

$R_g$  = GENERATOR SOURCE IMPEDANCE = 50 OHMS  
 $R_1, R_2$  = INPUT MATCHING PAD RESISTORS  
 $R_t$  = TERMINATING RESISTOR  
 $Z_o$  = DELAY LINES CHARACTERISTIC IMPEDANCE

$$R_1 = \{R_g \times Z_o\} / R_2$$

$$R_2 = \sqrt{\frac{R_g^2 \times Z_o}{Z_o - R_g}}$$

Figure 5A. Recommended test circuit for Passive Delay Lines

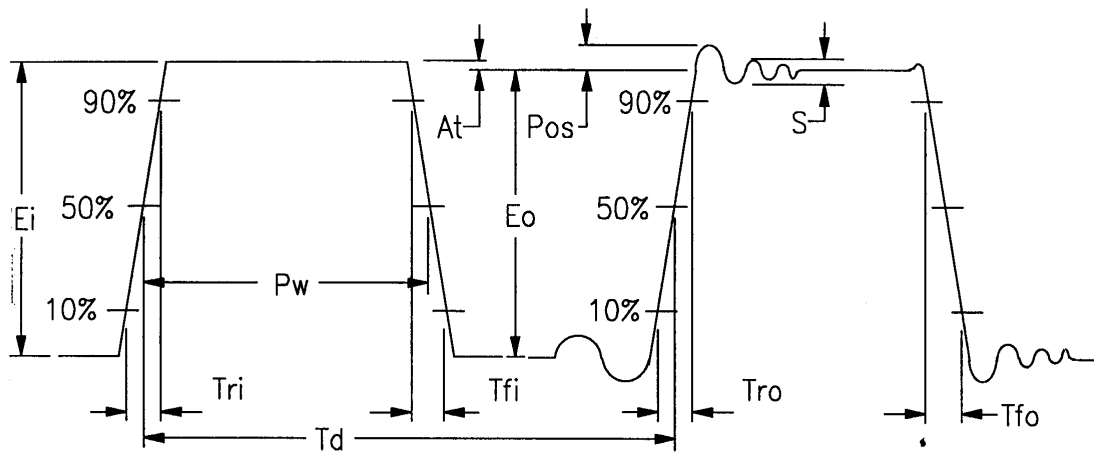


Figure 6A. Passive Delay Line Waveform Parameters

### GLOSSARY

**LEADING EDGE:** that portion of the pulse which rises from zero to peak amplitude.

**TRAILING EDGE:** that portion of the pulse which falls from peak amplitude to zero.

**INPUT VOLTAGE (Ei):** the amplitude of the input pulse.

**OUTPUT VOLTAGE (Eo):** the amplitude of the output pulse.

**DELAY TIME (Td):** the elapsed time between the respective 50% points on the leading edges of the input and output pulses.

**INPUT RISE TIME (Tri):** the elapsed time between the 10% and the 90% points on the leading edge of the input pulse.

**INPUT FALL TIME (Tfi):** the elapsed time between the 90% and the 10% points on the trailing edge of the input pulse.

**OUTPUT FALL TIME (Tro):** the elapsed time between the 10% and the 90% points on the leading edge of the output pulse.

**OUTPUT FALL TIME (Tfo):** the elapsed time between the 90% and the 10% points on the trailing edge of the output pulse.

**PULSE WIDTH (Pw):** the elapsed time between the 50% points on the leading and trailing edge of a pulse.

**PULSE OVERSHOOT (Pos):** the peak amplitude of overshoot occurring at the top of the leading edge of the output pulse (for flat input pulse top).

**PULSE DISTORTION (S):** the magnitude of the largest peak amplitude of all spurious responses in either a positive or negative direction occurring in the period after the top of the leading edge of the output pulse and before two time delays (for flat input pulse top).

**IMPEDANCE (Zo):** the effective impedance of the delay line which is equal to the value of the terminating impedance which provides a minimum reflection back to the input of the delay line.

**D.C. RESISTANCE (DCR):** The D.C. resistance, in ohms, measured between the input and output of a delay line.

**Attenuation (At):** the difference in peak amplitude between input and output pulses.

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