

**Test Data
For PMP7965
5/15/2013**

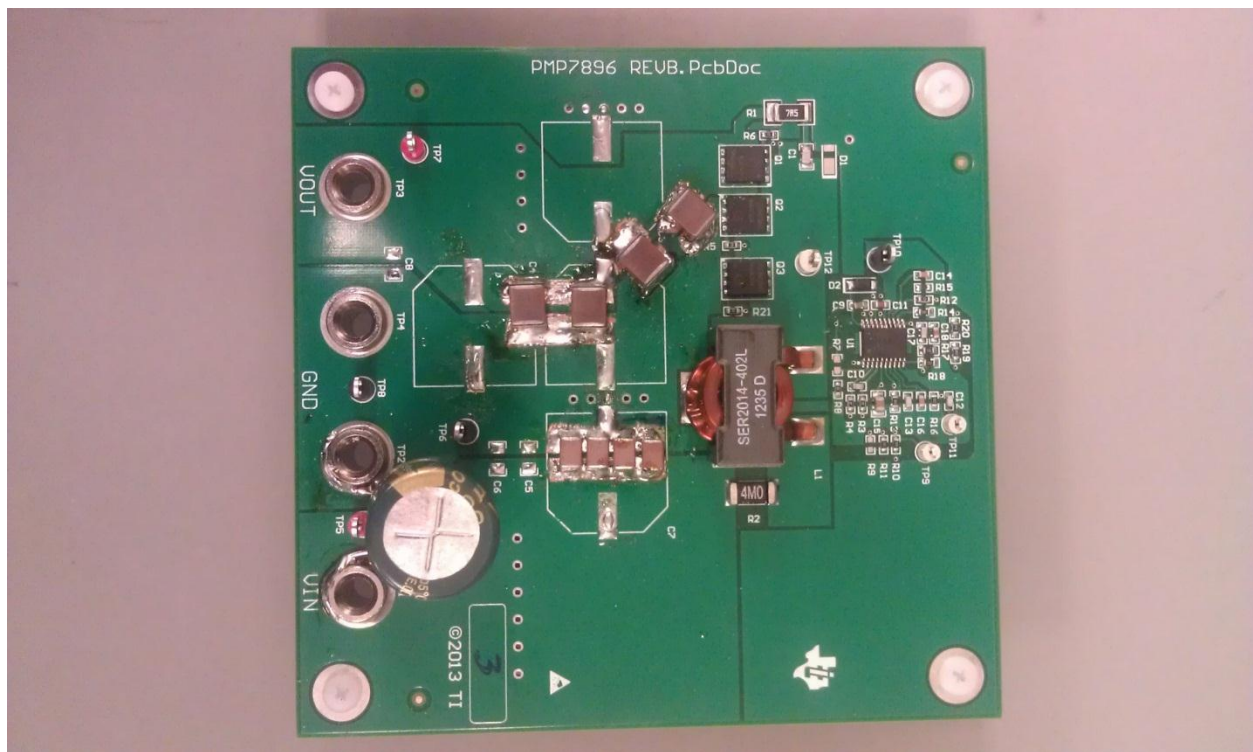


Vin Range	12V to 50V
Vout	48V
Iout Max	2.5A
Fsw	230 kHz

FABRICATION

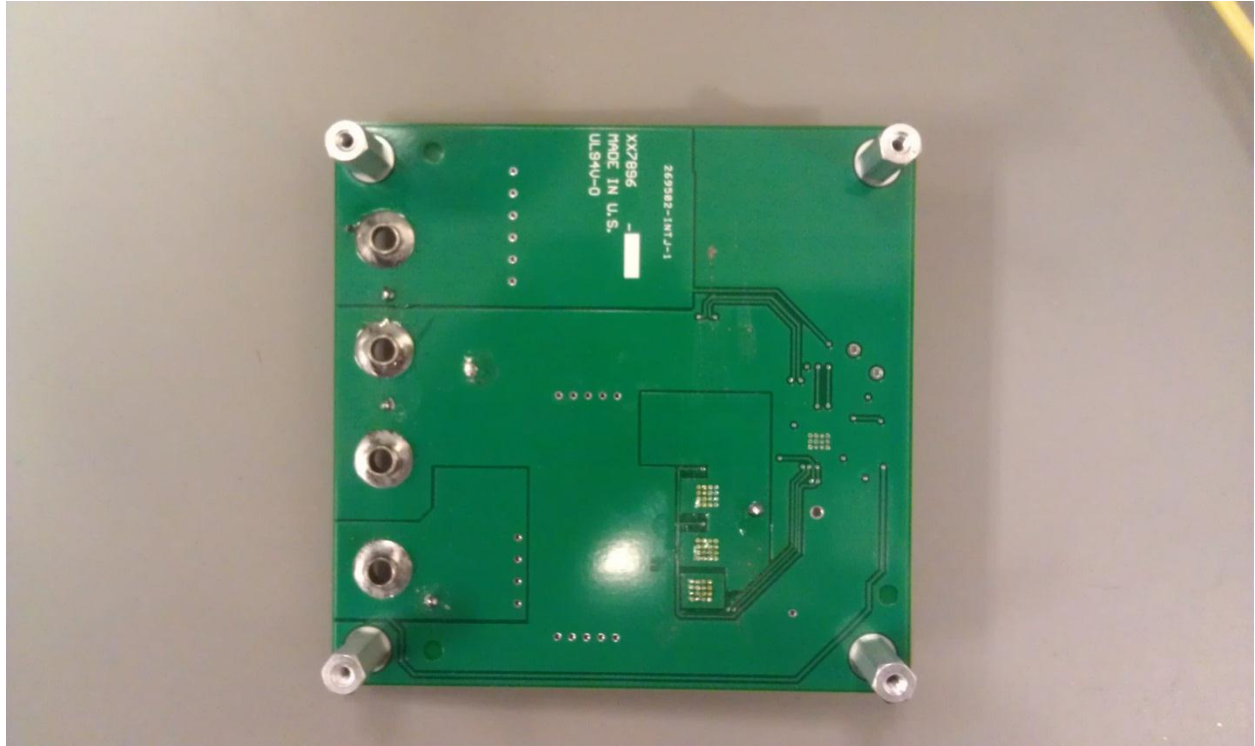
Board Dimensions: 4" X 3.7"

Top Side



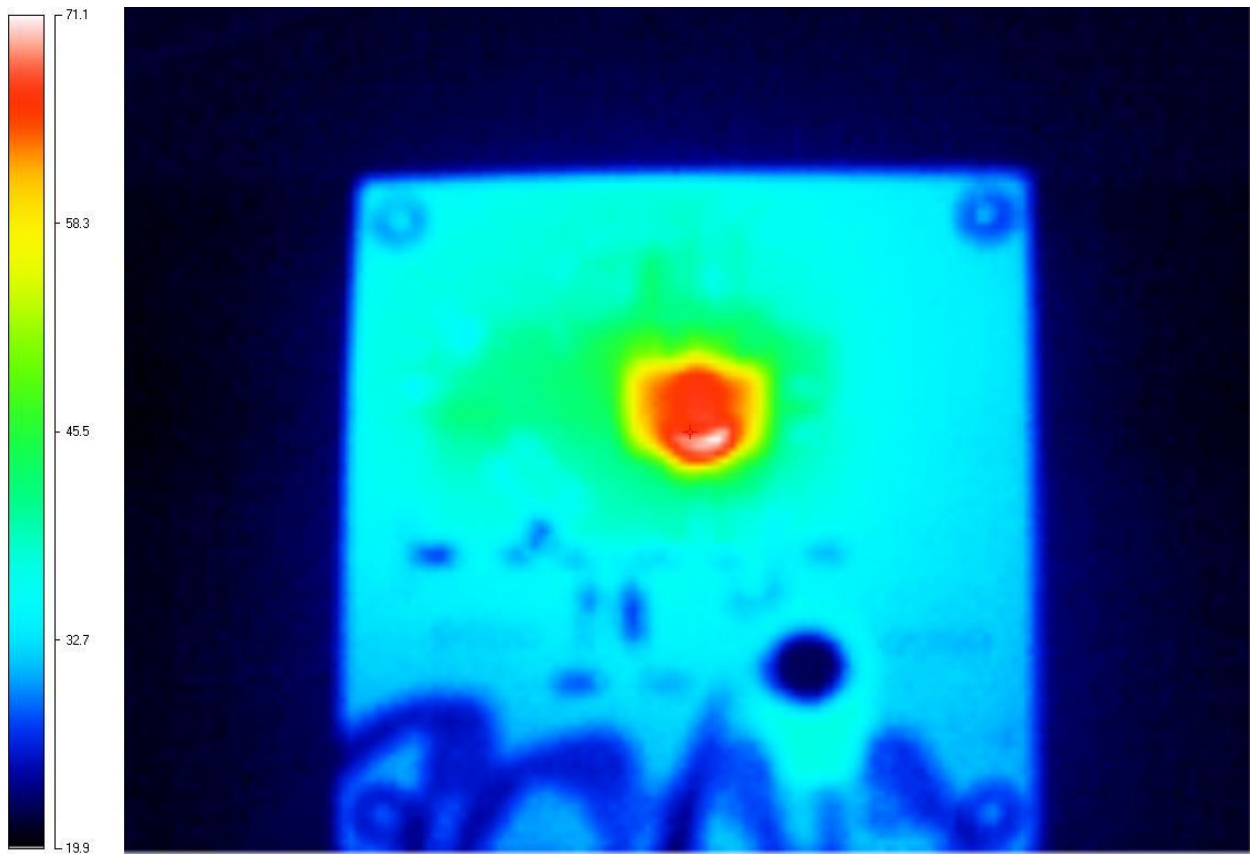
Note: Due to long input leads from the power supply forming large inductances a bulk capacitor at the input (seen in green in picture) was utilized for dampening.

Bottom Side



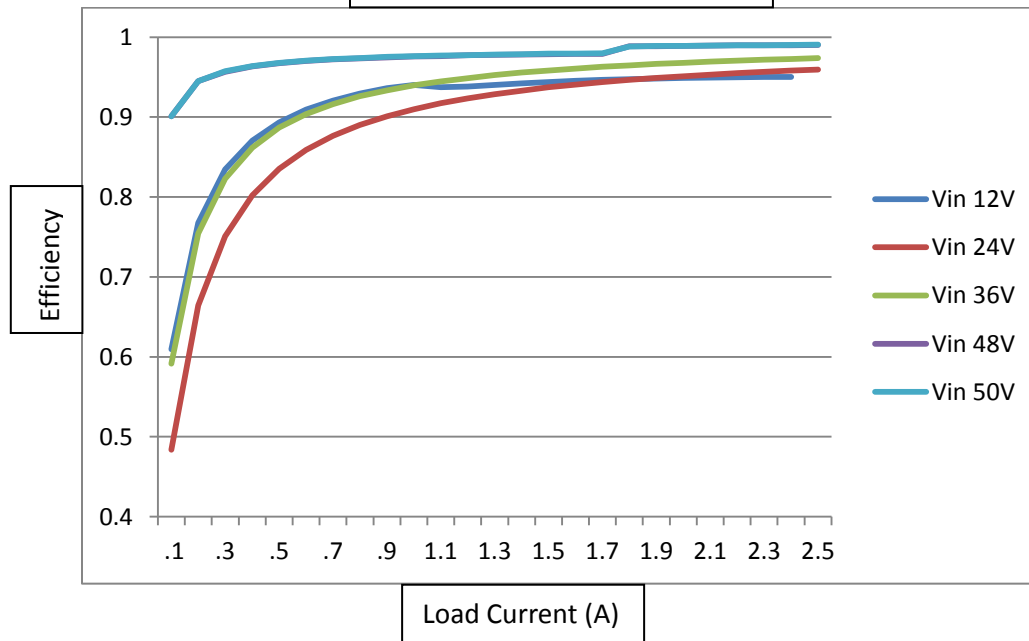
Thermal Performance

24Vin with a load of 2.5A at 48Vout Steady State Temperature



Efficiency Curve

PMP7965 Efficiency Results



Efficiency Curve Data

Vin (V)	Iin (A)	Vout (V)	Iout (A)	Pin (W)	Pout (W)	Efficiency
12.22717	0.573321	47.93984	0.089113	7.010093	4.272086	0.609419
12.22131	0.966681	47.93989	0.189155	11.81411	9.06806	0.767562
12.21557	1.361022	47.94017	0.289357	16.62566	13.87182	0.834362
12.20961	1.756457	47.93999	0.389455	21.44565	18.67045	0.870594
12.20375	2.152189	47.9401	0.489525	26.26477	23.4679	0.893513
12.19787	2.548038	47.93994	0.589541	31.08065	28.26255	0.909329
12.19192	2.945215	47.93987	0.68961	35.90782	33.0598	0.920685
12.18604	3.343412	47.93996	0.789838	40.74294	37.86481	0.929359
12.18008	3.742654	47.94018	0.889997	45.58584	42.66663	0.935962
12.17405	4.147745	47.94022	0.990236	50.49485	47.47211	0.940138
12.16759	4.58253	47.93978	1.090189	55.75834	52.2634	0.93732
12.16127	5.001553	47.93952	1.1902	60.82524	57.05763	0.938058
12.15519	5.411568	47.93868	1.29019	65.77864	61.85001	0.940275
12.14918	5.82172	47.9384	1.390353	70.7291	66.65128	0.942346
12.143	6.233535	47.93717	1.490459	75.69379	71.4484	0.943914
12.13678	6.646061	47.936	1.590575	80.66178	76.24582	0.945253
12.13081	7.058757	47.93449	1.69055	85.62846	81.03565	0.946364
12.12468	7.472879	47.93306	1.790719	90.6063	85.83464	0.947336
12.11847	7.887721	47.93207	1.890868	95.58712	90.63323	0.948174

12.11235	8.303399	47.93113	1.990922	100.5737	95.42714	0.948828
12.10615	8.720881	47.93072	2.09103	105.5763	100.2246	0.949309
12.09982	9.138633	47.92988	2.191126	110.5758	105.0204	0.949759
12.09364	9.556934	47.92971	2.290974	115.5781	109.8057	0.950057
12.08748	9.977358	47.92983	2.391121	120.6011	114.606	0.95029
24.4713	0.360607	47.94099	0.089023	8.824528	4.267827	0.483632
24.4684	0.557928	47.94118	0.189144	13.6516	9.067787	0.664229
24.46553	0.754762	47.94105	0.289216	18.46564	13.86533	0.750872
24.46252	0.951709	47.94116	0.389469	23.2812	18.6716	0.802003
24.45963	1.148786	47.9411	0.489484	28.09888	23.46641	0.835137
24.45657	1.345393	47.94124	0.589418	32.90369	28.25742	0.858792
24.45372	1.542413	47.94113	0.689621	37.71774	33.06118	0.876542
24.45084	1.739612	47.94122	0.789682	42.53498	37.8583	0.890051
24.44789	1.936811	47.94105	0.889822	47.35094	42.659	0.900911
24.44483	2.134212	47.94106	0.989945	52.17045	47.45903	0.909692
24.44201	2.331151	47.94109	1.090109	56.97801	52.261	0.917214
24.43899	2.52863	47.94097	1.189989	61.79715	57.04922	0.923169
24.4361	2.725679	47.94109	1.290177	66.60497	61.85247	0.928646
24.43318	2.923595	47.94103	1.39031	71.43272	66.65291	0.933087
24.43022	3.120815	47.94117	1.490401	76.2422	71.45158	0.937166
24.42728	3.318577	47.94127	1.590464	81.0638	76.24886	0.940603
24.42456	3.515877	47.94113	1.690505	85.87376	81.04471	0.943766
24.42149	3.714004	47.94137	1.790639	90.70151	85.8457	0.946464
24.41848	3.912139	47.94149	1.890757	95.5285	90.64574	0.948887
24.41558	4.110144	47.94159	1.990804	100.3516	95.4423	0.951079
24.41266	4.308052	47.94143	2.090872	105.171	100.2394	0.953109
24.40949	4.506535	47.94143	2.190911	110.0022	105.0354	0.954848
24.40663	4.704378	47.94136	2.290897	114.818	109.8287	0.956546
24.40377	4.903088	47.94139	2.391016	119.6538	114.6286	0.958002
24.40064	5.101984	47.94156	2.490958	124.4917	119.4204	0.959264
36.71352	0.196298	47.94227	0.088903	7.206791	4.262202	0.591415
36.71161	0.327183	47.94231	0.189049	12.0114	9.063433	0.754569
36.70942	0.45887	47.94216	0.289158	16.84486	13.86286	0.822973
36.70757	0.590023	47.9423	0.389284	21.65829	18.66316	0.86171
36.70562	0.720713	47.94222	0.489367	26.4542	23.46135	0.886866
36.70361	0.851792	47.9423	0.589402	31.26384	28.25728	0.903833
36.70172	0.983204	47.94212	0.689502	36.08527	33.05619	0.916058
36.69971	1.114121	47.9424	0.789728	40.88792	37.86144	0.925981
36.6979	1.245435	47.94238	0.889742	45.70484	42.65634	0.9333
36.69578	1.376369	47.94227	0.989819	50.50694	47.45415	0.939557

36.69391	1.507813	47.94235	1.089964	55.32755	52.25544	0.944474
36.69192	1.638835	47.94239	1.189959	60.13201	57.0495	0.948738
36.69001	1.769793	47.94262	1.290133	64.93373	61.85236	0.952546
36.68804	1.901051	47.94249	1.390259	69.74584	66.65248	0.955648
36.68619	2.032447	47.94264	1.490229	74.56274	71.44552	0.958193
36.68417	2.163602	47.94249	1.590417	79.36994	76.24854	0.960673
36.6822	2.294531	47.94245	1.690292	84.16844	81.03677	0.962793
36.68042	2.425848	47.94263	1.790463	88.98111	85.83952	0.964694
36.67821	2.557134	47.94266	1.890691	93.79109	90.64475	0.966454
36.67647	2.68871	47.94264	1.990881	98.6124	95.44812	0.967912
36.67457	2.819866	47.94259	2.090866	103.4174	100.2415	0.969291
36.67237	2.951516	47.94271	2.190975	108.2391	105.0413	0.970456
36.67037	3.082615	47.94261	2.290854	113.0406	109.8295	0.971593
36.66848	3.214103	47.94278	2.390897	117.8563	114.6262	0.972593
36.66662	3.345331	47.94275	2.490931	122.662	119.4221	0.973587
48.95241	0.097395	48.30116	0.08894	4.767697	4.295893	0.901041
48.95065	0.197474	48.27902	0.189225	9.666471	9.135594	0.945081
48.94942	0.298064	48.26571	0.289207	14.59006	13.95877	0.956732
48.94781	0.398346	48.25557	0.389286	19.49816	18.7852	0.963434
48.94638	0.49866	48.24763	0.489373	24.40762	23.6111	0.967366
48.94492	0.598683	48.24083	0.589293	29.30248	28.42798	0.970156
48.94334	0.698892	48.23495	0.689478	34.2061	33.25692	0.972251
48.94171	0.799279	48.22949	0.789642	39.11809	38.08404	0.973566
48.94018	0.899537	48.22462	0.889738	44.0235	42.90729	0.974645
48.93881	0.99943	48.22005	0.989769	48.91089	47.72673	0.97579
48.93741	1.099849	48.216	1.089888	53.82376	52.55005	0.976336
48.93576	1.199612	48.21209	1.189891	58.70392	57.36711	0.977228
48.93435	1.299927	48.20836	1.29013	63.61108	62.19508	0.97774
48.93271	1.399974	48.20478	1.390054	68.50453	67.00726	0.978144
48.93132	1.50028	48.20157	1.490197	73.41069	71.82985	0.978466
48.92978	1.600456	48.1984	1.590359	78.30996	76.65277	0.978838
48.92844	1.700544	48.19531	1.690397	83.20497	81.4692	0.979139
48.92676	1.800712	48.64597	1.790436	88.103	87.09749	0.988587
48.92561	1.901027	48.63053	1.890818	93.00891	91.95146	0.988631
48.92394	2.001195	48.64078	1.99072	97.90635	96.83017	0.989008
48.92251	2.101315	48.6427	2.090813	102.8016	101.7028	0.989311
48.92095	2.20121	48.64292	2.190964	107.6853	106.5749	0.989688
48.91968	2.301189	48.63363	2.290882	112.5734	111.4139	0.9897
48.91808	2.401281	48.62176	2.391124	117.4661	116.2607	0.989739
48.91638	2.501268	48.63098	2.491022	122.353	121.1408	0.990093

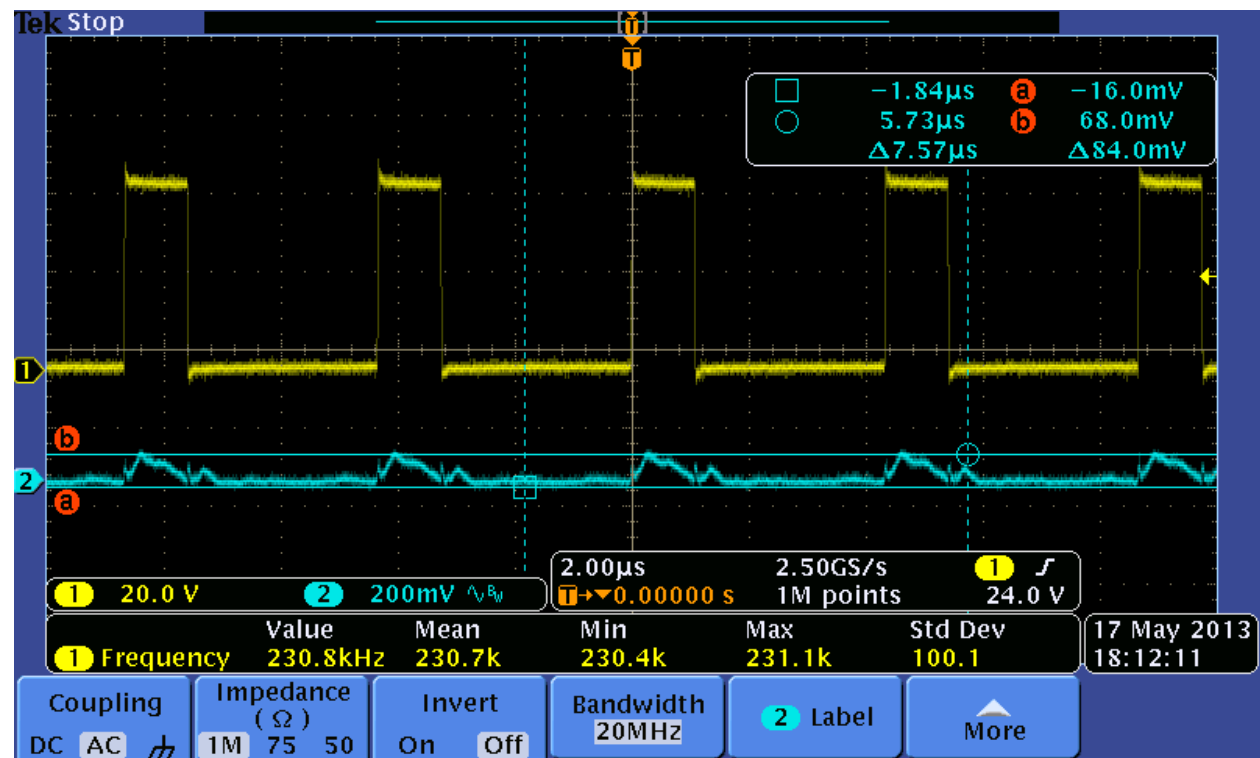
50.99118	0.097484	50.33981	0.088977	4.97081	4.479104	0.901081
50.98971	0.197522	50.31767	0.189126	10.07161	9.516396	0.944873
50.98806	0.29804	50.30408	0.289165	15.19646	14.54616	0.957207
50.9865	0.398346	50.29422	0.389246	20.31026	19.57684	0.963889
50.9852	0.498823	50.28638	0.489395	25.43256	24.60991	0.967654
50.98382	0.598829	50.27951	0.58934	30.53057	29.63171	0.970559
50.98208	0.699086	50.27333	0.689542	35.64088	34.66558	0.972635
50.98059	0.799547	50.26811	0.78971	40.76136	39.69724	0.973894
50.97906	0.899537	50.26326	0.88987	45.85754	44.72776	0.975363
50.97774	0.999932	50.25865	0.989962	50.97429	49.75416	0.976064
50.97635	1.10006	50.25456	1.089995	56.07704	54.77724	0.976821
50.9745	1.200083	50.25071	1.190062	61.17363	59.80145	0.977569
50.97313	1.299975	50.24715	1.290158	66.26379	64.82676	0.978313
50.97167	1.400103	50.24353	1.390139	71.36558	69.8455	0.9787
50.97036	1.500191	50.24028	1.490322	76.46528	74.87419	0.979192
50.96888	1.600578	50.23703	1.590445	81.57967	79.89922	0.979401
50.96722	1.700795	50.23378	1.690448	86.68478	84.9176	0.979614
50.96582	1.801077	50.67608	1.790353	91.79336	90.72805	0.988395
50.9643	1.901327	50.68068	1.890868	96.89979	95.83049	0.988965
50.96261	2.001503	50.68362	1.990702	102.0018	100.896	0.989159
50.96122	2.101639	50.67109	2.091121	107.1021	105.9594	0.989331
50.96007	2.201259	50.67131	2.191086	112.1763	111.0252	0.989738
50.95852	2.301578	50.67499	2.291047	117.285	116.0988	0.989886
50.95705	2.401508	50.67286	2.390992	122.3738	121.1584	0.990069
50.95542	2.501389	50.68295	2.491004	127.4593	126.2514	0.990523

Waveforms

CH1 Primary Switch Node

CH2 Vout

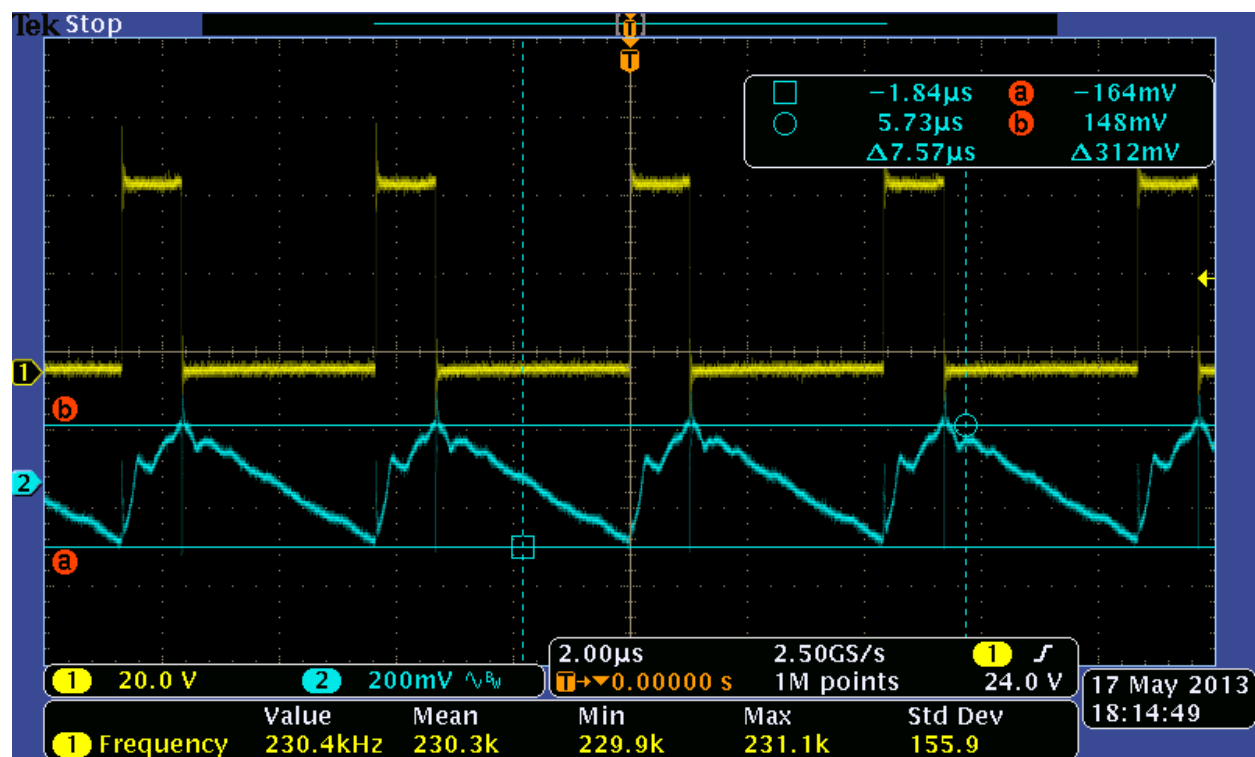
12Vin, 48Vout @ No Load Current (84mVp-p Ripple)



CH1 Primary Switch Node

CH2 Vout

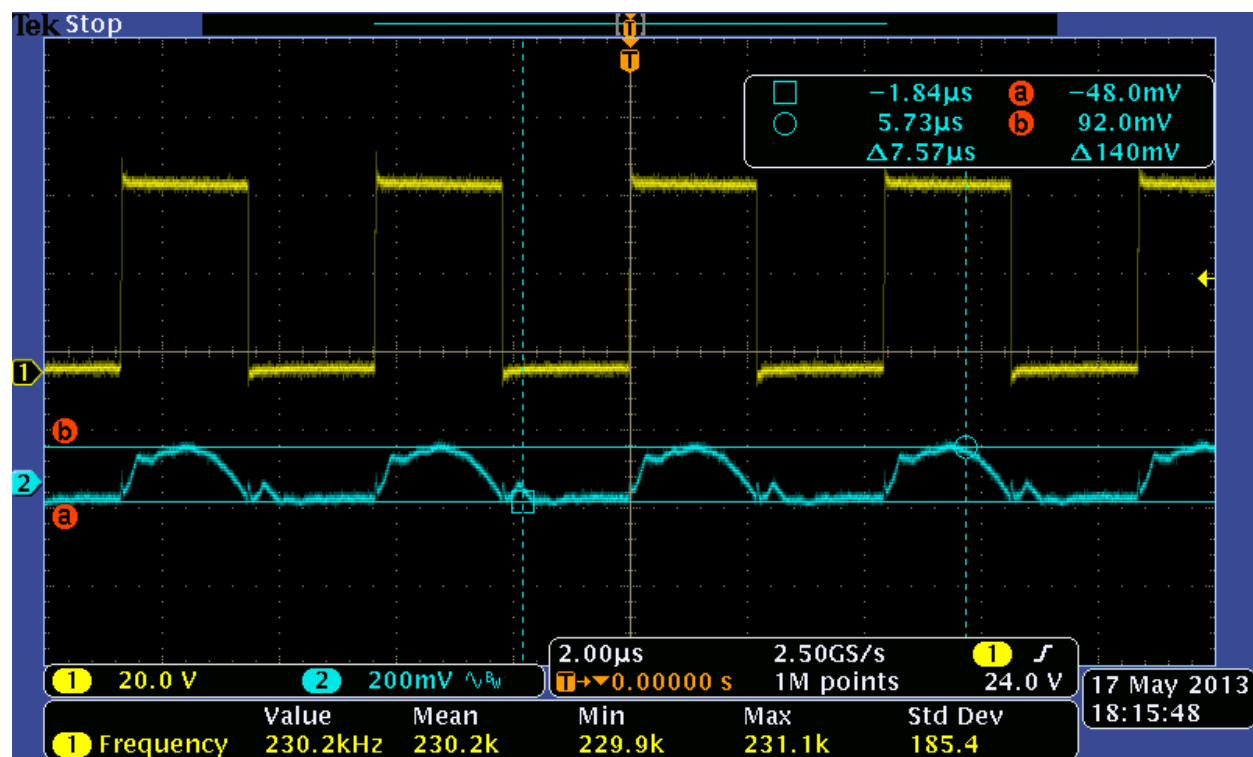
12Vin, 48Vout @ 2.5A Load Current (312mVp-p Ripple)



CH1 Primary Switch Node

CH2 Vout

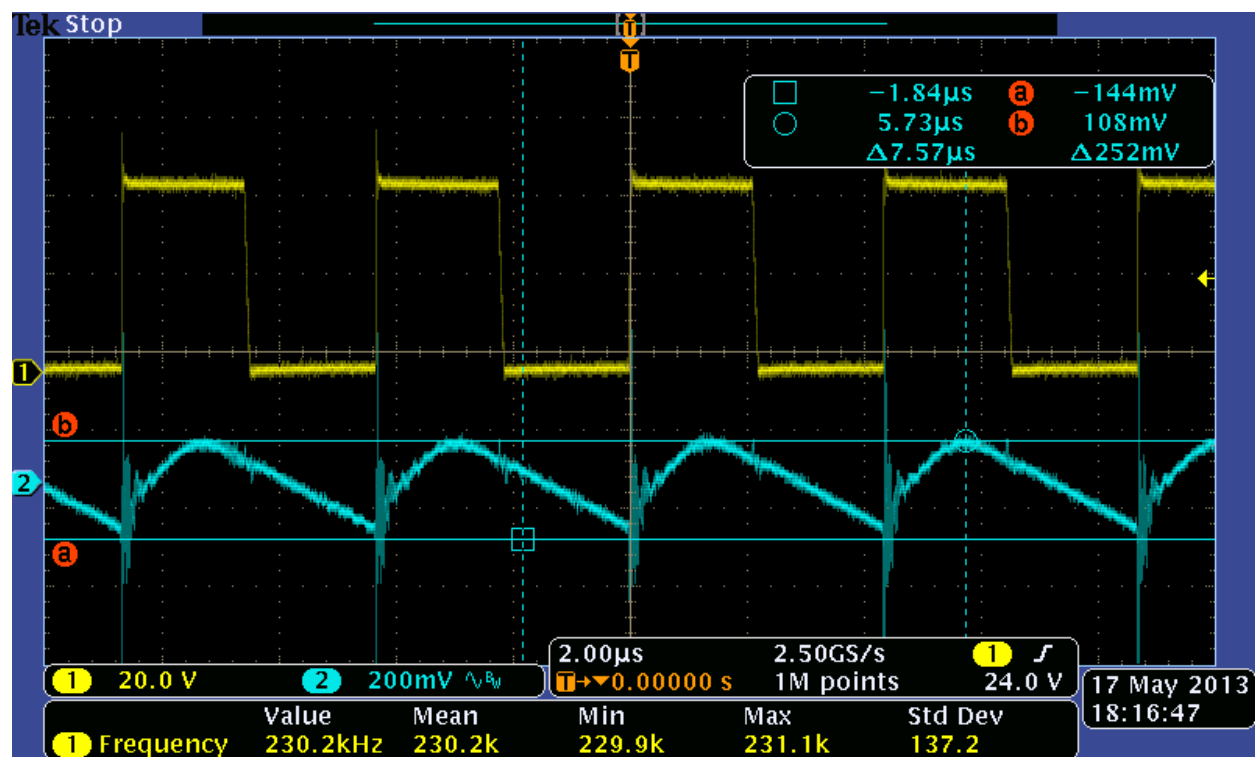
24Vin, 48Vout @ No Load Current (140mVp-p Ripple)



CH1 Primary Switch Node

CH2 Vout

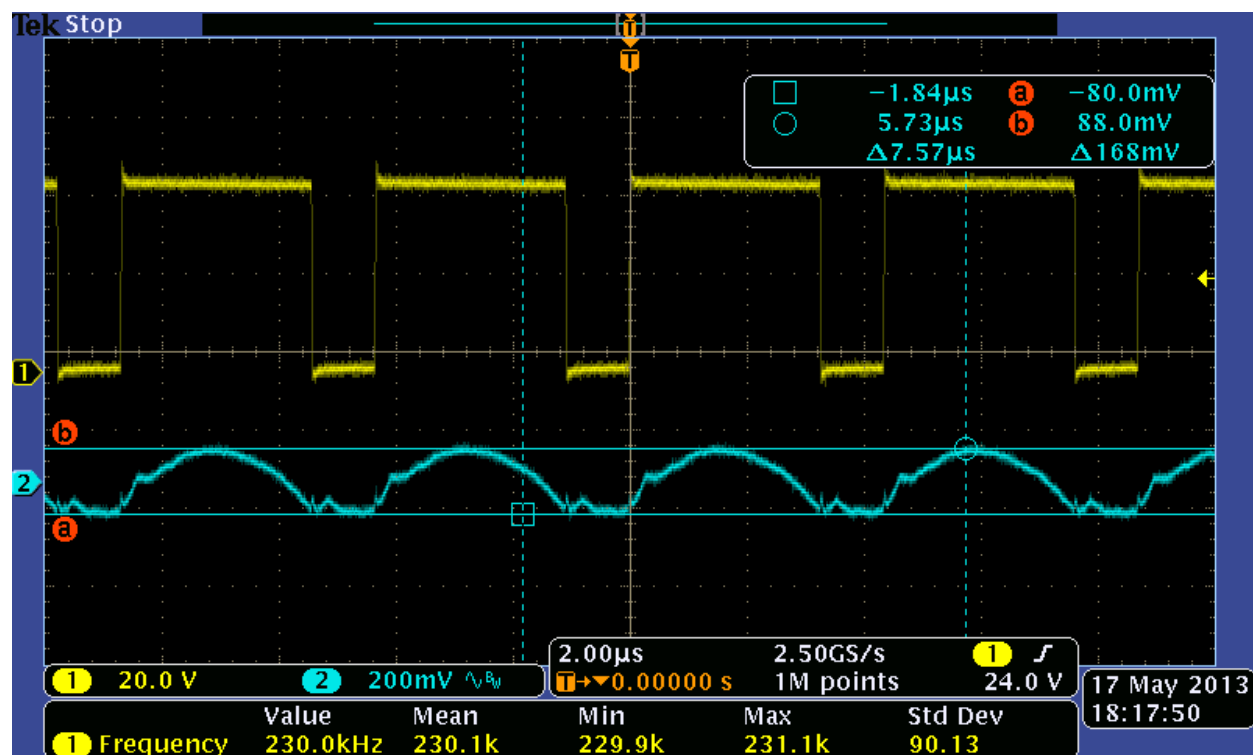
24Vin, 48Vout @ 2.5A Load Current (252mVp-p Ripple)



CH1 Primary Switch Node

CH2 Vout

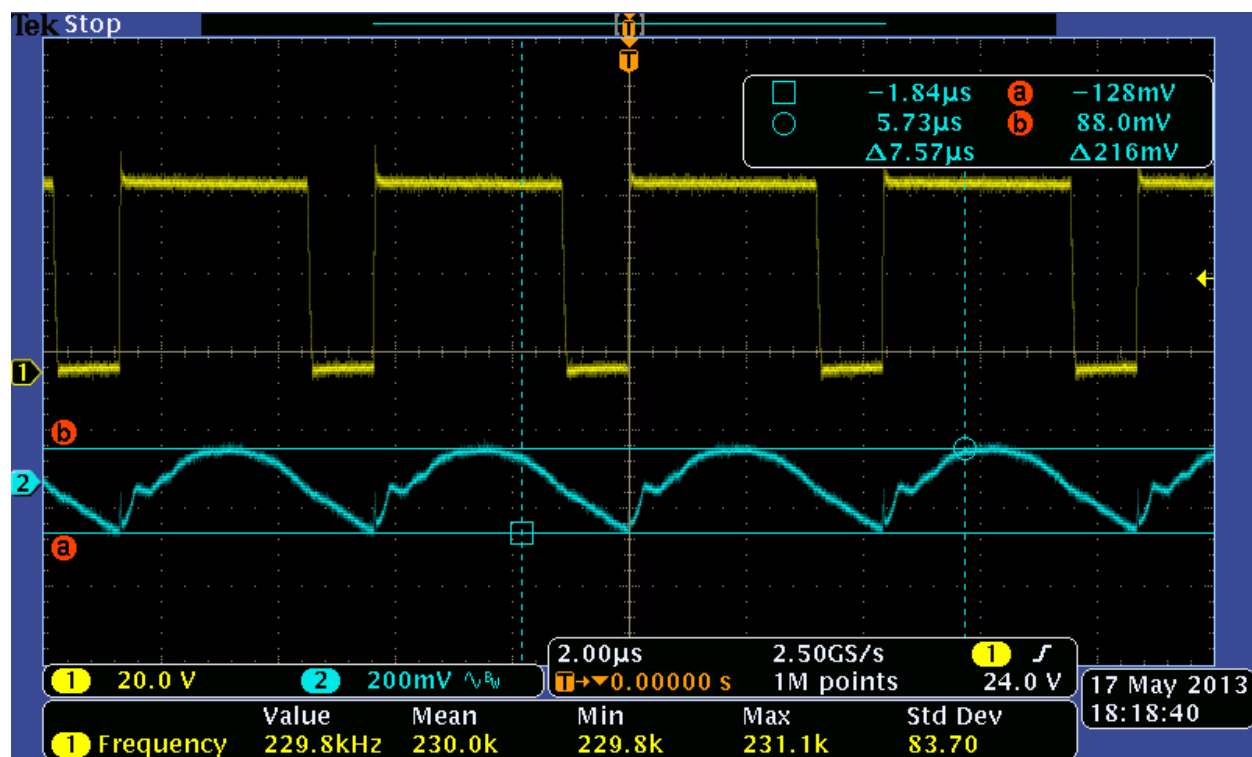
36Vin, 48Vout @ No Load Current (168mVp-p Ripple)



CH1 Primary Switch Node

CH2 Vout

36Vin, 48Vout @ 2.5A Load Current (216mVp-p Ripple)

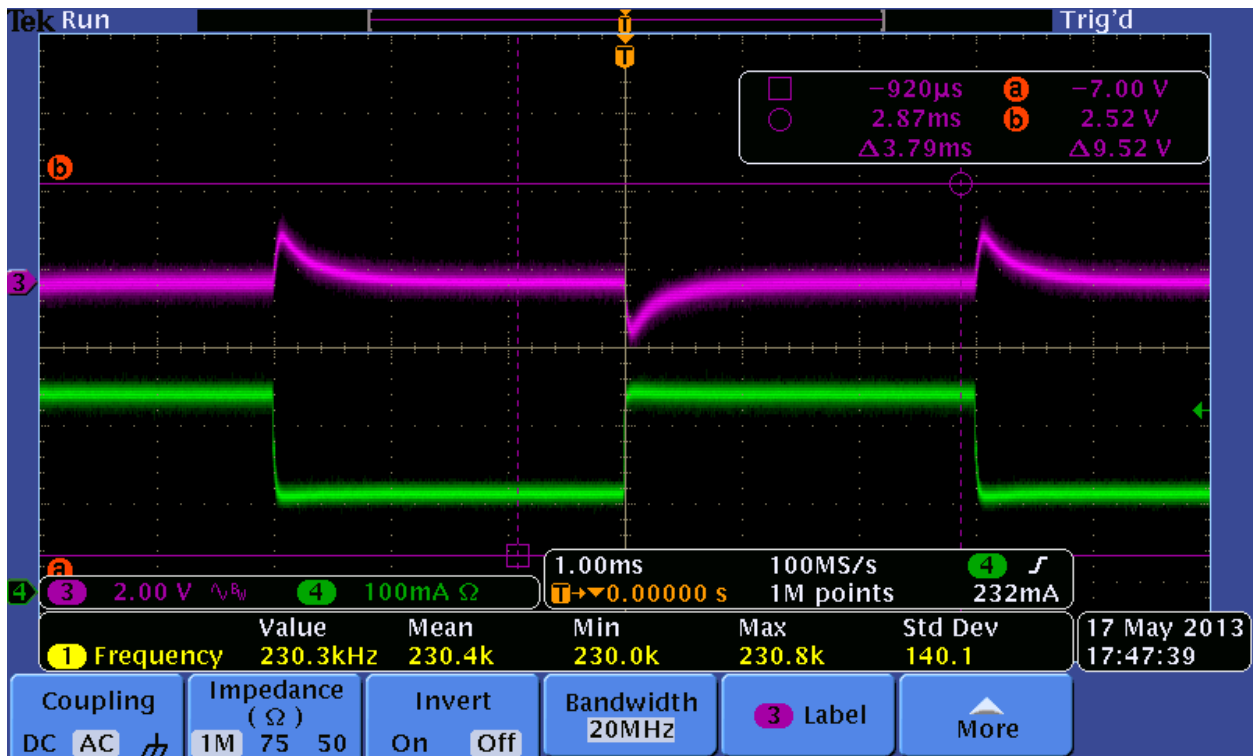


Transient Response Test

CH3, Vout.

CH4, Iout.

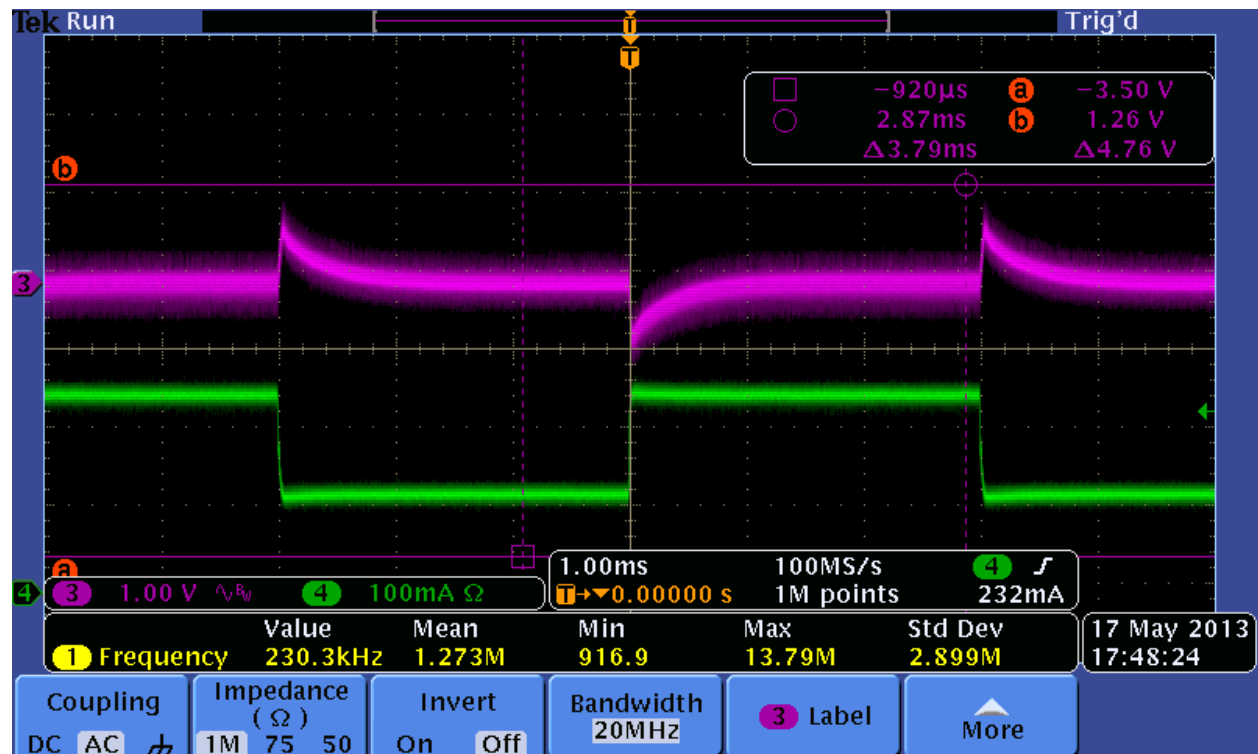
12Vin @ 1.25A to 2.5A 100mA/us Pulse Frequency 334Hz, 50% duty cycle, 48Vout



CH3, Vout.

CH4, Iout.

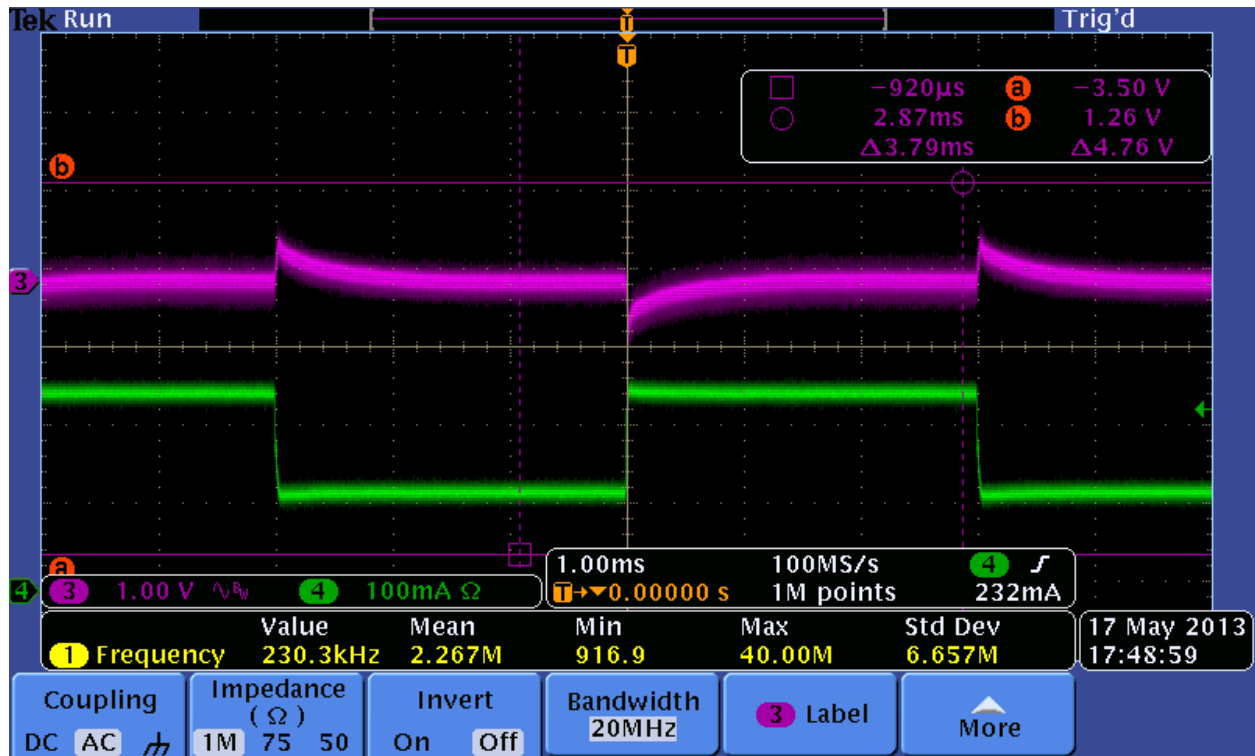
24Vin @ 1.25A to 2.5A 100mA/us Pulse Frequency 334Hz, 50% duty cycle, 48Vout



CH3, Vout.

CH4, Iout.

36Vin @ 1.25A to 2.5A 100mA/us Pulse Frequency 334Hz, 50% duty cycle, 48Vout

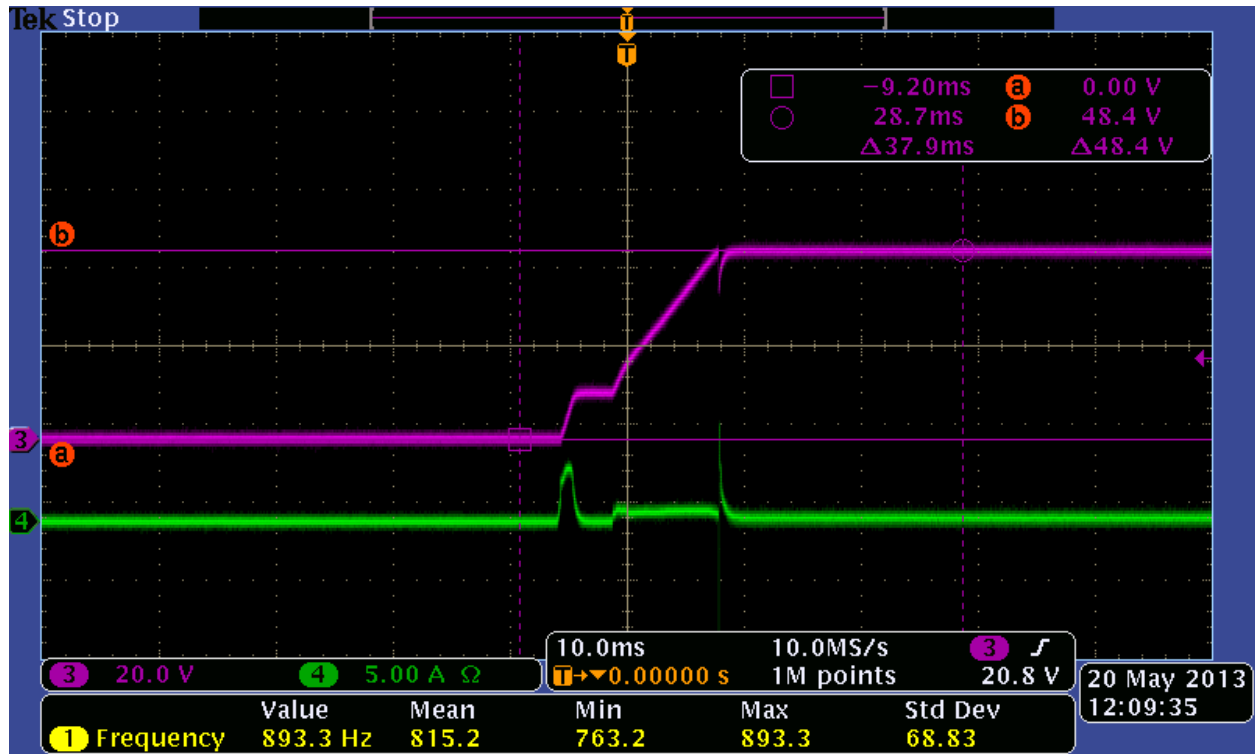


Startup Test

CH3 Vout

CH4 Iin

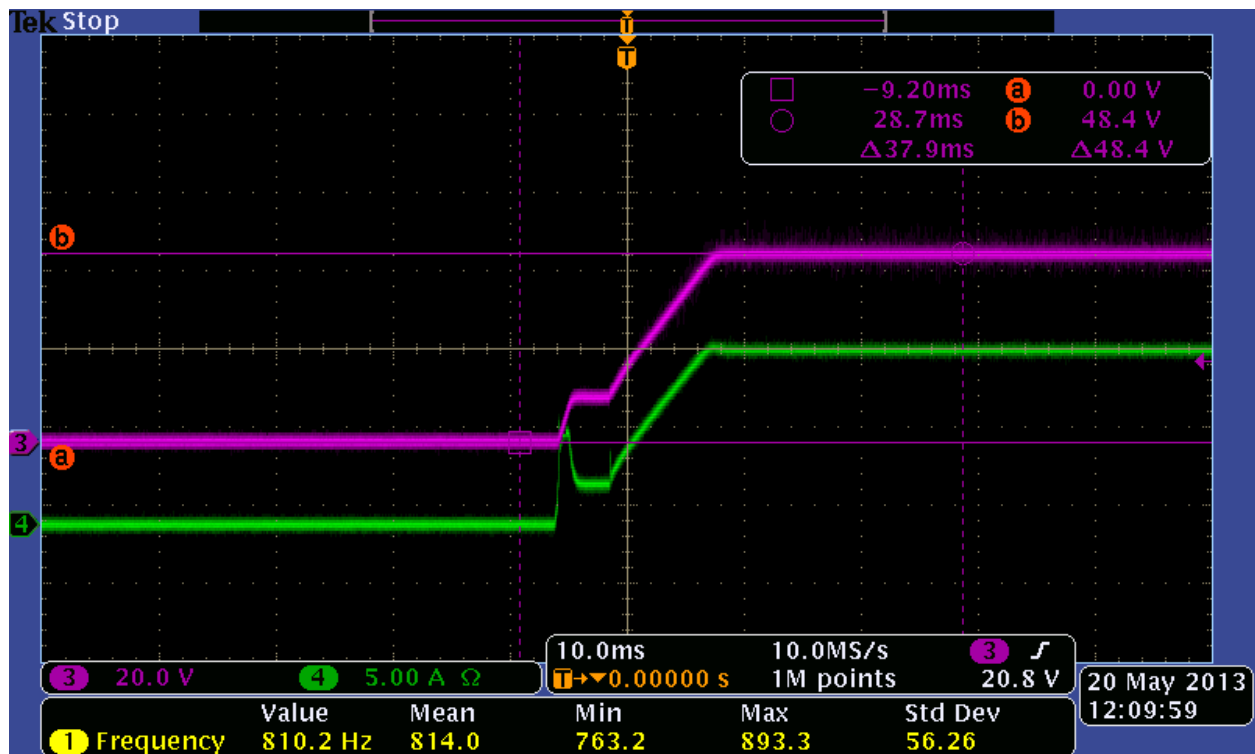
12Vin, 48Vout @ No Load Current



CH3 Vout

CH4 Iin

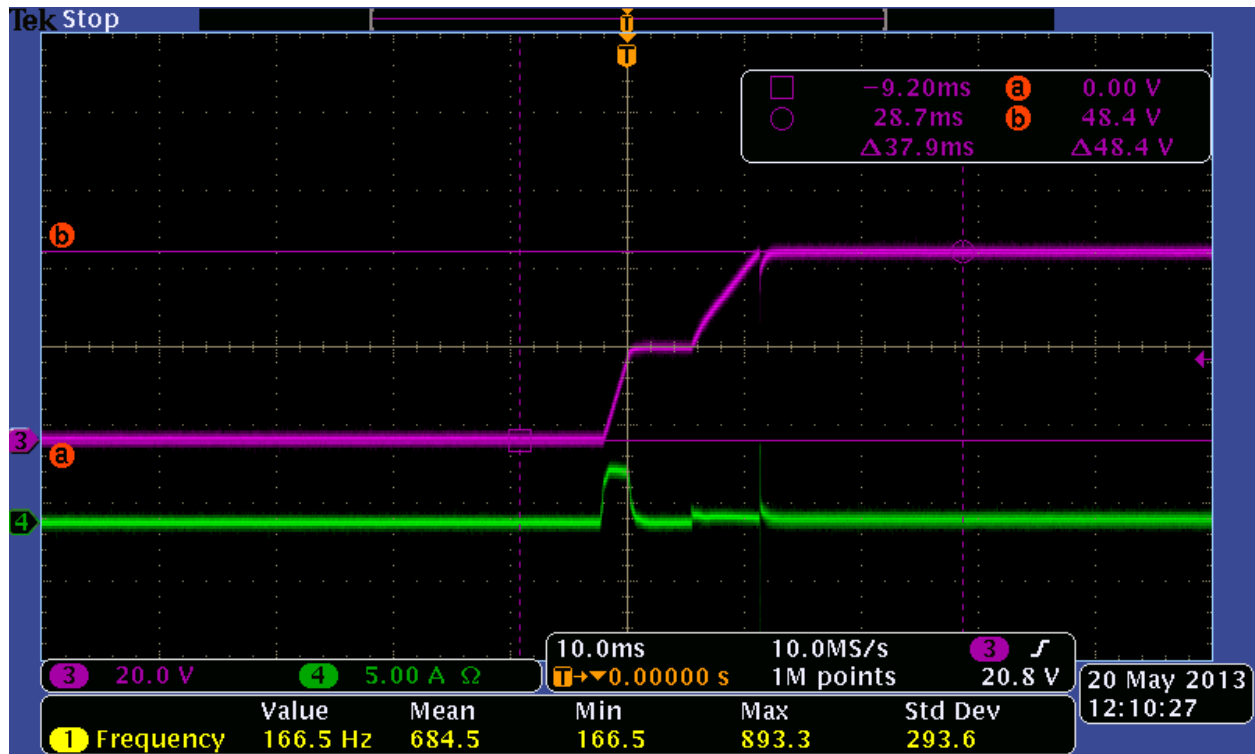
12Vin, 48Vout @ 2.5A Load Current



CH3 Vout

CH4 Iin

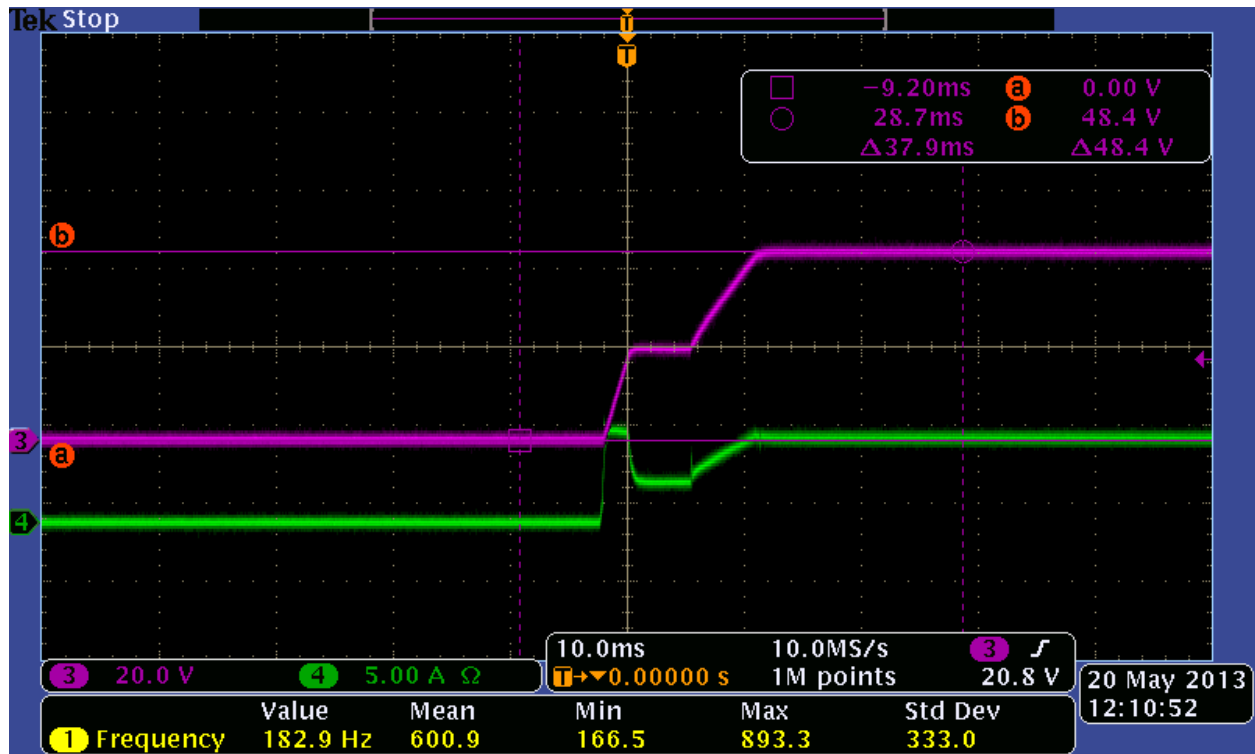
24Vin, 48Vout @ No Load Current



CH3 Vout

CH4 Iin

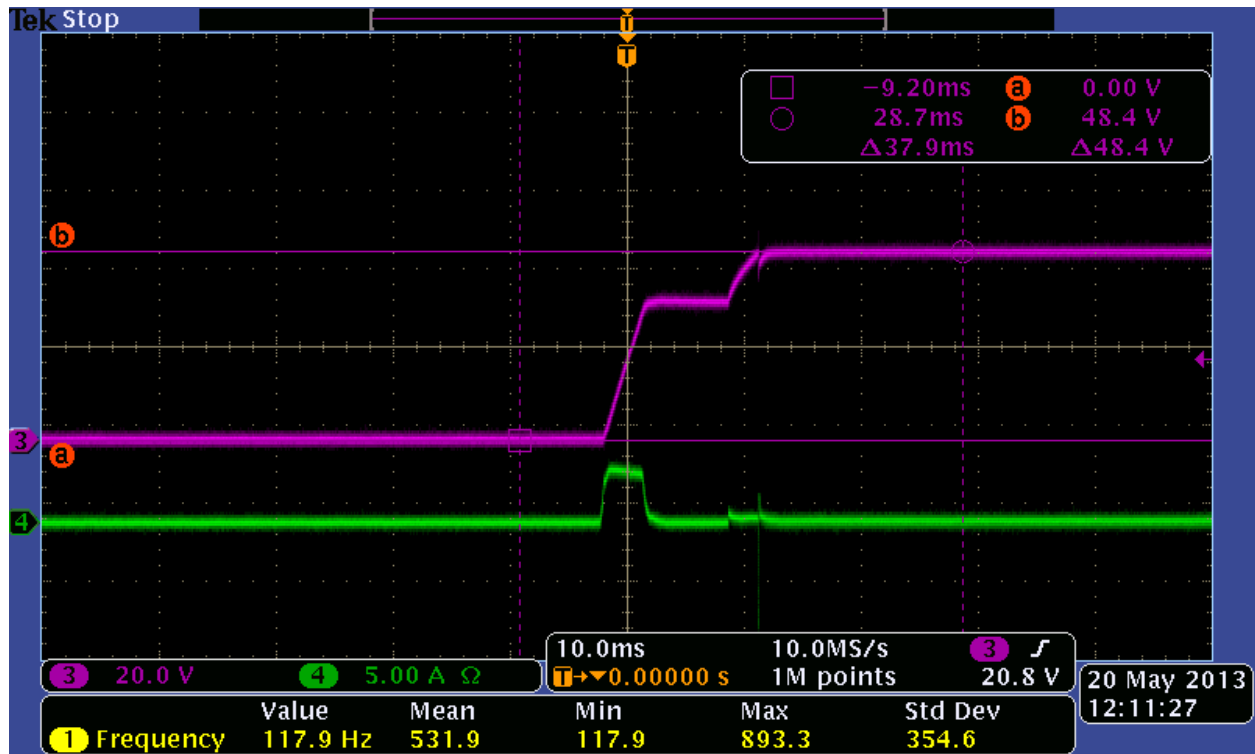
24Vin, 48Vout @ 2.5A Load Current



CH3 Vout

CH4 Iin

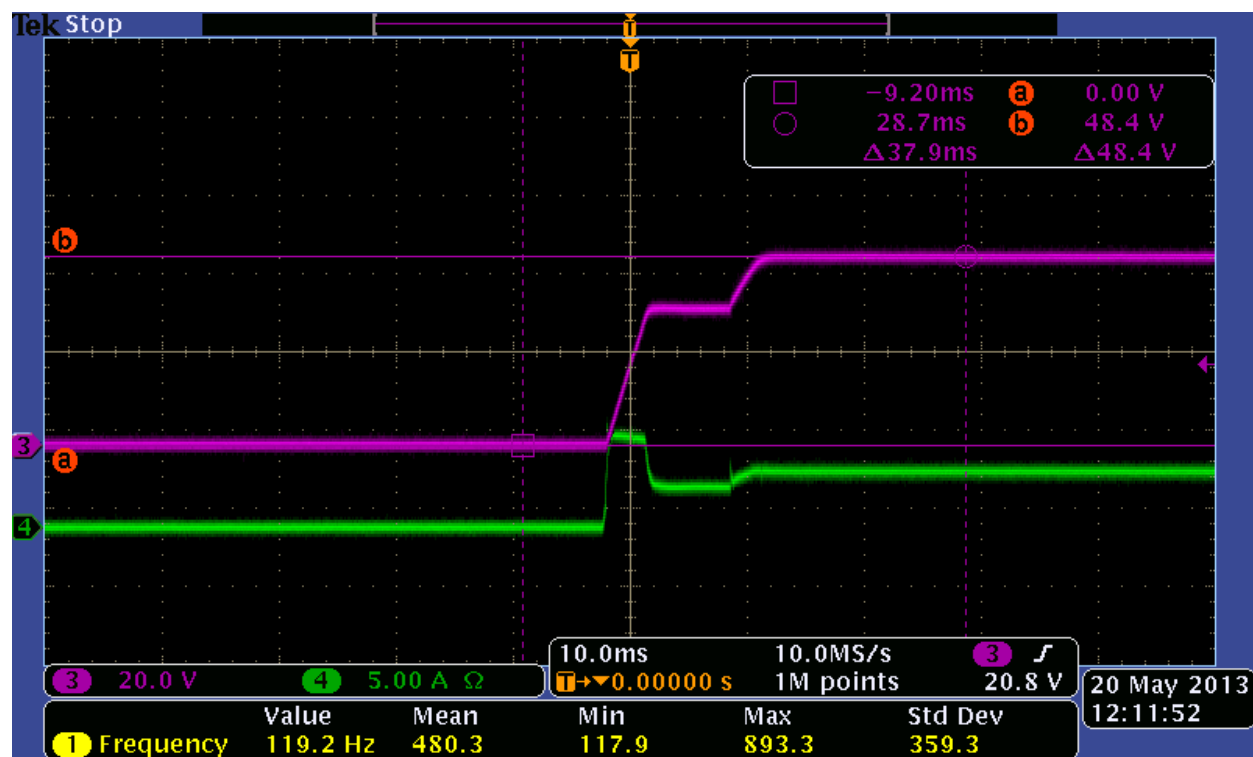
36Vin, 48Vout @ No Load Current



CH3 Vout

CH4 Iin

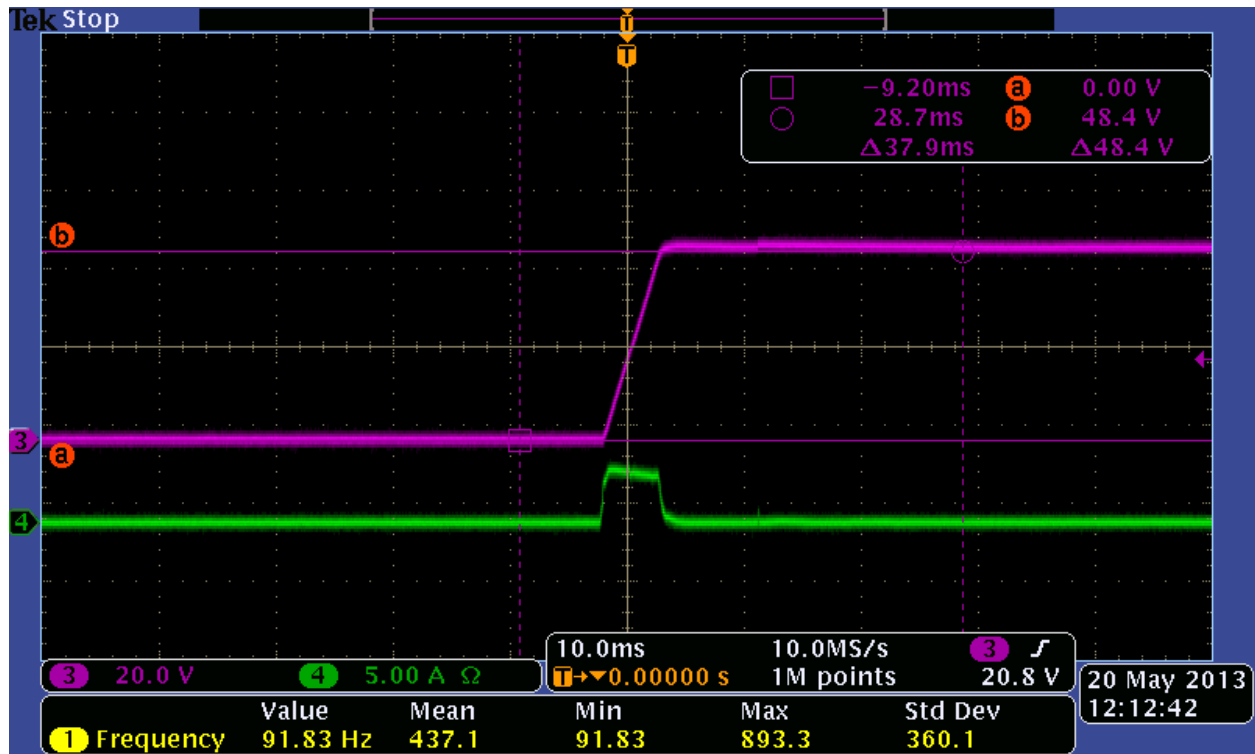
36Vin, 48Vout @ 2.5A Load Current



CH3 Vout

CH4 Iin

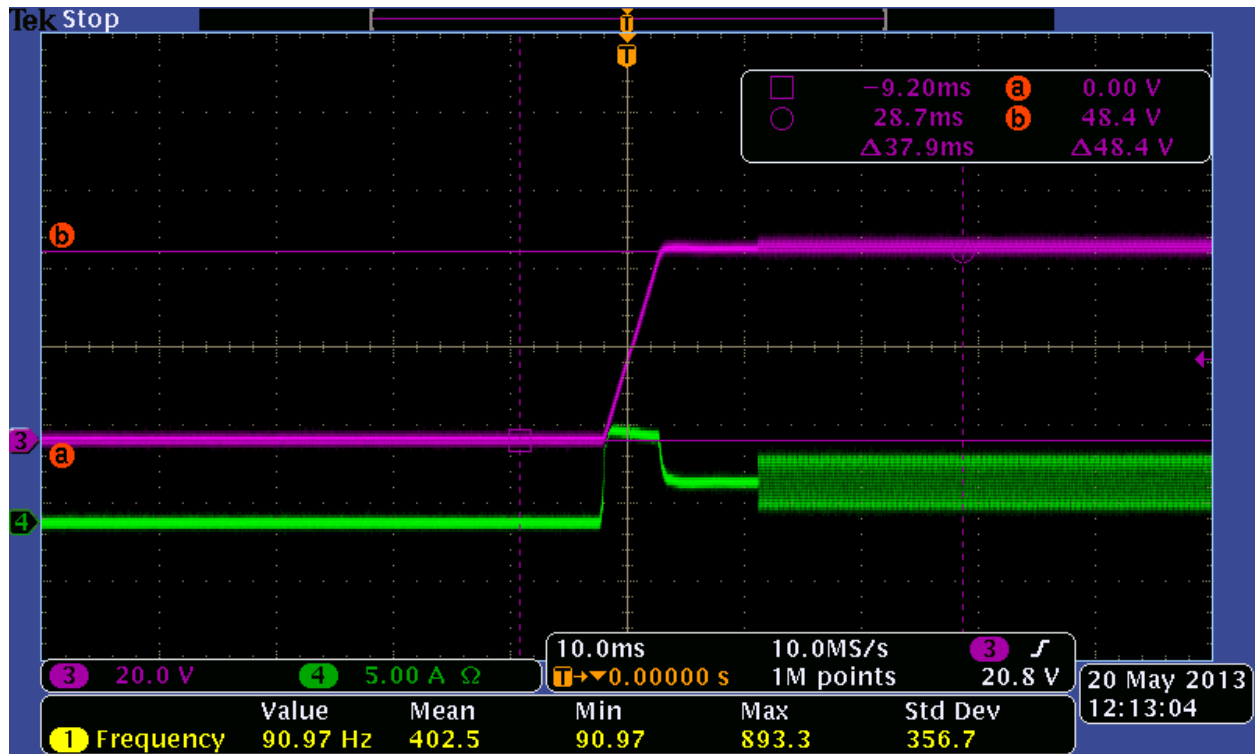
50Vin, 48Vout @ No Load Current



CH3 Vout

CH4 Iin

50Vin, 48Vout @ 2.5A Load Current



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