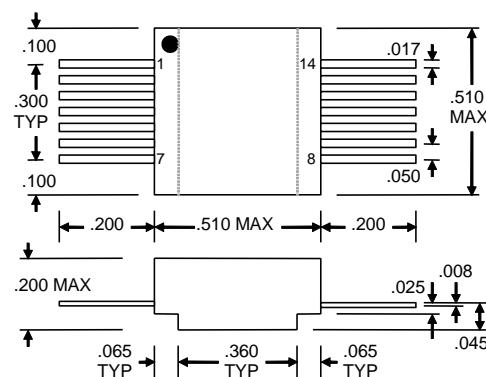
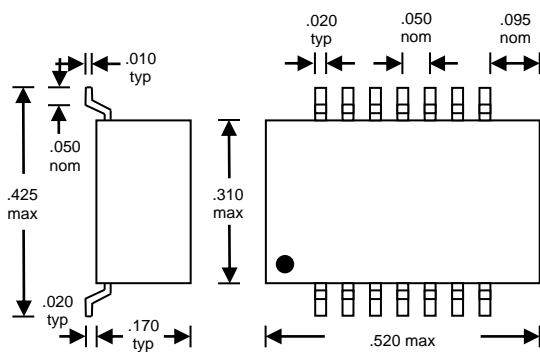
#### SERIES SPECIFICATIONS

- **Tolerance:** 3% or 10ps
- **Bandwidth:** >700MHz
- **Ripple in pass-band:** Approx. 0.2dB
- **Dielectric breakdown:** >500 Vdc
- **Operating temperature:** -65°C to +125°C
- **Temperature coefficient:** <100 PPM/°C



#### DASH NUMBER SPECIFICATIONS

Part Number	Part Number	Delay (ps)	Imped. ( $\Omega$ )
2023-50	2024-50	50	50
2023-100	2024-100	100	50
2023-150	2024-150	150	50
2023-200	2024-200	200	50
2023-250	2024-250	250	50
2023-300	2024-300	300	50
2023-350	2024-350	350	50
2023-400	2024-400	400	50
2023-450	2024-450	450	50
	2024-500	500	50
	2024-600	600	50
	2024-700	700	50
	2024-750	750	50
	2024-800	800	50



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# PASSIVE DELAY LINE TEST SPECIFICATIONS

## TEST CONDITIONS

### INPUT:

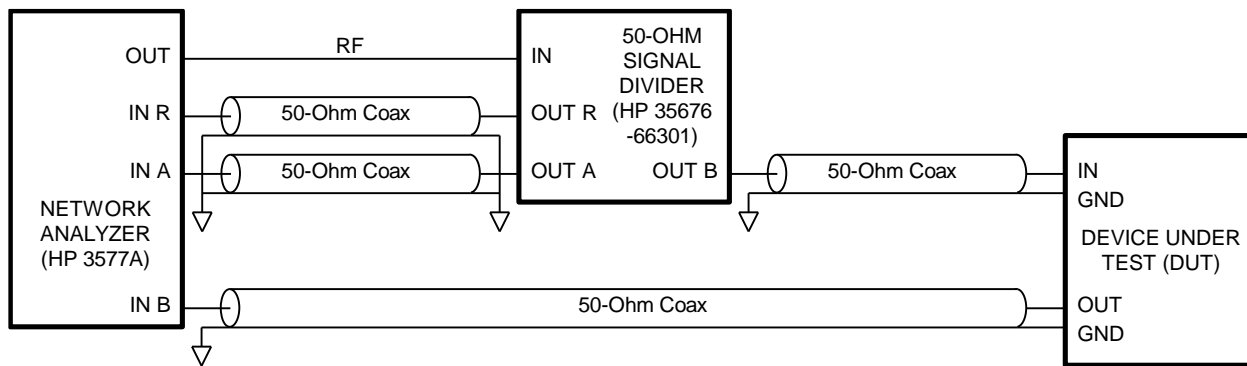
**Ambient Temperature:** 25°C ± 3°C  
**Source Amplitude:** 0dBm typical  
**Source Impedance:** 50Ω nominal  
**Input Frequency:** 27.777778MHz

### OUTPUT:

**Z<sub>load</sub>:** 50Ω nominal

Network analyzer is used in phase measurement mode, normalized with a wire jumper between input and output of DUT test socket. Delay is related to phase lag with proportionality constant of 100ps/deg.

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



**Test Setup**