Typical Pulse Overshoot of the LDP-3840/03 Precision Pulse Current Source

TECH NOTE

This technical note presents the results of pulse overshoot measurements performed on an LDP-3840/03 Precision Pulse Current Source.

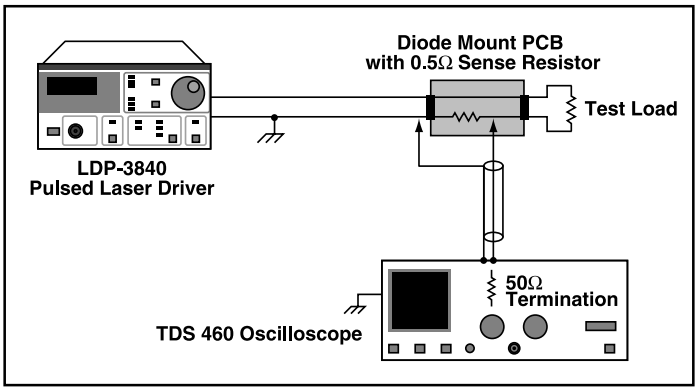

Figure 1. Measurement Setup Block Diagram.

MEASUREMENT SETUP

A block diagram of the experimental setup is shown in Figure 1. The LDP-3840/03 (3 Amp pulse driver) was used to drive a 3 Ω resistive test load, chosen to model the dynamic impedance of a typical laser diode.

Forward current was monitored with a 0.5 Ω sense resistor in series with the test load. The sense resistor was placed near the load end of the output cable to provide an accurate representation of the load current (including cable and load termination effects).

The pulse current of the LDP-3840 was set at 500 mA, and the pulse waveform measured with a digitizing oscilloscope. The overshoot algorithm of the oscilloscope was used to measure pulse overshoot. This process was repeated at 1.5 Amps and 3.0 Amps pulse amplitudes.

RESULTS

Oscilloscope traces of LDP-3840/03 are shown in Figure 2. It can be seen that the 3840 exhibited pulse overshoot of less than 4% at all pulse amplitudes.

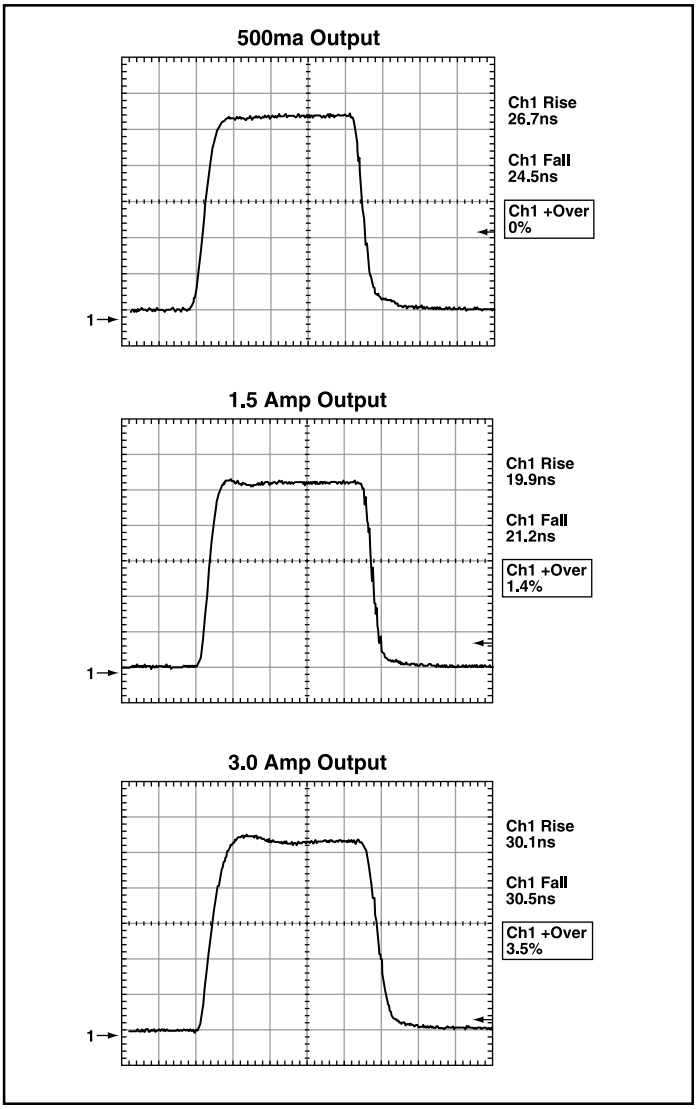

Figure 2. LDP-3840 Overshoot Measurement Results.