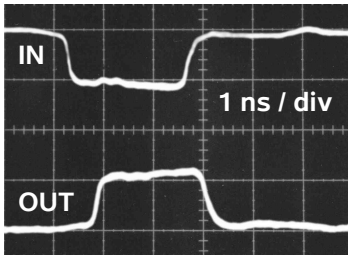


AVX SERIES OF HIGH-SPEED INVERTING PULSE TRANSFORMERS



- Rise times to 60 ps
- Amplitudes to 350 V
- Pulse widths to 1 us

Avtech offers a range of pulse inverting transformers with rise times in the range of 60 to 500 ps, voltage ratings to 350 Volts and pulse width ratings up to 1 us.

The AVX-1 transformer is designed to be used with general purpose laboratory pulse generators and with units such as the AVI and AVL series of nanosecond pulse generators to provide an inverted output pulse with a magnitude equal to the input signal magnitude. The AVX-1 transformer rise time is less than 300 ps with a pulse propagation time through the transformer of less than 1.5 ns. AVX-1 units will accommodate pulse widths up to 100 ns at the maximum voltage rating of 350 Volts but will operate with pulse widths of at least 1 us with 10 Volt input pulses.

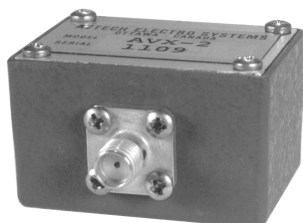
Similarly, the AVX-1A operates at wider pulse widths (to 1us), for amplitudes to 100V, with 500 ps rise time.

The AVX-2 transformer exhibits an ultra-fast rise time of less than 60 ps and is designed for use with sub-nanosecond rise time pulse generators (such as the Avtech AVP, AVM, AVH and AVN series, and others). The pulse propagation delay time of Model AVX-2 is less than 0.3 ns. Typical input and output waveforms for an AVX-2 unit are shown above. Model AVX-3 exhibits a rise time of 150 ps with peak voltage and pulse width ratings of 50 Volts and 50 ns, respectively, and a pulse propagation time of 0.7 ns or less.

The two connectors on the transformer are reversible - either may be used for the input or output. Both sides of the transformer are ground-referred (i.e., not floating). See the AVX-R Series for inverting transformers with higher voltage and pulse width ratings.

Model:	AVX-1A	AVX-1	AVX-2	AVX-3
Rise time:	500 ps	300 ps	60 ps	150 ps
Max. pulse width:	1 us	100 ns	10 ns	50 ns
Droop:	≤ 10% at maximum pulse width			
Impedance:	50 Ohms			
Max. voltage:	100 V	350 V	50 V	50 V
Connectors:	SMA female (both) ¹			
Size: (H x W x D)	38 mm x 28 mm x 23 mm (1.5" x 1.1" x 0.9")			
Chassis material:	cast aluminum, blue enamel			

1) To specify one SMA male connector and one SMA female connector, add the suffix -MF to the model number.



AVX-R SERIES OF WIDE-PULSE INVERTING PULSE TRANSFORMERS

- Amplitudes to 700 Volts
- Pulse widths to 10 us
- Rise times to 1 ns
- 4 models

Avtech offers a complete range of pulse inverting transformers with rise times in the range of 1 ns, voltage ratings to 700 Volts and pulse width ratings to 10 us.

The AVX-R1 transformer is designed to be used with general purpose and high-speed pulse generators to provide an inverted output pulse with a magnitude equal to the input signal magnitude. The AVX-R1 transformer rise time is less than 1 ns and it will accommodate pulse widths up to 5 us at the maximum voltage rating of 100 Volts.

The AVX-R2 transformer also exhibits a rise time of less than 1 ns and is designed for use with pulse generators providing outputs of up to 200 Volts and pulse widths as high as 5 us.

The 2 ns rise time Model AVX-R4 is similar but will accommodate input pulse amplitudes as high as 400 Volts.

For maximum performance, the Model AVX-R5 will operate to pulse widths of 10 us at 500 V, or 5 us at 700 V. It is suitable for use with the AVRZ-5, AVR-5B, and AVR-7B series of high-voltage pulse generators. Its rise time is 1 ns.

Package sizes vary from 1.1" x 1.3" x 2.3" (AVX-R1) to 6.7" x 4.8" x 2.2" (AVX-R5). All models have BNC connectors. Both sides of the transformer are ground-referred (i.e., not floating).

The input ports of Models AVX-R1, AVX-R3, and AVX-R4 include a shunt 470Ω resistance to ground followed by a series DC blocking capacitor. As consequence the input and output ports are not reversible. The AVX-R5 does not have these components, so the input / output ports are interchangeable.

Contact Avtech for your special requirements such as higher voltage and pulse width ratings.

Model:	AVX-R1	AVX-R2	AVX-R4	AVX-R5
Max. input:	100 V	200 V	400 V	700V
Maximum pulse width:	5 us	5 us	5 us	10us at 500V, 5us at 700V
Rise time:	1 ns	1 ns	2 ns	1 ns
Impedance:	50 Ohms			
Droop:	5% maximum			
H x W x D:				
mm:	28×33×58	43×76×76	43×66×109	55×121×171
inches:	1.1×1.3×2.3	1.7×3.0×3.0	1.7×2.6×4.3	2.2×4.8×6.7
Connectors:	BNC female ¹			

1) To specify SMA female connectors, add the suffix -SMA to the model number.

