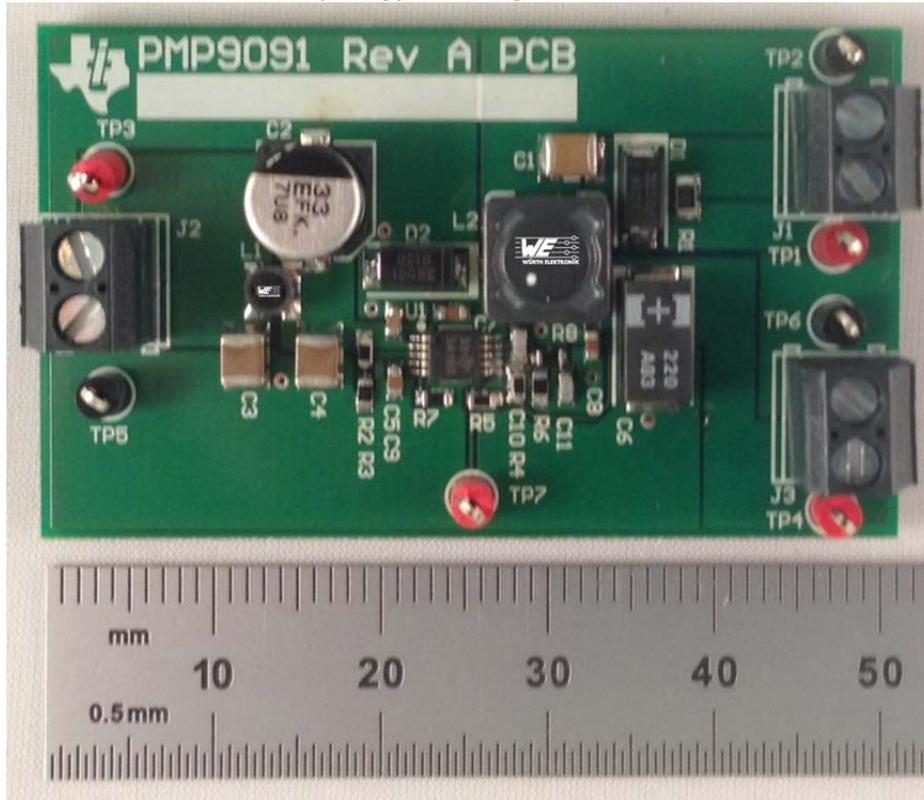


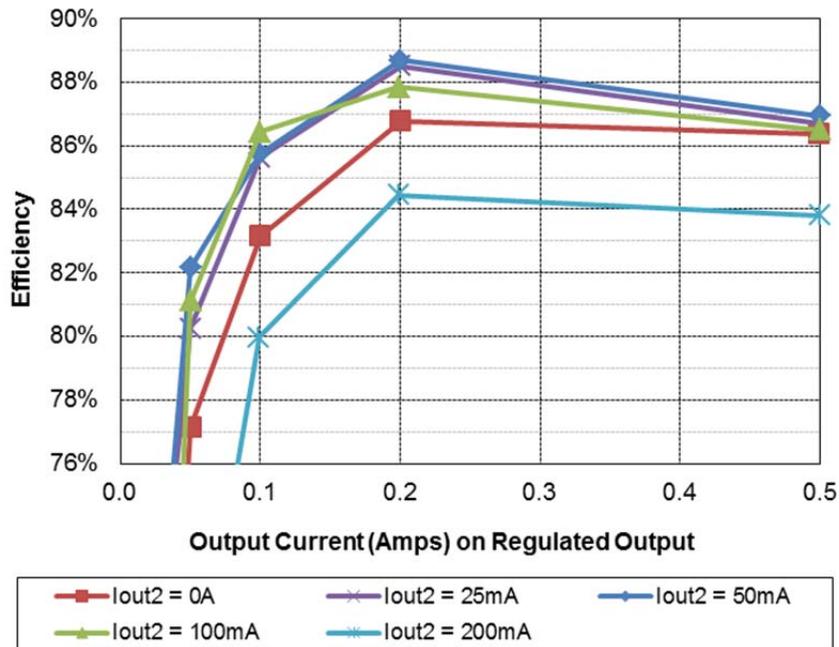
1 Photos

The photographs below show the PMP9091 Rev A prototype assembly.



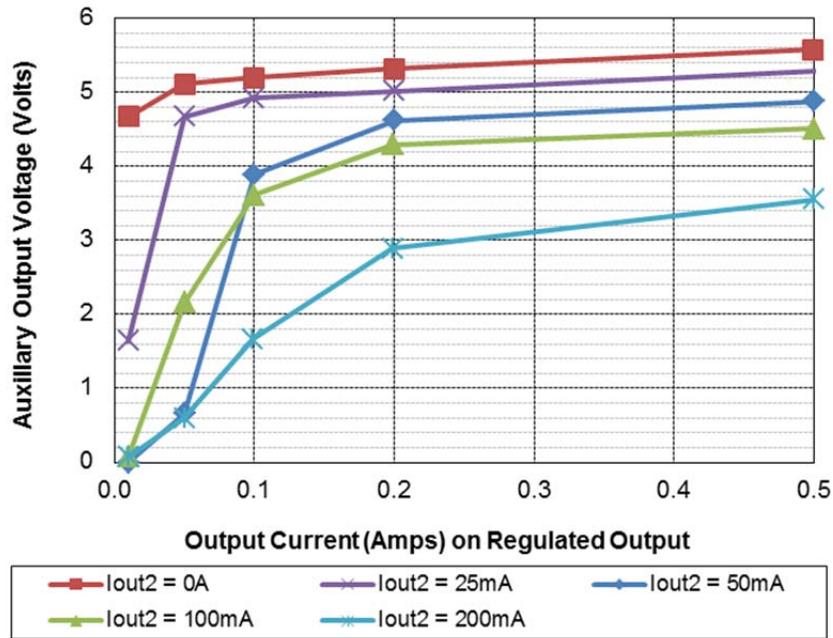
2 Efficiency

The efficiency data is shown in the tables and graph below.



Iout2 = 0A									
Regulated Vout		Auxilliary Vout					Total		
lout	Vout	lout	Vout	Vin	lin	Pin	Pout	Losses	Efficiency
0.010	4.99	0.000	4.67	11.99	0.009	0.108	0.05	0.06	46.2%
0.050	4.99	0.000	5.11	11.98	0.027	0.323	0.25	0.07	77.1%
0.100	4.99	0.000	5.20	12.00	0.050	0.600	0.50	0.10	83.2%
0.200	4.99	0.000	5.32	11.98	0.096	1.150	1.00	0.15	86.8%
0.499	4.99	0.000	5.58	12.01	0.240	2.882	2.49	0.39	86.4%
Iout2 = 25mA									
Regulated Vout		Auxilliary Vout					Total		
lout	Vout	lout	Vout	Vin	lin	Pin	Pout	Losses	Efficiency
0.010	4.99	0.025	1.64	12.03	0.012	0.144	0.09	0.05	63.0%
0.050	4.99	0.025	4.67	12.01	0.038	0.456	0.37	0.09	80.3%
0.100	4.99	0.026	4.92	12.00	0.061	0.732	0.63	0.11	85.6%
0.200	4.99	0.027	5.02	11.97	0.107	1.281	1.13	0.15	88.5%
0.501	4.99	0.025	5.28	12.00	0.253	3.036	2.63	0.40	86.7%
Iout2 = 50mA									
Regulated Vout		Auxilliary Vout					Total		
lout	Vout	lout	Vout	Vin	lin	Pin	Pout	Losses	Efficiency
0.010	4.99	0.048	0.66	12.03	0.011	0.132	0.08	0.05	61.6%
0.050	4.99	0.050	3.89	12.01	0.045	0.540	0.44	0.10	82.2%
0.100	4.99	0.050	4.62	11.99	0.071	0.851	0.73	0.12	85.8%
0.200	4.99	0.050	4.88	11.97	0.117	1.400	1.24	0.16	88.7%
0.500	4.99	0.051	5.01	12.03	0.263	3.164	2.75	0.41	86.9%
Iout2 = 100mA									
Regulated Vout		Auxilliary Vout					Total		
lout	Vout	lout	Vout	Vin	lin	Pin	Pout	Losses	Efficiency
0.010	4.99	0.103	0.07	12.03	0.012	0.144	0.06	0.09	39.6%
0.050	4.99	0.101	2.16	12.01	0.048	0.576	0.47	0.11	81.1%
0.100	4.99	0.100	3.61	11.99	0.083	0.995	0.86	0.13	86.4%
0.199	4.99	0.100	4.29	11.99	0.135	1.619	1.42	0.20	87.9%
0.500	4.99	0.101	4.51	12.01	0.284	3.411	2.95	0.46	86.5%
Iout2 = 200mA									
Regulated Vout		Auxilliary Vout					Total		
lout	Vout	lout	Vout	Vin	lin	Pin	Pout	Losses	Efficiency
0.010	4.99	0.103	0.07	12.03	0.012	0.144	0.06	0.09	39.6%
0.050	4.99	0.203	0.60	12.01	0.046	0.552	0.37	0.18	67.3%
0.099	4.99	0.198	1.67	11.99	0.086	1.031	0.82	0.21	80.0%
0.199	4.99	0.199	2.89	11.98	0.155	1.857	1.57	0.29	84.4%
0.500	4.99	0.203	3.55	11.99	0.320	3.837	3.22	0.62	83.8%

3 Cross-Regulation



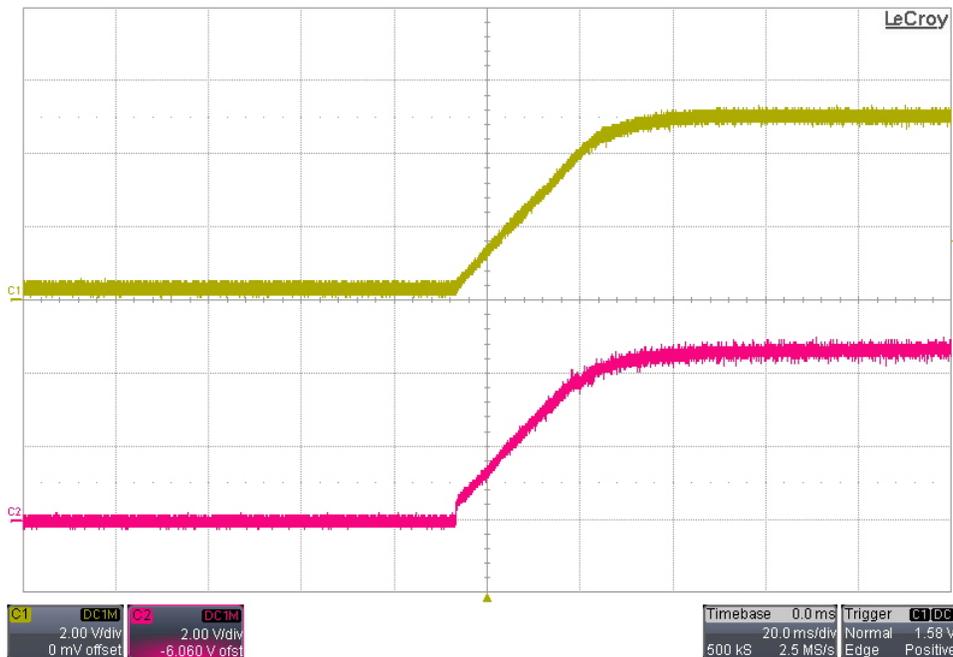
4 Thermal Images

The thermal image below shows the assembly with a 500mA load on the regulated output and a 200mA load on the auxiliary output. The input voltage was 12V. The ambient temperature was 25°C.



5 Startup

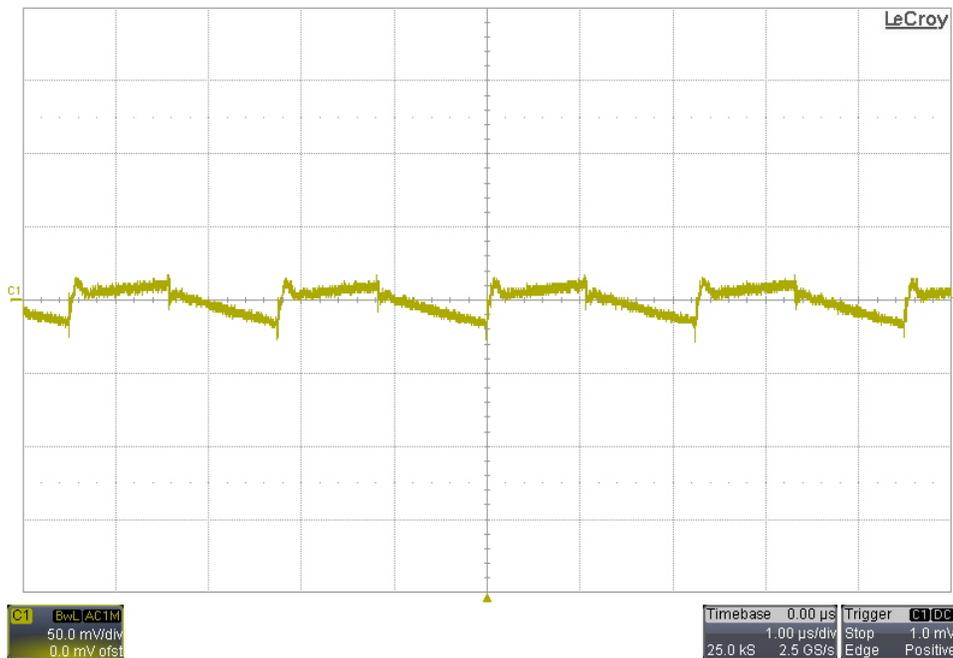
The output voltages at startup are shown in the images below. Channel 1 shows the regulated output voltage. Channel 2 shows the auxilliary output voltage. The regulated output was loaded with 200mA, and the auxilliary output was loaded with 50mA. The input voltage was 12V.



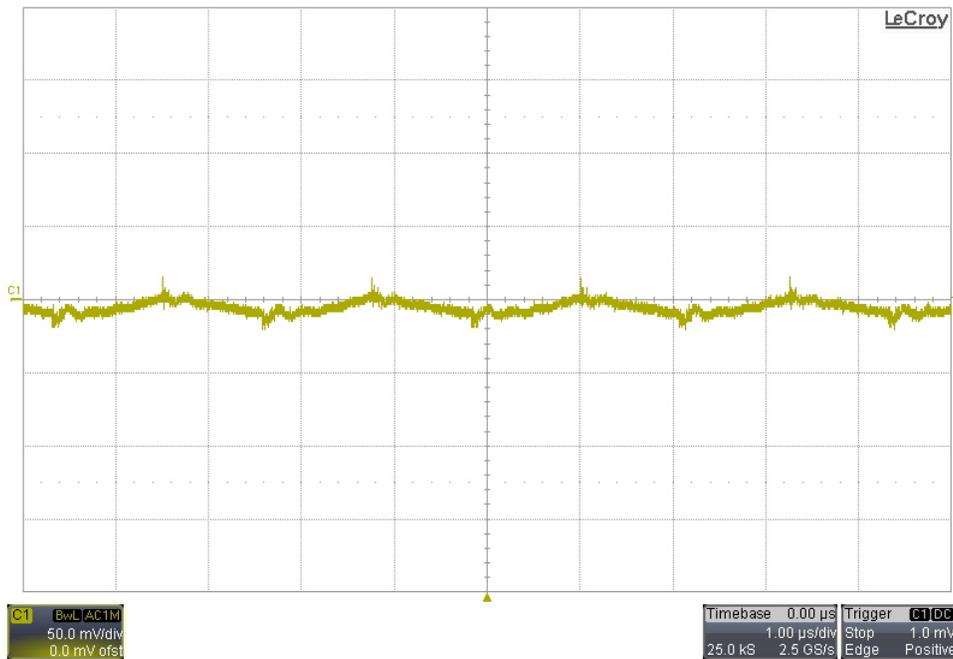
6 Output Ripple Voltage

The input voltage was 12V. The regulated output was loaded with 500mA and the auxilliary output was loaded with 200mA.

6.1 Regulated Output

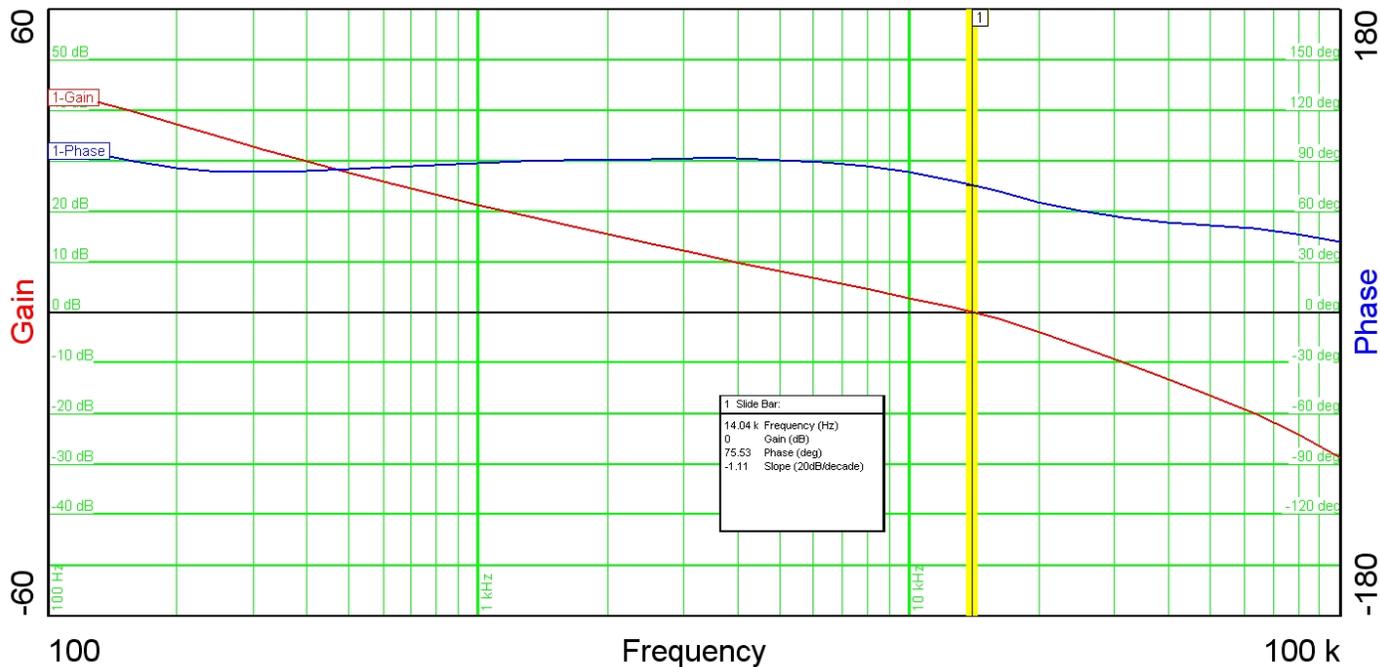


6.2 Auxilliary Output



7 Frequency Response

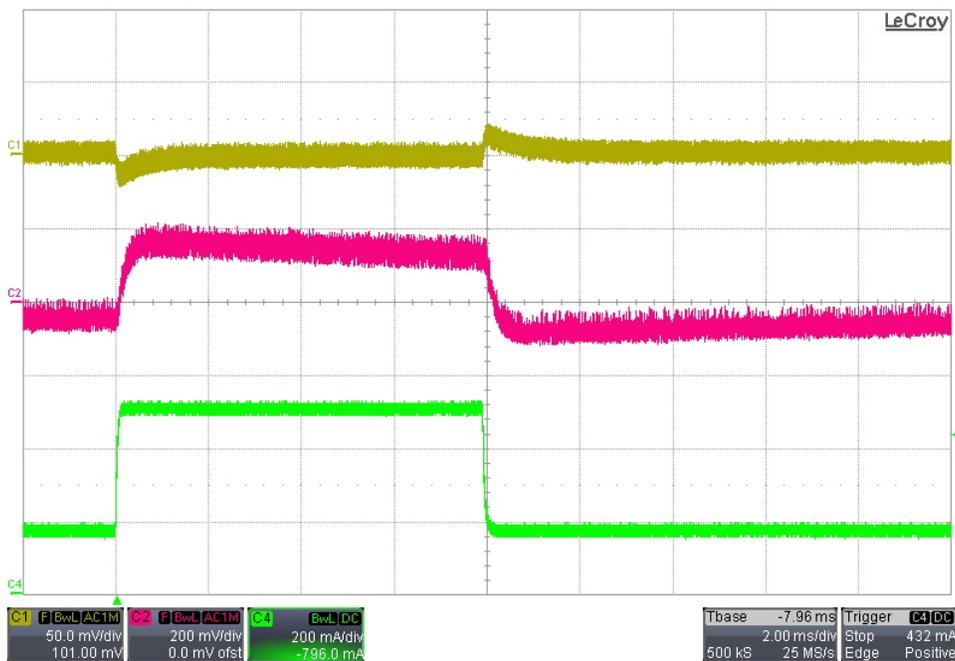
The input voltage was 12V. The regulated output was loaded with 500mA and the auxilliary output was loaded with 200mA.



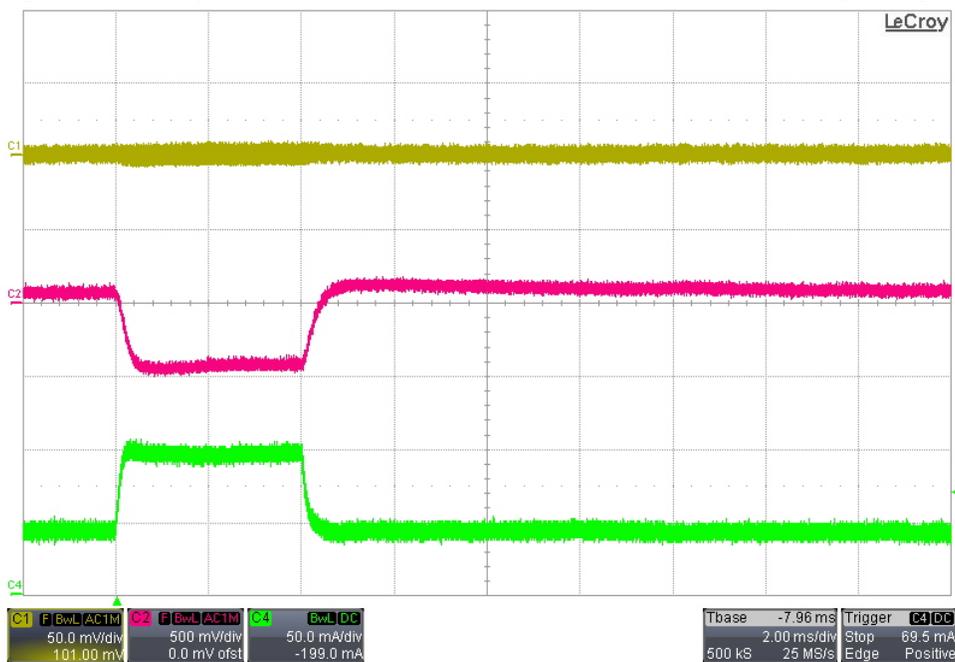
8 Load Transients

The input voltage was 12V. Channel 1 shows the regulated output voltage (ac coupled). Channel 2 shows the auxilliary output voltage (ac coupled). Channel 4 shows the stepped load current.

8.1 50Ω on Auxilliary Output; 200mA to 500mA Transient on Regulated Output

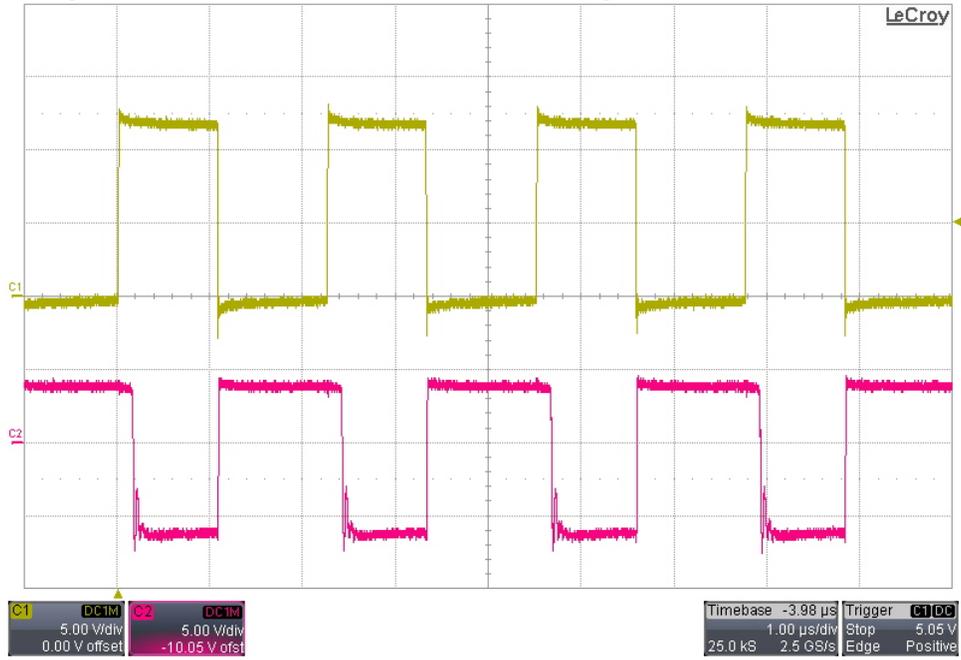


8.2 10Ω on Regulated Output; 50mA to 100mA Transient on Auxilliary Output



9 Switching Waveforms

The input voltage was 12V. The regulated output was loaded with 500mA and the auxilliary output was loaded with 200mA. Channel 1 shows the voltage on the anode of D2. Channel 2 shows the voltage on the anode of D1.



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