



AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

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PERFORMANCE CHECKSHEET

Model: AVO-9H1-B-TO3-P-LLA
Type: Ultra-High-Speed Laser Diode Driver
S.N.: 13396
Date: February 9, 2016

Output Amplitude: up to +103V, to 50Ω
Pulse Width (FWHM): 10 – 500 ns
Rise Time (20%-80%): ≤ 1.2 ns
Fall Time (80%-20%): ≤ 2 ns
PRF: 1 Hz – 200 kHz
Jitter, Stability: OK
Prime Power: 100-240V AC, 50-60 Hz.

Basic specifications: →

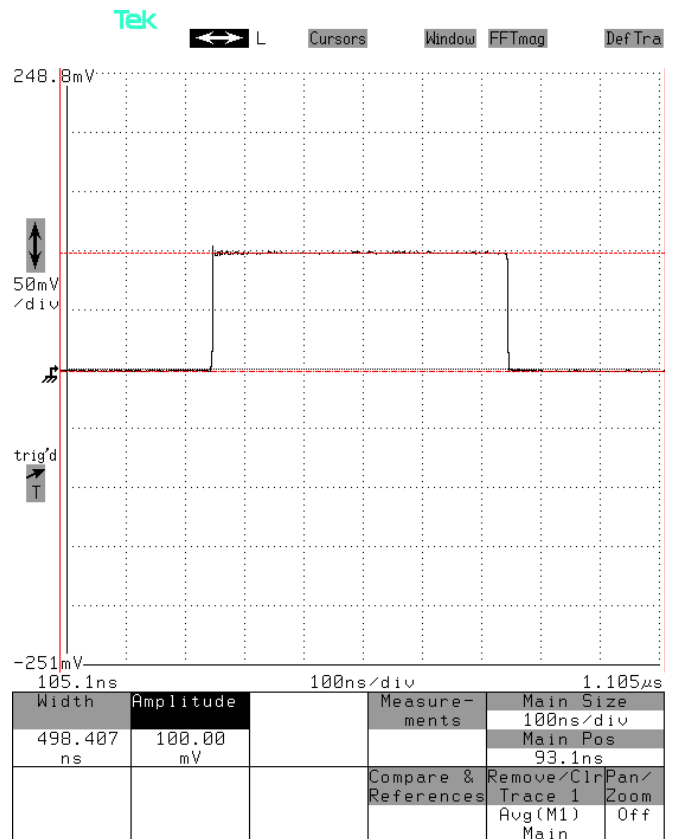
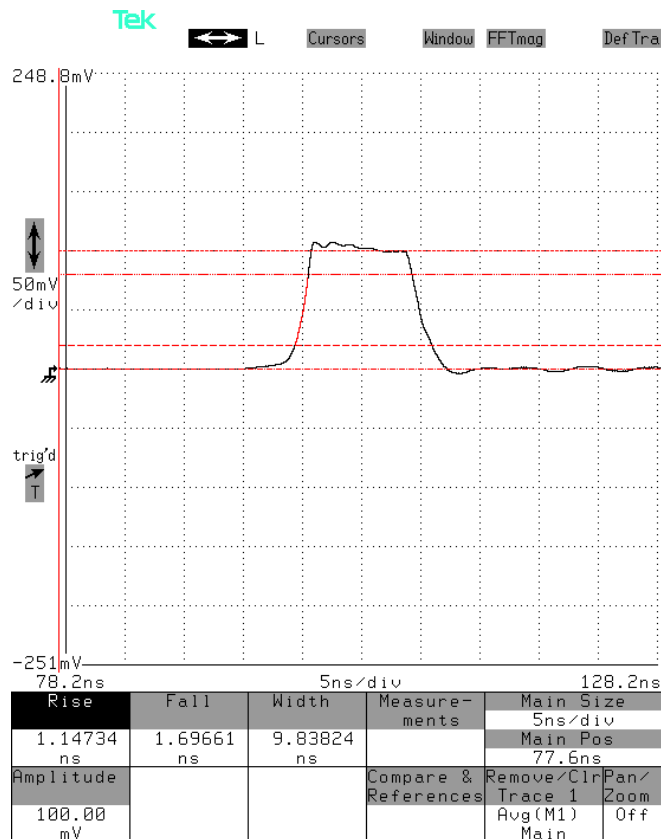
Test Waveforms

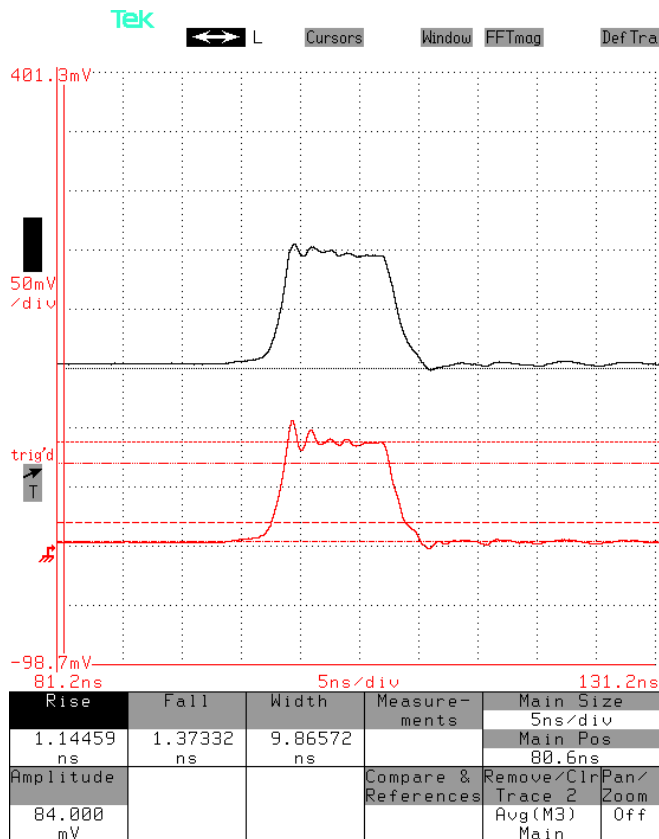
Mainframe output into 50 Ohm load at 200 kHz,
10 ns, +100V,

Mainframe output into 50 Ohm load at 20 kHz,
500 ns, +100V,

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

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



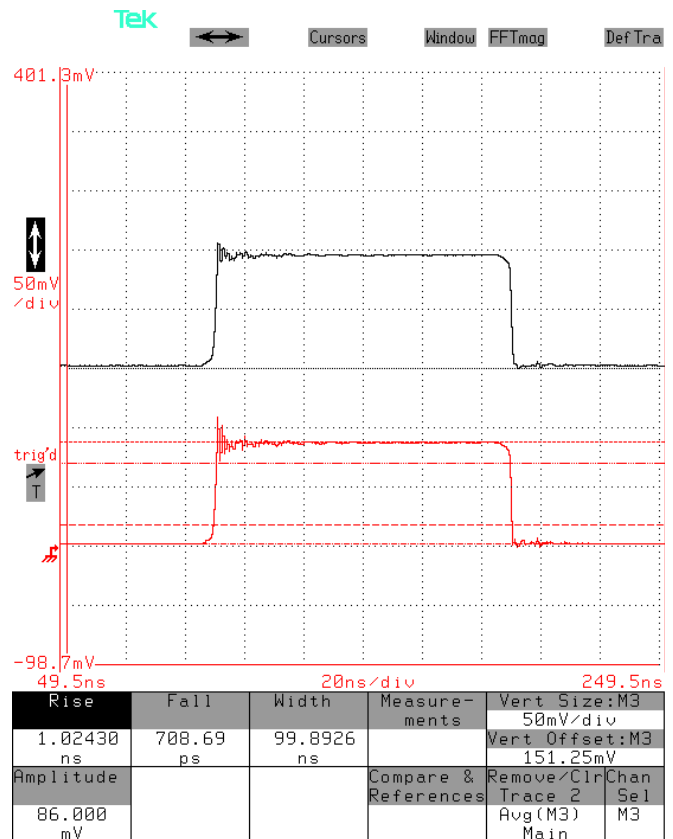


Top waveform: Voltage across the parallel combination of the 4.6Ω effective resistance. It should be approximately $(+100V / 54.6\Omega) \times 4.6\Omega = +8.4V$ in amplitude, which agrees with the observed waveform.

Bottom waveform: "MI" output, approximately $+100V / 11$.

Both: 5 ns/div, 5 V/div ($50 \text{ mV/div} \times 40 \text{ dB}$).

Settings: 200 kHz, +100V, 10 ns.



Same, but with PW = 100 ns.
Both: 20 ns/div, 5 V/div ($50 \text{ mV/div} \times 40 \text{ dB}$).

Test method: A coaxial cable is soldered across a 5.1Ω resistor. The signal lead is inserted into one of the anode pin sockets. The ground lead is screwed to the chassis ground. The total effective resistor is $5.1 \Omega \parallel 50 \Omega (R_{SCOPE}) = 4.6 \Omega$.

