AVTECH ELECTROSYSTEMS LTD.
NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

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PERFORMANCE CHECKSHEET

Model: AVO-9G-B-SPC46-P1B-T1B-W1-P-HIKA
Type: Ultra-High-Speed Laser Diode Driver
S.N.: 13846
Date: February 27, 2019

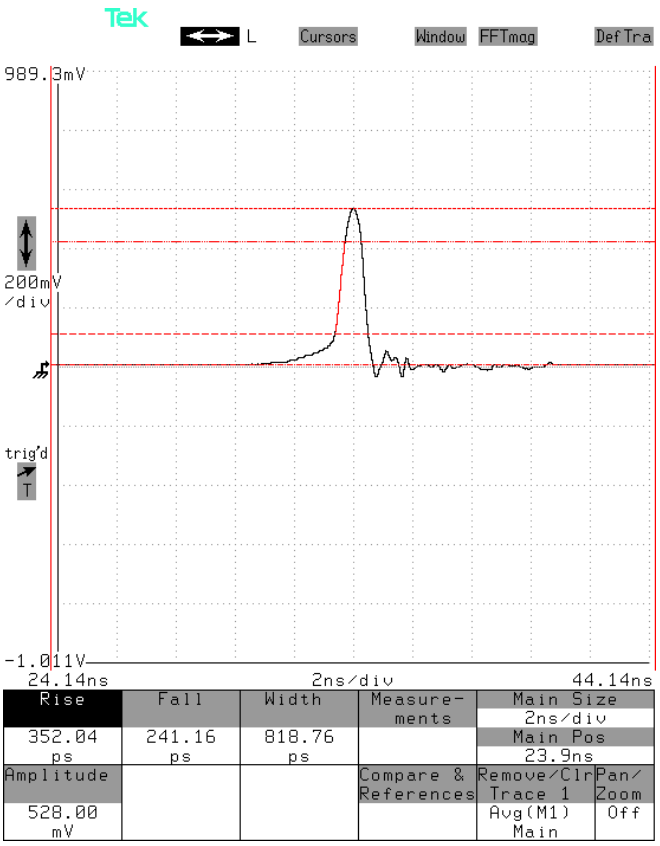
Basic specifications: →

Output Amplitude:	up to +53V, to 50Ω
Pulse Width (FWHM):	1 – 200 ns
Rise Time (20%-80%):	≤ 0.5 ns
Fall Time (80%-20%):	≤ 1 ns
PRF:	1 Hz – 100 kHz
Jitter, Stability:	OK
Prime Power:	100-240V AC, 50-60 Hz.

Test Waveforms

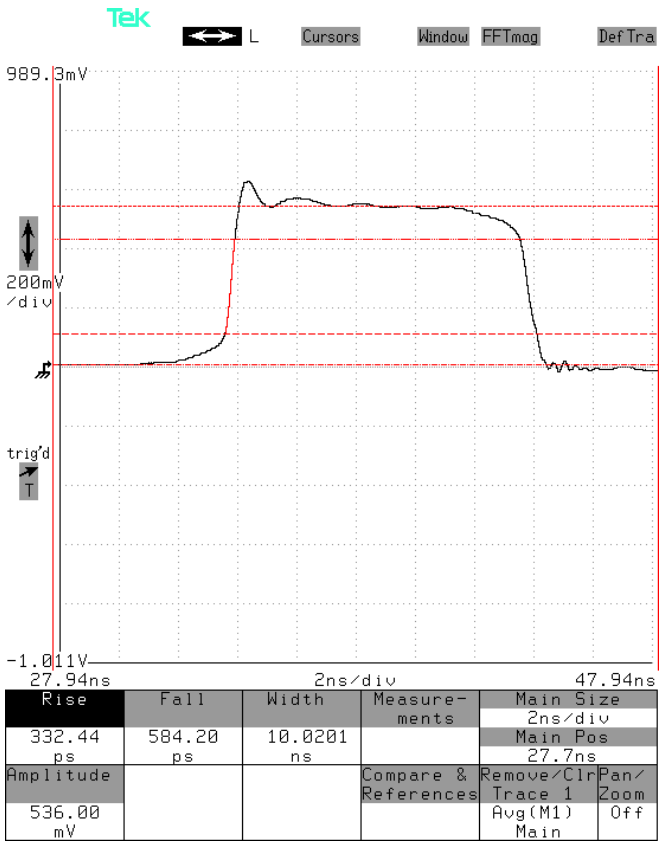
Mainframe output into 50 Ohm load at 100 kHz, < 1 ns, > +53V,

2 ns/div. 20 V/div (200 mV/div × 40 dB):



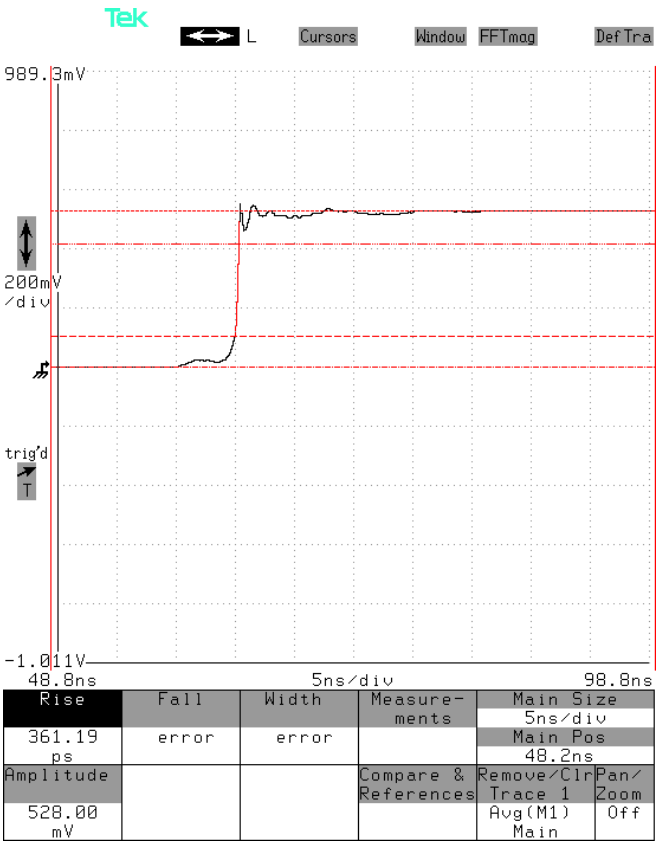
Mainframe output into 50 Ohm load at 100 kHz, 10 ns, +53V,

2 ns/div. 20 V/div (200 mV/div × 40 dB):



Mainframe output into 50 Ohm load at 100 kHz, 200 ns, +53V, leading edge,

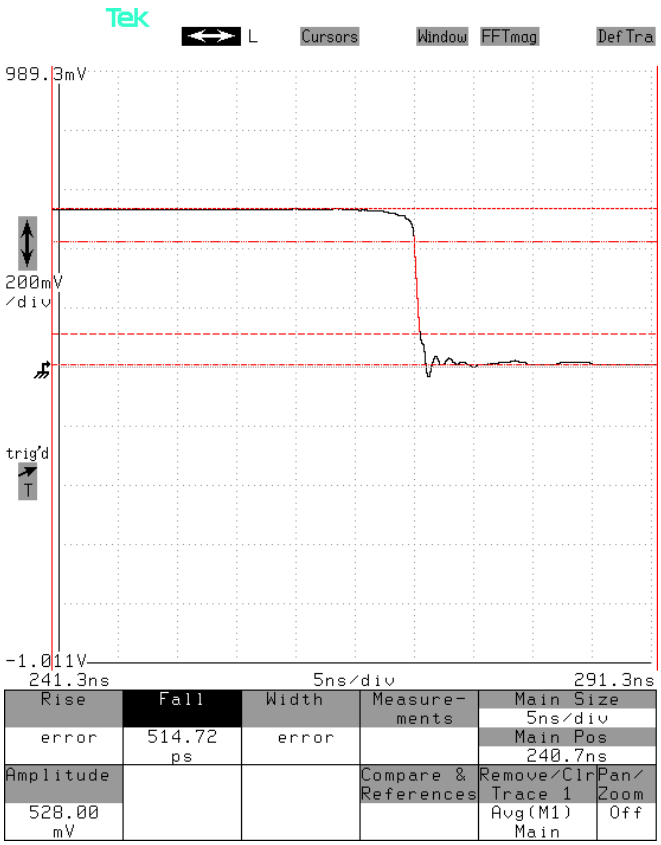
5 ns/div. 20 V/div (200 mV/div × 40 dB):



Rise	Fall	Width	Measure-ments	Main Size
				5ns/div
361.19 ps	error	error		Main Pos
				48.2ns
Amplitude			Compare & References	Remove/Clr Trace 1 / Pan/Zoom
528.00 mV				Avg(M1) Main / Off

Mainframe output into 50 Ohm load at 100 kHz, 200 ns, +53V, trailing edge,

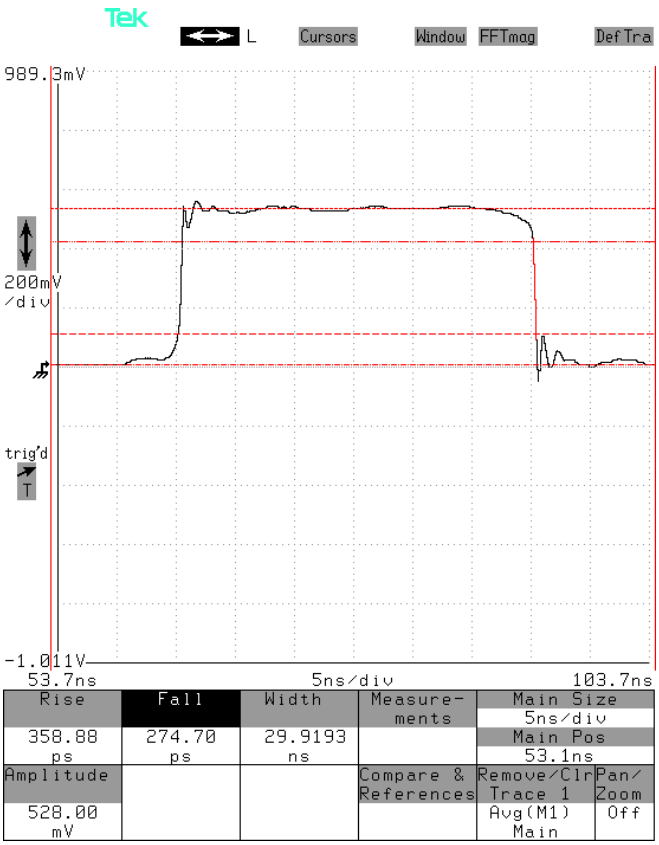
5 ns/div. 20 V/div (200 mV/div × 40 dB):



Rise	Fall	Width	Measure-ments	Main Size
				5ns/div
error	514.72 ps	error		Main Pos
				240.7ns
Amplitude			Compare & References	Remove/Clr Trace 1 / Pan/Zoom
528.00 mV				Avg(M1) Main / Off

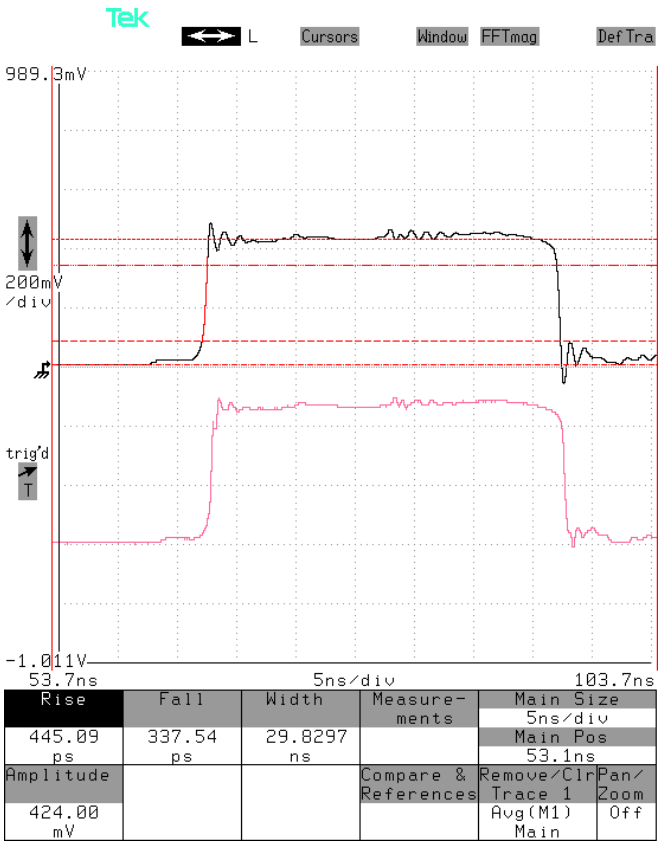
Mainframe output into 50 Ohm load at 100 kHz, 30 ns, +53V,

5 ns/div. 20 V/div (200 mV/div × 40 dB):



Rise	Fall	Width	Measure-ments	Main Size
358.88 ps	274.70 ps	29.9193 ns		5ns/div
				Main Pos
				53.1ns
Amplitude			Compare & References	Remove/Clr Trace 1 / Pan/Zoom
528.00 mV				Avg(M1) Main / Off

Same conditions, but with output module:



Rise	Fall	Width	Measure-ments	Main Size
445.09 ps	337.54 ps	29.8297 ns		5ns/div
				Main Pos
				53.1ns
Amplitude			Compare & References	Remove/Clr Trace 1 / Pan/Zoom
424.00 mV				Avg(M1) Main / Off

Top waveform: Voltage across the parallel combination of the 4.5 Ω effective resistance. It should be approximately (+53V / 54.5Ω) × 4.5Ω = +4.4V in amplitude, which agrees approximately with the observed waveform.

Bottom waveform: “MI” output, approximately +53V / 11.

Both: 5 ns/div, 2 V/div (200 mV/div × 20 dB).

Test method: Short leads are soldered across a chip resistor. A coaxial cable is soldered across the resistor. The signal lead is inserted into the anode pin socket. The ground lead is inserted into one of the other pin sockets (which are grounded). The total effective resistor is 5 Ω || 50Ω (R_{SCOPE}) = 4.5 Ω.