AVTECH ELECTROSYSTEMS LTD.
NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

P.O. BOX 265
OGDENSBURG, NY
U.S.A. 13669-0265

TEL: 888-670-8729 (USA & Canada) or +1-613-686-6675 (Intl)
FAX: 800-561-1970 (USA & Canada) or +1-613-686-6679 (Intl)

info@avtechpulse.com - http://www.avtechpulse.com/

BOX 5120, LCD MERIVALE
OTTAWA, ONTARIO
CANADA K2C 3H5

PERFORMANCE CHECKSHEET

Model: AVO-9H-B-P-P1B-T1B-W1
Type: Ultra-High-Speed Laser Diode Driver
S.N.: 13105
Date: December 17, 2013

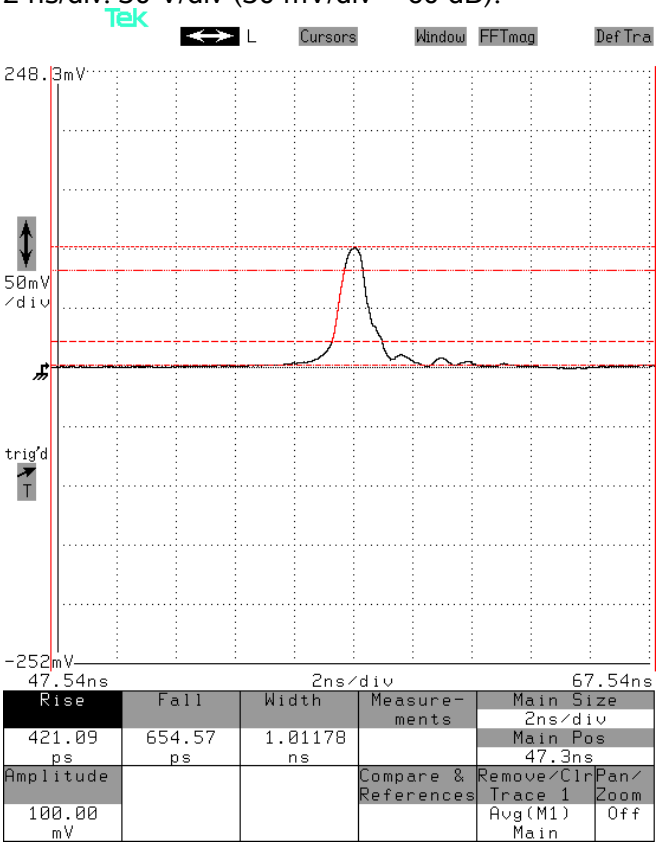
Basic specifications: →

Output Amplitude:	up to +103V, to 50Ω
Pulse Width (FWHM):	1 – 200 ns
Rise Time (20%-80%):	≤ 700 ps
Fall Time (80%-20%):	≤ 700 ps
PRF:	1 Hz - 50 kHz
Jitter, Stability:	OK
Prime Power:	100-240V AC, 50-60 Hz.

Test Waveforms

Mainframe output, +100V into 50 Ohms, 50 kHz, 1 ns pulse width:

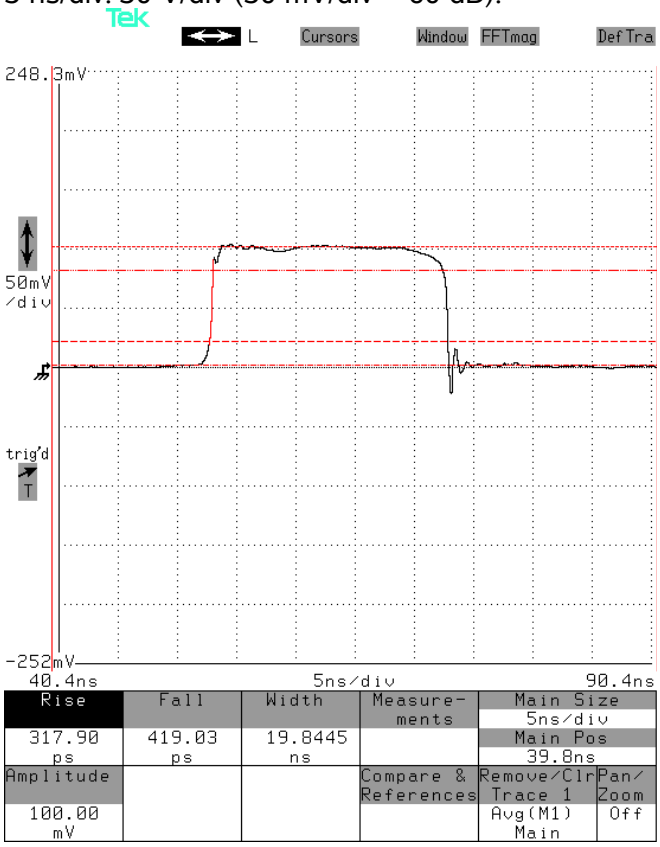
2 ns/div. 50 V/div (50 mV/div × 60 dB):



Rise	Fall	Width	Measure-ments	Main Size
				2ns/div
421.09 ps	654.57 ps	1.01178 ns		Main Pos
				47.3ns
Amplitude			Compare & References	Remove/Clr Trace 1 / Pan/Zoom
100.00 mV				Avg(M1) Main / Off

Mainframe output, +100V into 50 Ohms, 50 kHz, 20 ns pulse width:

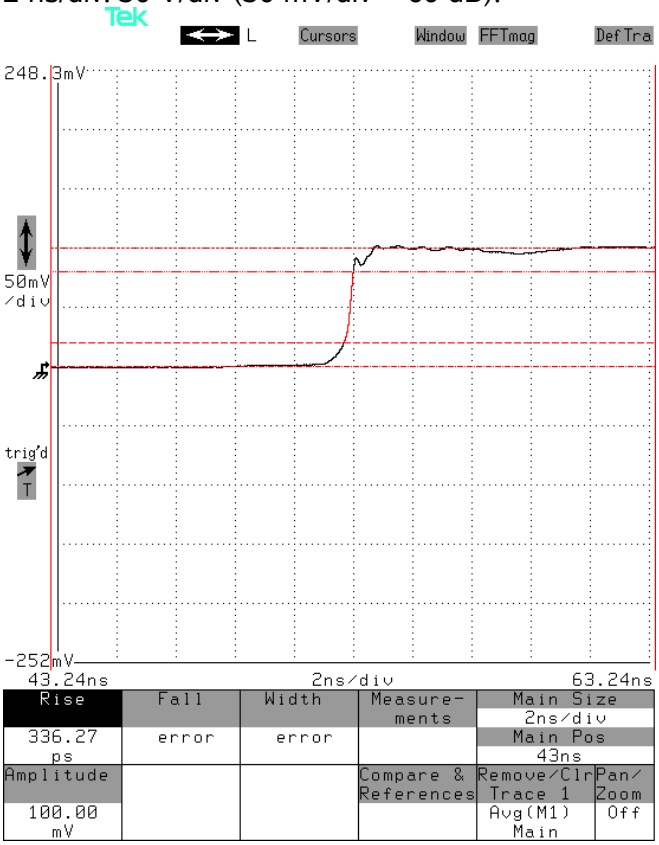
5 ns/div. 50 V/div (50 mV/div × 60 dB):



Rise	Fall	Width	Measure-ments	Main Size
				5ns/div
317.90 ps	419.03 ps	19.8445 ns		Main Pos
				39.8ns
Amplitude			Compare & References	Remove/Clr Trace 1 / Pan/Zoom
100.00 mV				Avg(M1) Main / Off

Mainframe output, +100V into 50 Ohms, 50 kHz, 200 ns pulse width, leading edge:

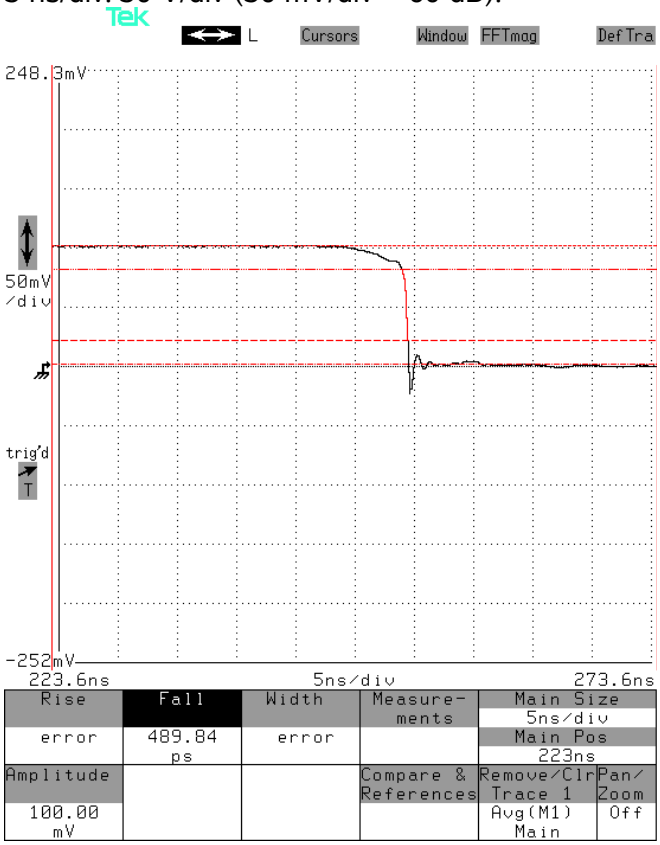
2 ns/div. 50 V/div (50 mV/div × 60 dB):



Rise	Fall	Width	Measure-ments	Main Size
				2ns/div
336.27 ps	error	error		Main Pos
				43ns
Amplitude			Compare & References	Remove/Clr Trace 1 / Pan/Zoom
100.00 mV				Avg(M1) Main / Off

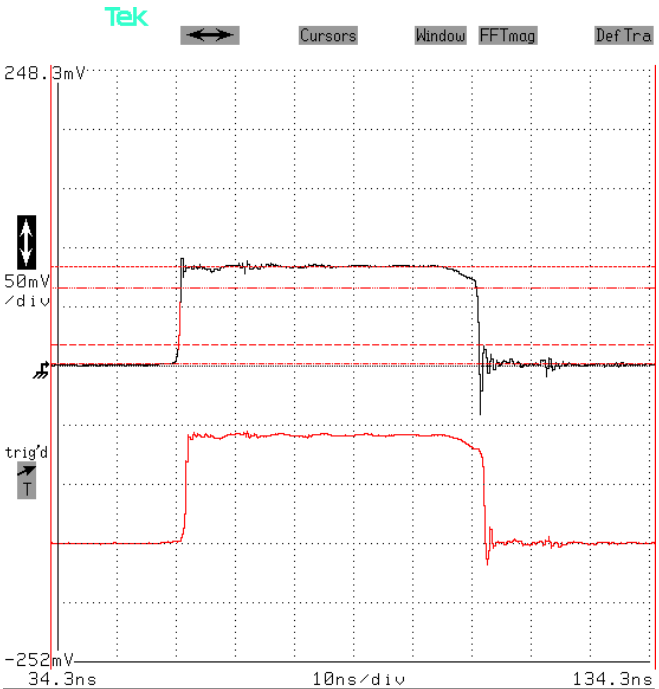
Mainframe output, +100V into 50 Ohms, 50 kHz, 200 ns pulse width, trailing edge:

5 ns/div. 50 V/div (50 mV/div × 60 dB):



Rise	Fall	Width	Measure-ments	Main Size
				5ns/div
error	489.84 ps	error		Main Pos
				223ns
Amplitude			Compare & References	Remove/Clr Trace 1 / Pan/Zoom
100.00 mV				Avg(M1) Main / Off

With mainframe set at +100V, 50 kHz, 50 ns pulse width:



Rise	Fall	Width	Measure-ments	Vert Size:M1
				50mV/div
401.75 ps	503.77 ps	50.4287 ns		Vert Offset:M1
				-1.75mV
Amplitude			Compare & References	Remove/Clr Trace 1 / Chan Sel
82.000 mV				Avg(M1) Main / M1

Top waveform: Voltage across the parallel combination of the 4.6 Ω effective resistance. It should be approximately (+100V / 54.6Ω) × 4.6Ω = +8.4V in amplitude, which agrees with the observed waveform.

Bottom waveform: “MI” output, approximately +100V / 11.

Both: 5 V/div (= 50 mV/div × 40 dB), 10 ns/div.

Test method: Short leads are soldered to a 5.1Ω chip resistor. A coaxial cable is soldered across the resistor. The signal lead is inserted into the anode pin socket. The grounded lead is inserted into the cathode pin socket. The total effective resistor is 5.1 Ω || 50 Ω (R_{SCOPE}) = 4.6 Ω.