8-BIT ADJUSTABLE, COAXIAL PASSIVE DELAY LINE (SERIES 3D9950)

FEATURES

- Delay adjustable in 255 steps
- Delay step sizes of 0.25ns to 1ns available
- Fast rise time for high frequency applications
- I/O reversible
- BNC female connectors
- Meets or exceeds MIL-D-23859C

PACKAGE

FUNCTIONAL DESCRIPTION

The 3D9950 device is a single-input, single-output, passive delay line. The signal input (IN) is reproduced at the output (OUT), shifted by a time (T_D) which can be adjusted via eight binary-weighted switches. The value of these switches, multiplied by the device dash number, determines the device delay (referenced to the delay with all the switches off). The device is offered in 50-ohm and 75-ohm impedance versions.

PIN DESCRIPTIONS

IN	Signal Input (BNC)
OUT	Signal Output (BNC)

SERIES SPECIFICATIONS

- **Delay Tolerance:** 2%
- **Minimum Delay (all switches off):** 2.5ns
- **Impedance:** 50Ω or 75Ω
- **Ripple in pass-band:** Approx. 0.2dB
- **Dielectric breakdown:** 100 VDC
- **Operating temp:** -65°C to +125°C
- **Temperature coeff:** <100 PPM/°C
- **Case dimensions:** 8.5” W x 8.0” D x 2.0” H (21.6cm x 20.3cm x 5.1cm)

DASH NUMBER SPECIFICATIONS

Part Number	Delay Step (ns)	Delay Range (ns)	Imped-ance (Ω)	3dB B.W. (MHz)
3D9950-0.25A	0.25	63.75	50	125
3D9950-0.5A	0.5	127.5	50	125
3D9950-1A	1.0	255.0	50	125
3D9950-0.25Y	0.25	63.75	75	125
3D9950-0.5Y	0.5	127.5	75	125
3D9950-1Y	1.0	255.0	75	125

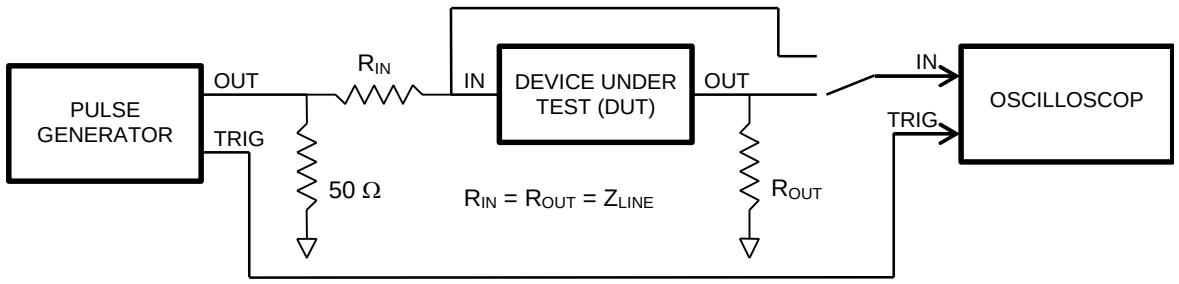
Notes: 3dB BW measured at maximum delay
Other dash numbers available on request

PASSIVE DELAY LINE TEST SPECIFICATIONS

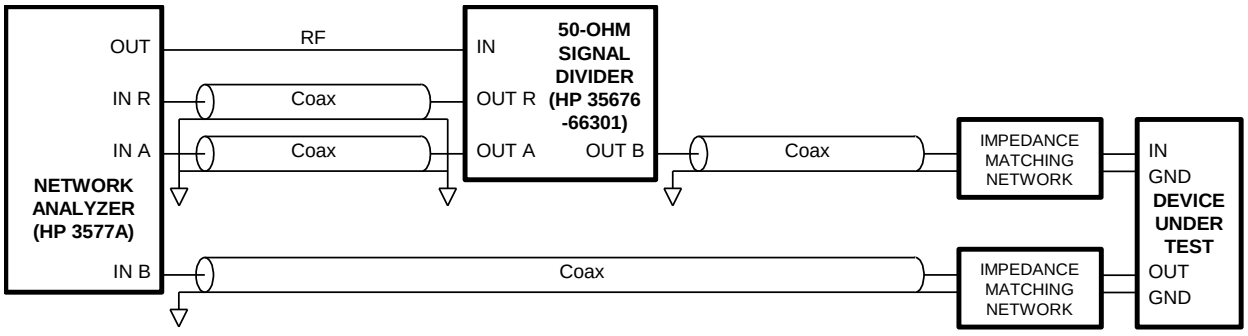
TEST CONDITIONS

INPUT:		**OUTPUT:**	
Ambient Temperature:	25ºC ± 3ºC	**R_{load}:**	10MΩ
Input Pulse:	High = +0.5V typical Low = -0.5V typical	**C_{load}:**	10pf
		Threshold:	50% (Rising & Falling)
Source Impedance:	50Ω Max.		
Rise/Fall Time:	3.0 ns Max. (measured at 10% and 90% levels)		
Pulse Width:	PW_{IN} = 100ns		
Period:	PER_{IN} = 1000ns		

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



Test Setup (Delay Measurements)



Test Setup (Frequency Response)