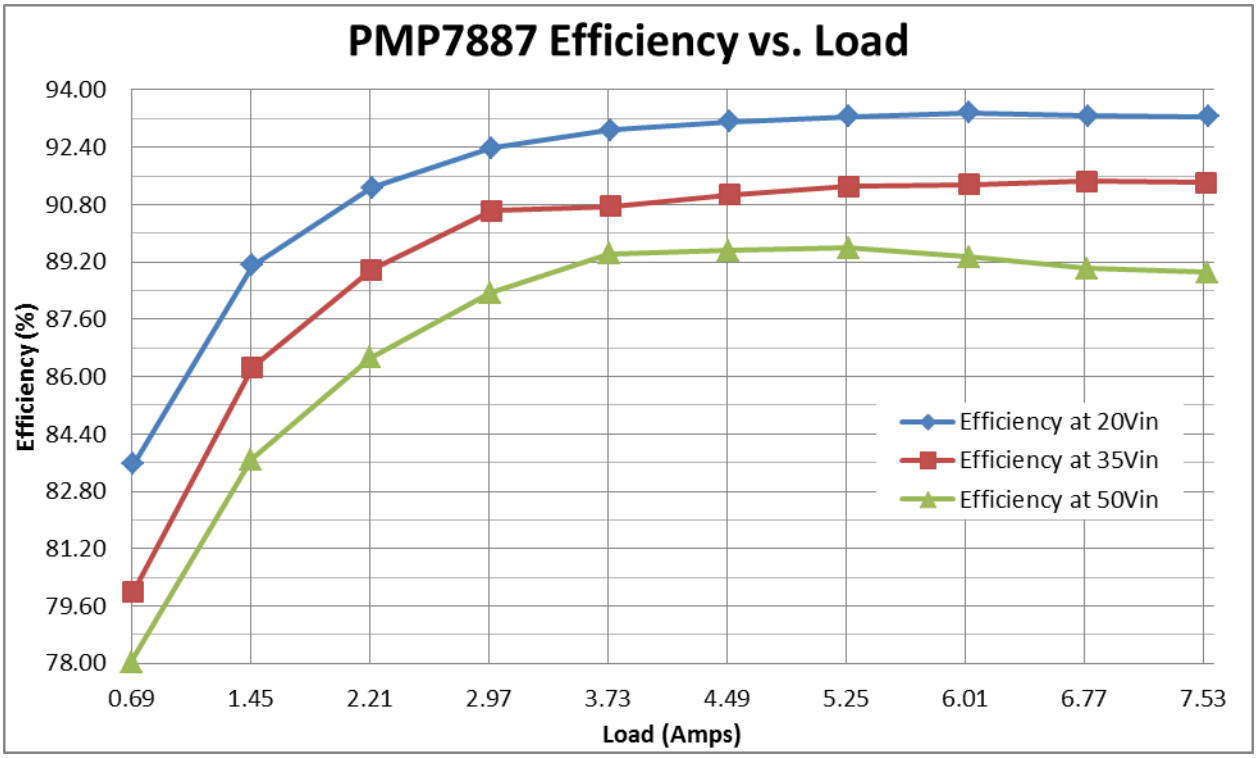
Test Data
For PMP7887
12/05/2012

Test SPECIFICATIONS

Vin min	**20**
Vin max	**50**
Vout	**36V**
Iout	**7.6A Max**

TYPICAL PERFORMANCE

EFFICIENCY



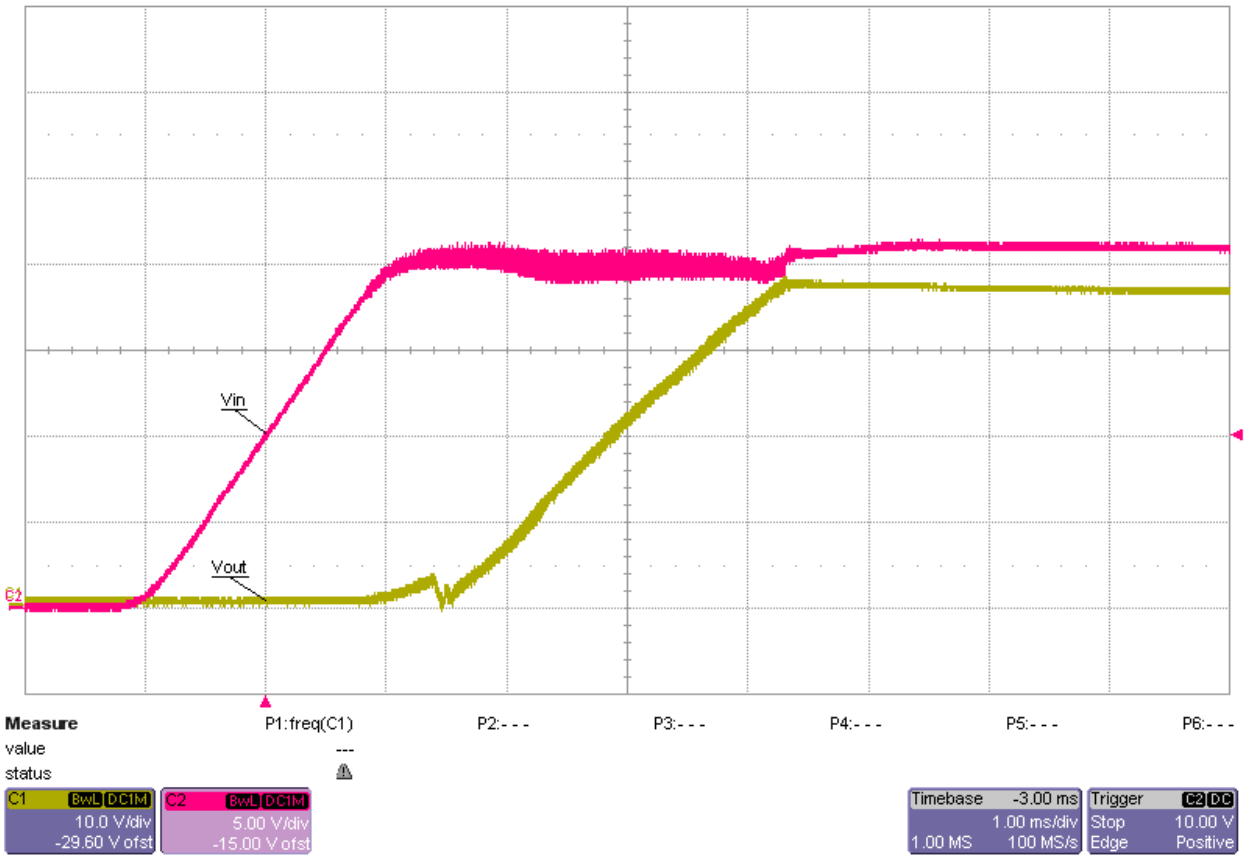
20Vin							
Load	Iout (A)	Vout	Iin (A)	Vin	Pout	Pin	Efficiency
0.1	0.704	36.202	1.5055	20.26	25.48621	30.50143	83.56
0.2	1.464	36.202	2.9615	20.085	52.99973	59.48173	89.10
0.3	2.226	36.202	4.438	19.896	80.58565	88.29845	91.27
0.4	2.99	36.202	5.927	19.771	108.244	117.1827	92.37
0.5	3.75	36.202	7.326	19.953	135.7575	146.1757	92.87
0.6	4.506	36.202	8.8435	19.812	163.1262	175.2074	93.10
0.7	5.268	36.203	10.3015	19.852	190.7174	204.5054	93.26
0.8	6.032	36.203	11.8765	19.695	218.3765	233.9077	93.36
0.9	6.792	36.203	13.2985	19.823	245.8908	263.6162	93.28
1	7.558	36.203	14.69	19.974	273.6223	293.4181	93.25

35Vin							
Load	Iout (A)	Vout	Iin (A)	Vin	Pout	Pin	Efficiency
0.1	0.702	36.201	0.8915	35.634	25.4131	31.76771	80.00
0.2	1.462	36.2	1.7255	35.554	52.9244	61.34843	86.27
0.3	2.224	36.2	2.55	35.48	80.5088	90.474	88.99
0.4	2.988	36.199	3.373	35.387	108.1626	119.3604	90.62
0.5	3.748	36.199	4.245	35.221	135.6739	149.5131	90.74
0.6	4.506	36.199	5.0935	35.165	163.1127	179.1129	91.07
0.7	5.268	36.199	5.949	35.105	190.6963	208.8396	91.31
0.8	6.032	36.199	6.8185	35.052	218.3524	239.0021	91.36
0.9	6.786	36.199	7.675	34.996	245.6464	268.5943	91.46
1	7.546	36.199	8.5535	34.935	273.1577	298.8165	91.41

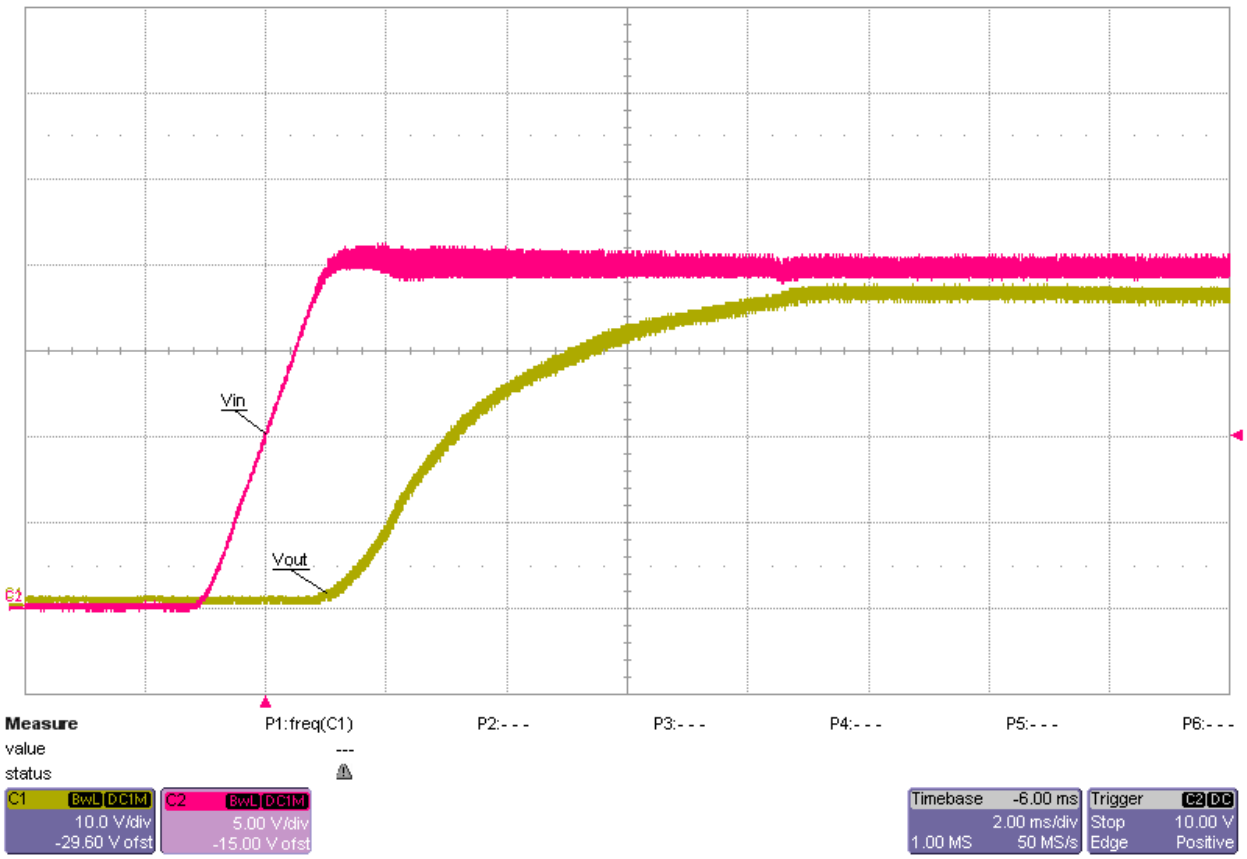
50Vin							
Load	Iout (A)	Vout	Iin (A)	Vin	Pout	Pin	Efficiency
0.1	0.692	36.201	0.63	50.959	25.05109	32.10417	78.03
0.2	1.454	36.2	1.2355	50.903	52.6348	62.89066	83.69
0.3	2.216	36.199	1.826	50.767	80.21698	92.70054	86.53
0.4	2.98	36.199	2.4085	50.706	107.873	122.1254	88.33
0.5	3.738	36.198	2.987	50.657	135.3081	151.3125	89.42
0.6	4.5	36.199	3.596	50.606	162.8955	181.9792	89.51
0.7	5.264	36.198	4.207	50.552	190.5463	212.6723	89.60
0.8	6.032	36.197	4.8395	50.501	218.3403	244.3996	89.34
0.9	6.788	36.197	5.472	50.446	245.7052	276.0405	89.01
1	7.55	36.197	6.098	50.406	273.2874	307.3758	88.91

Waveforms

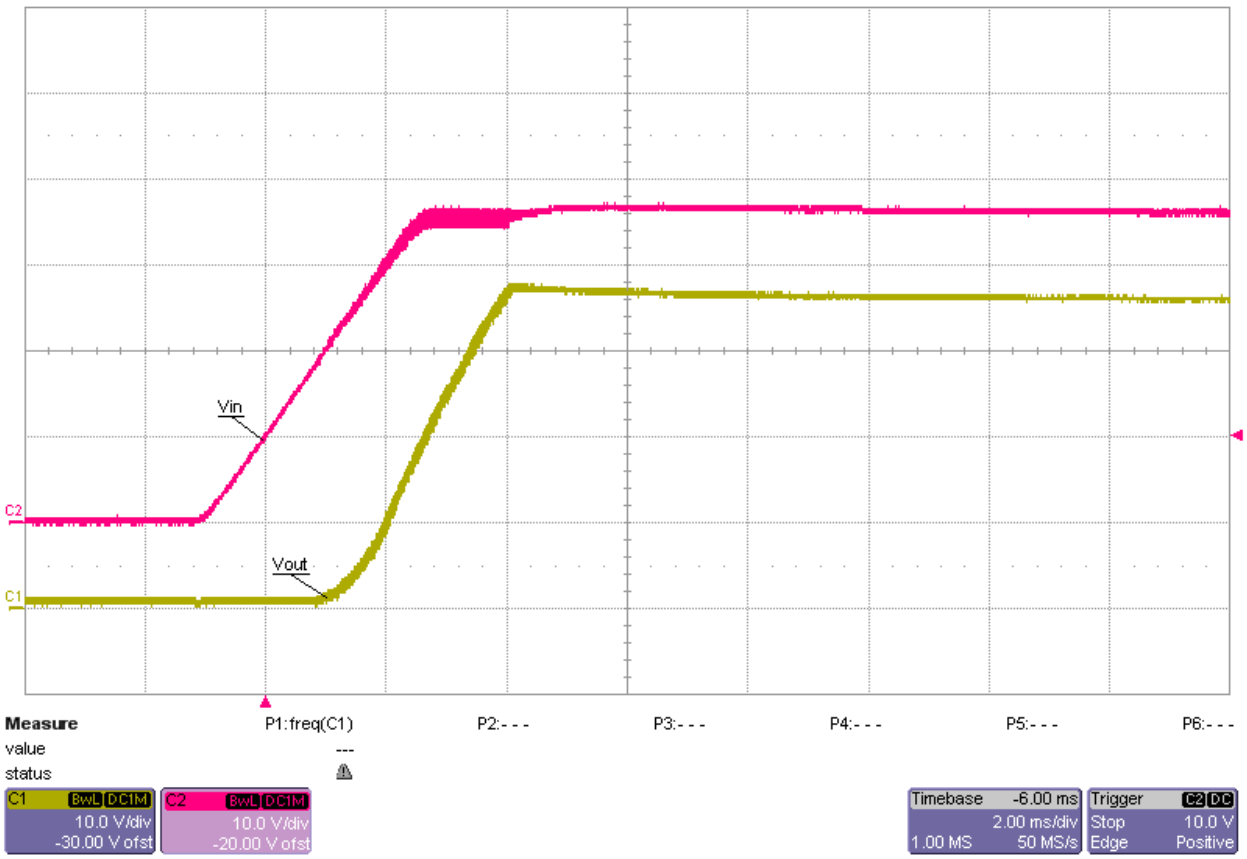
Startup



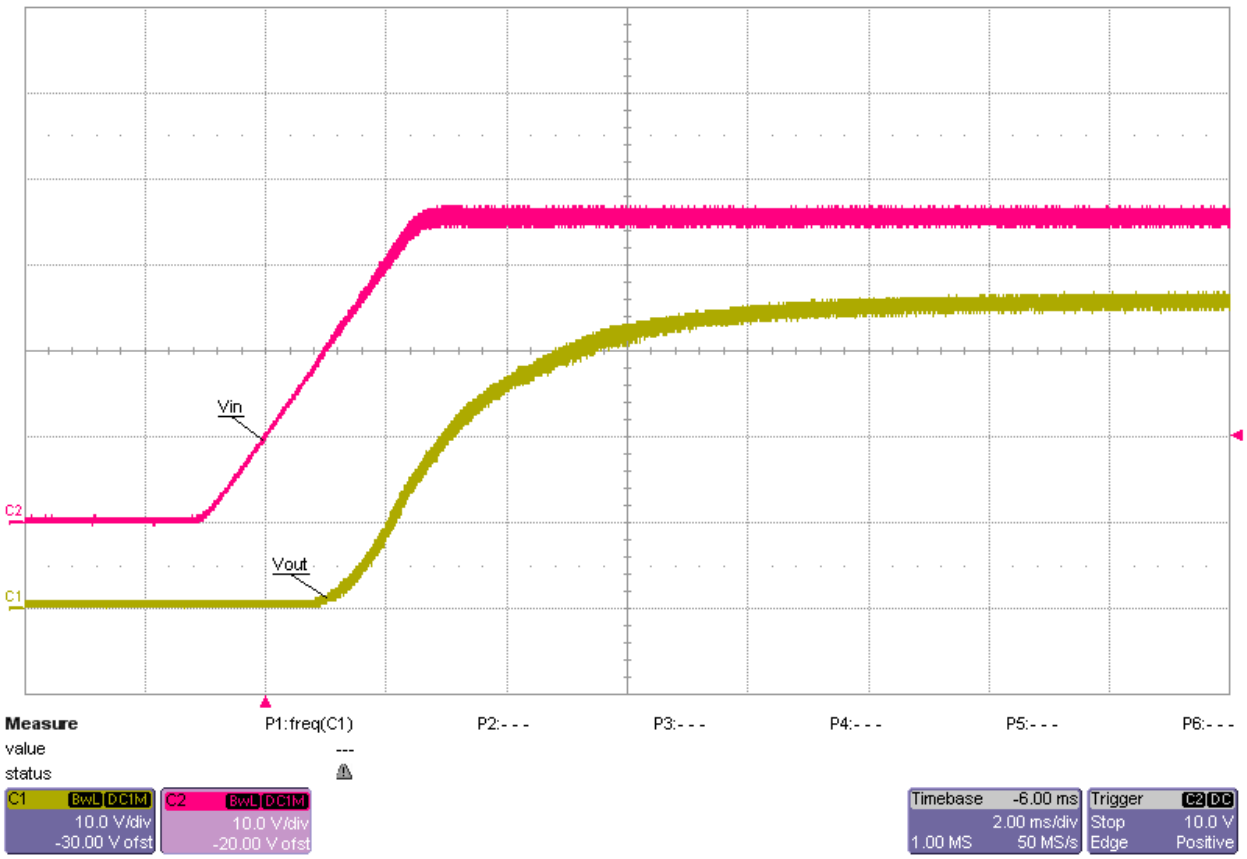
Startup into No Load (20Vin)



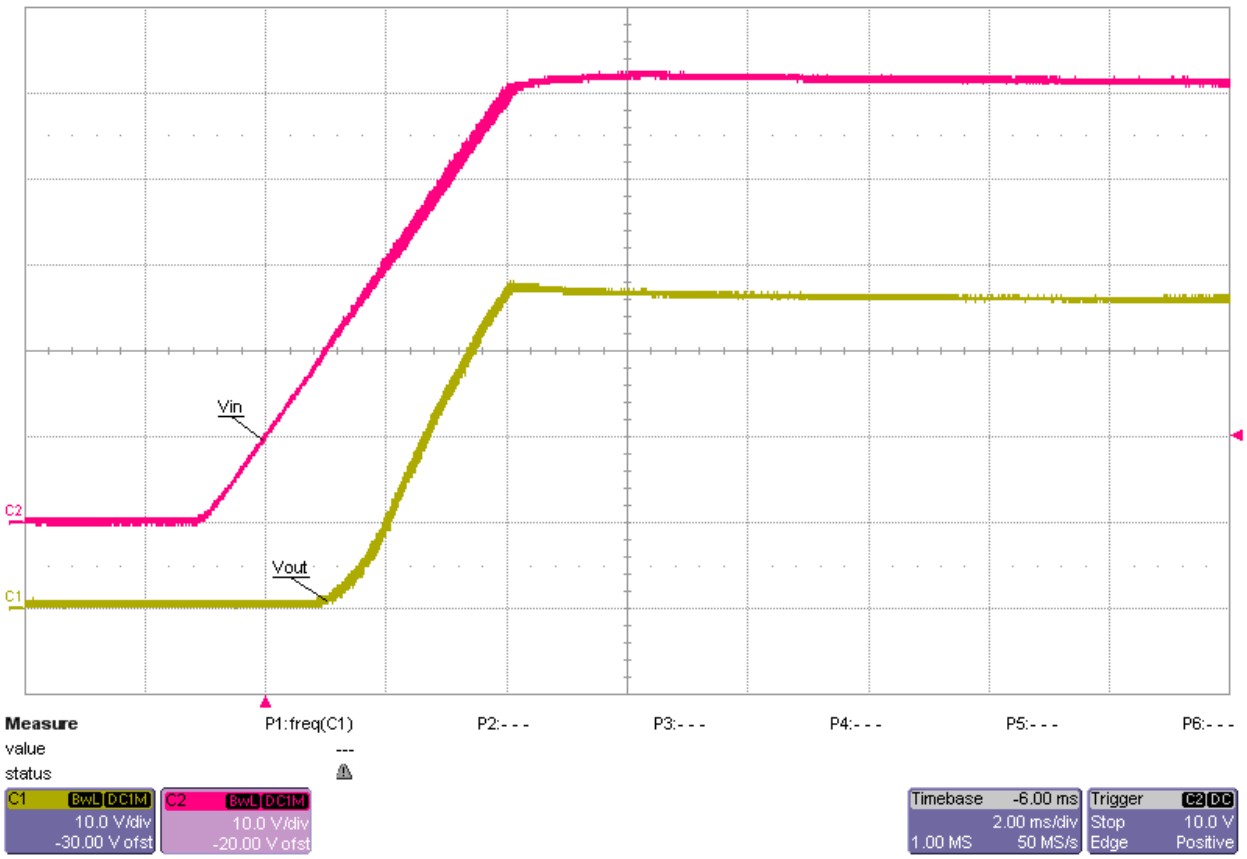
Startup into 7.6A Load (20Vin)



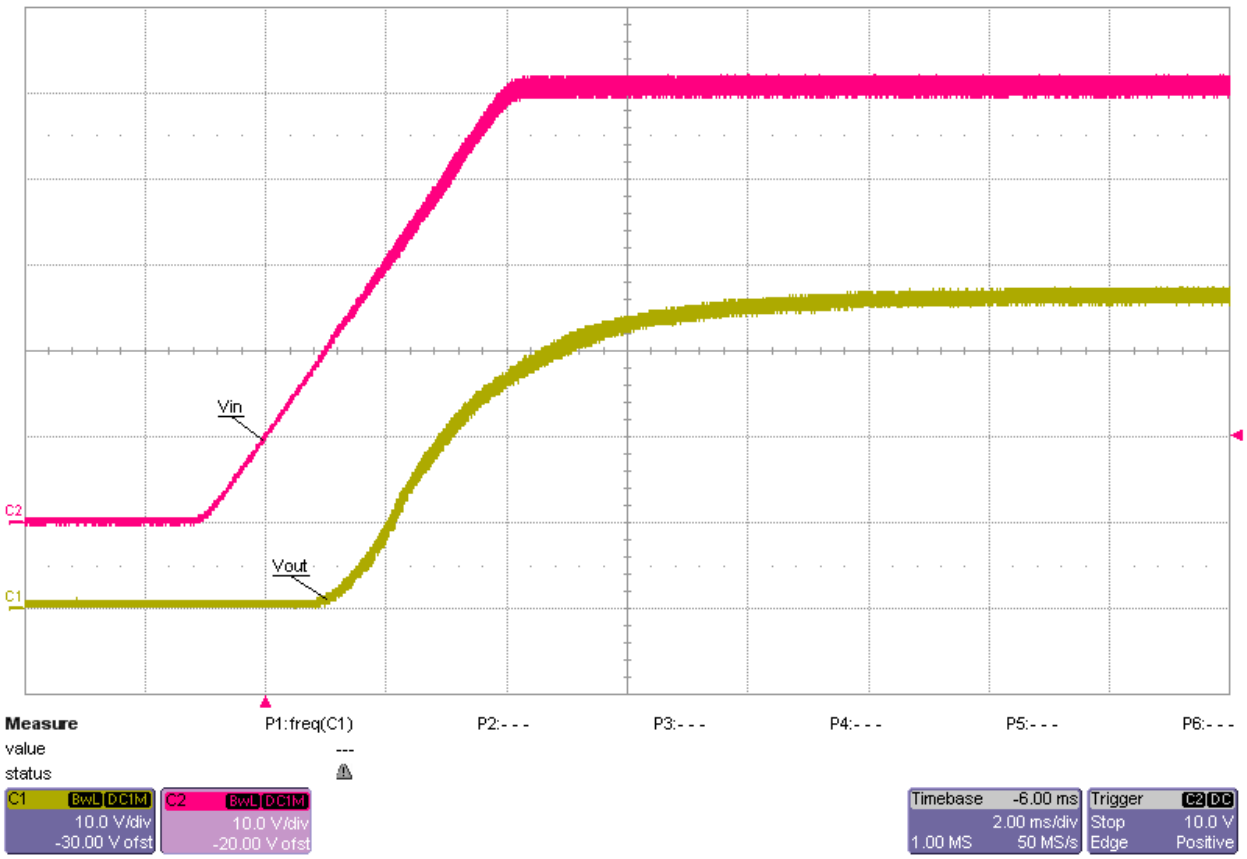
Startup into No Load (35Vin)



Startup into 7.6A Load (35Vin)

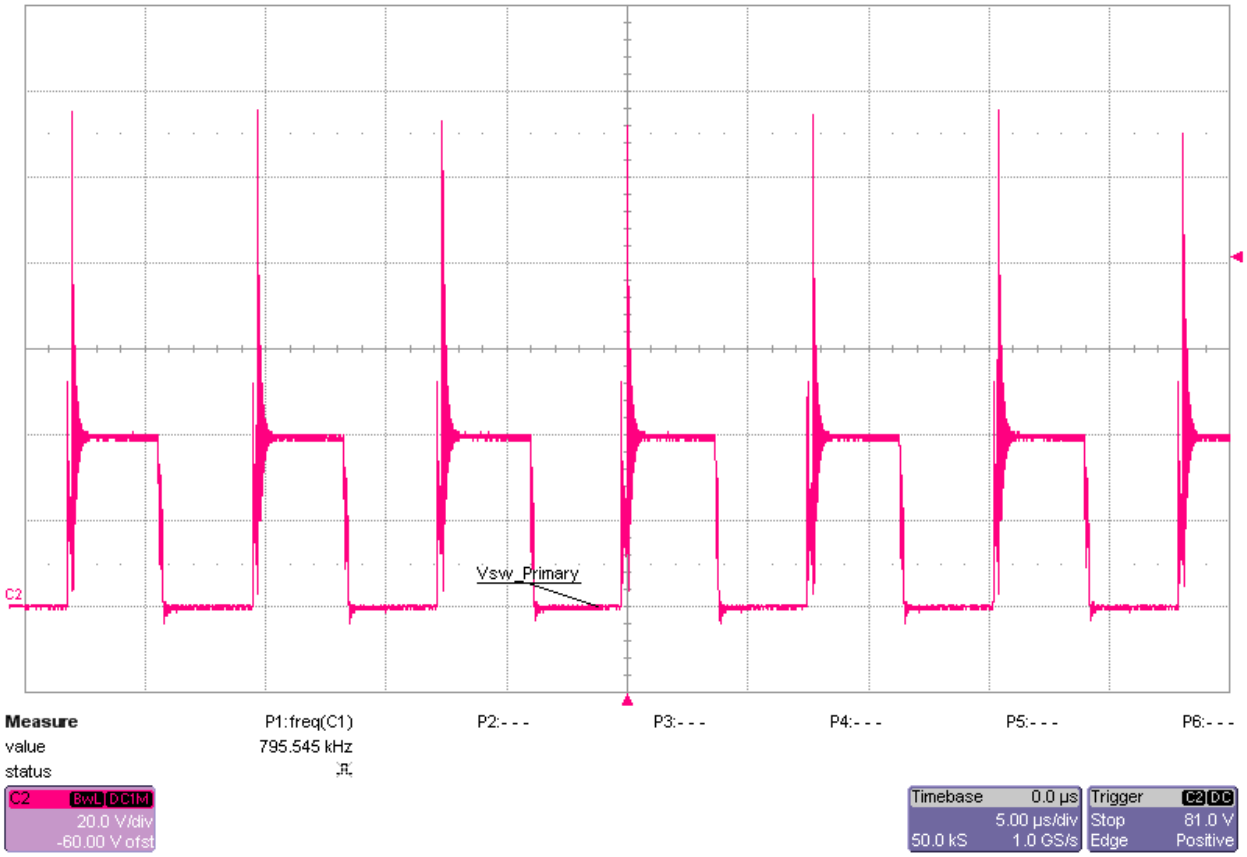


Startup into No Load (50Vin)

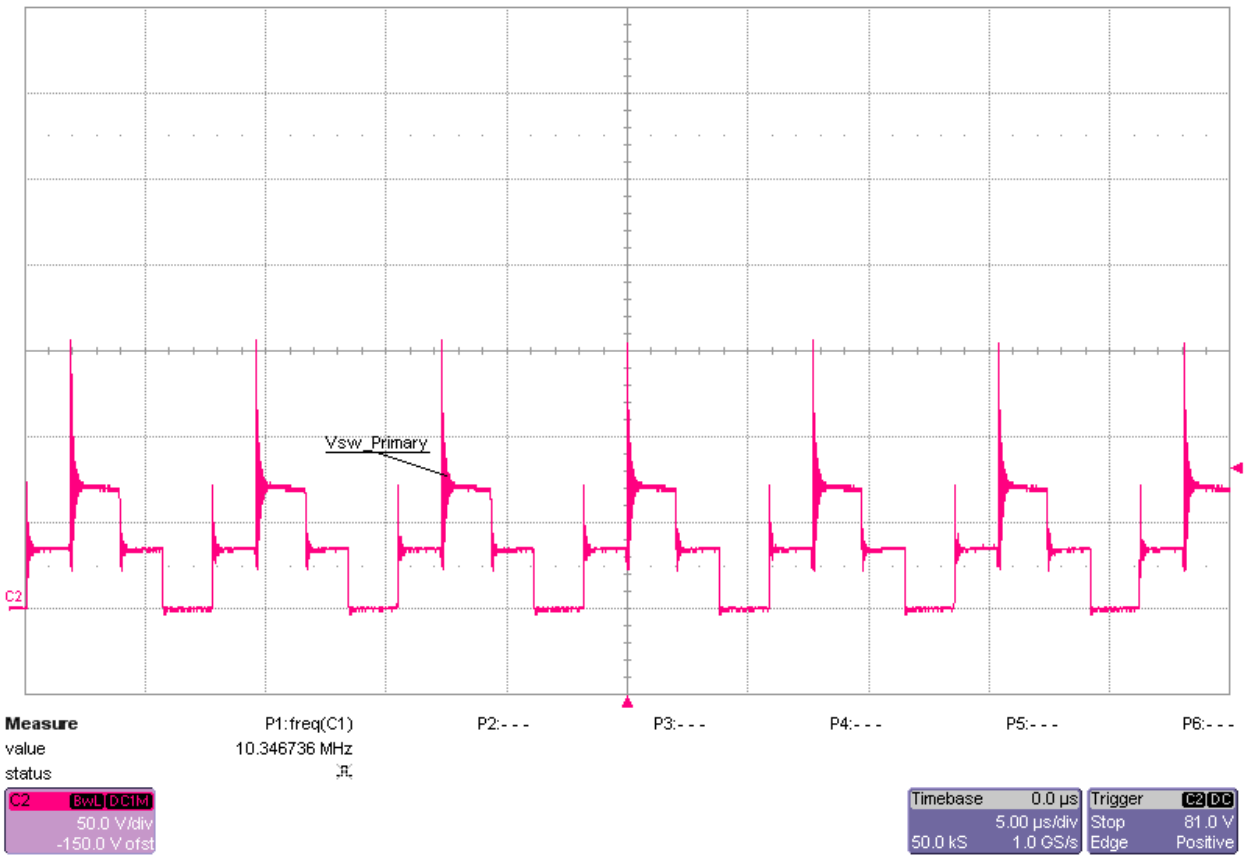


Startup into 7.6A Load (50Vin)

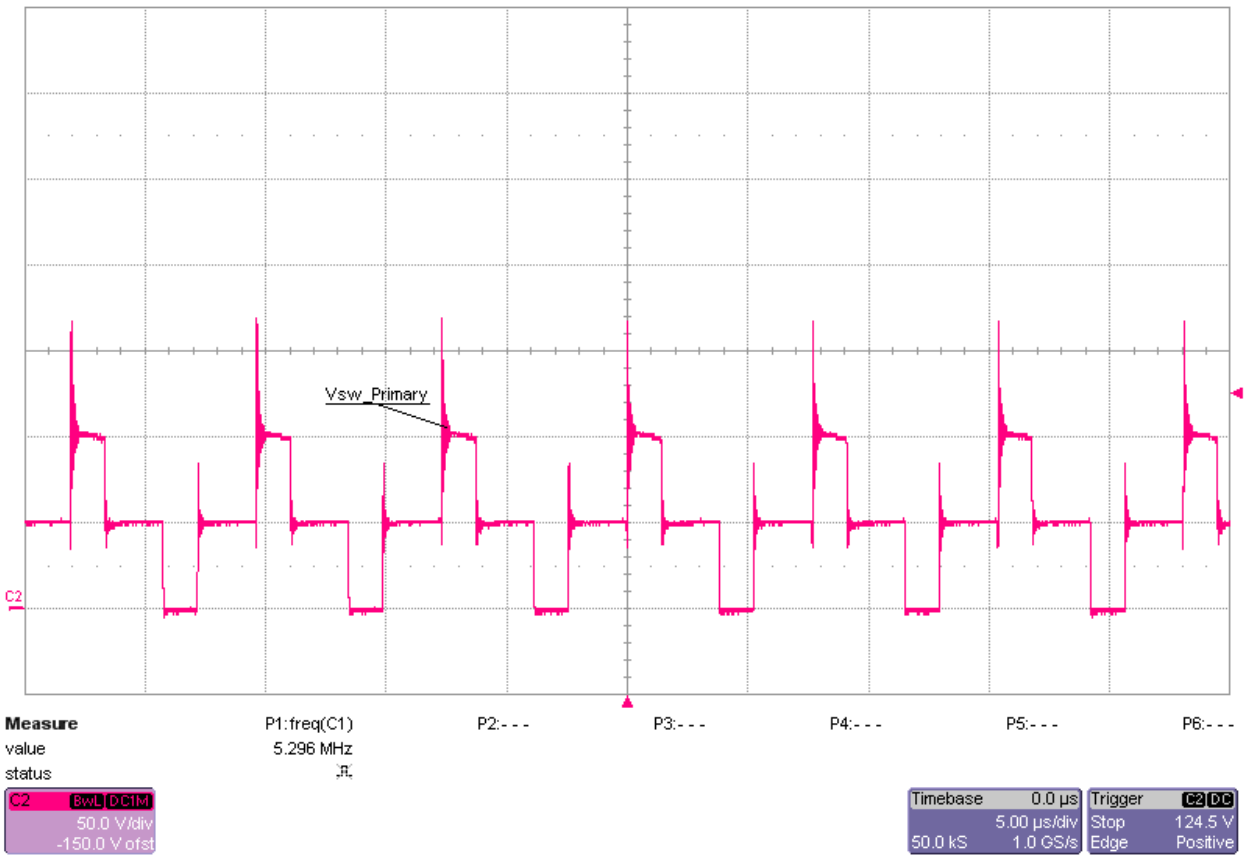
Primary-Side Switch Voltage



Primary-Side Switch Voltage at 20Vin and 7.6Aout

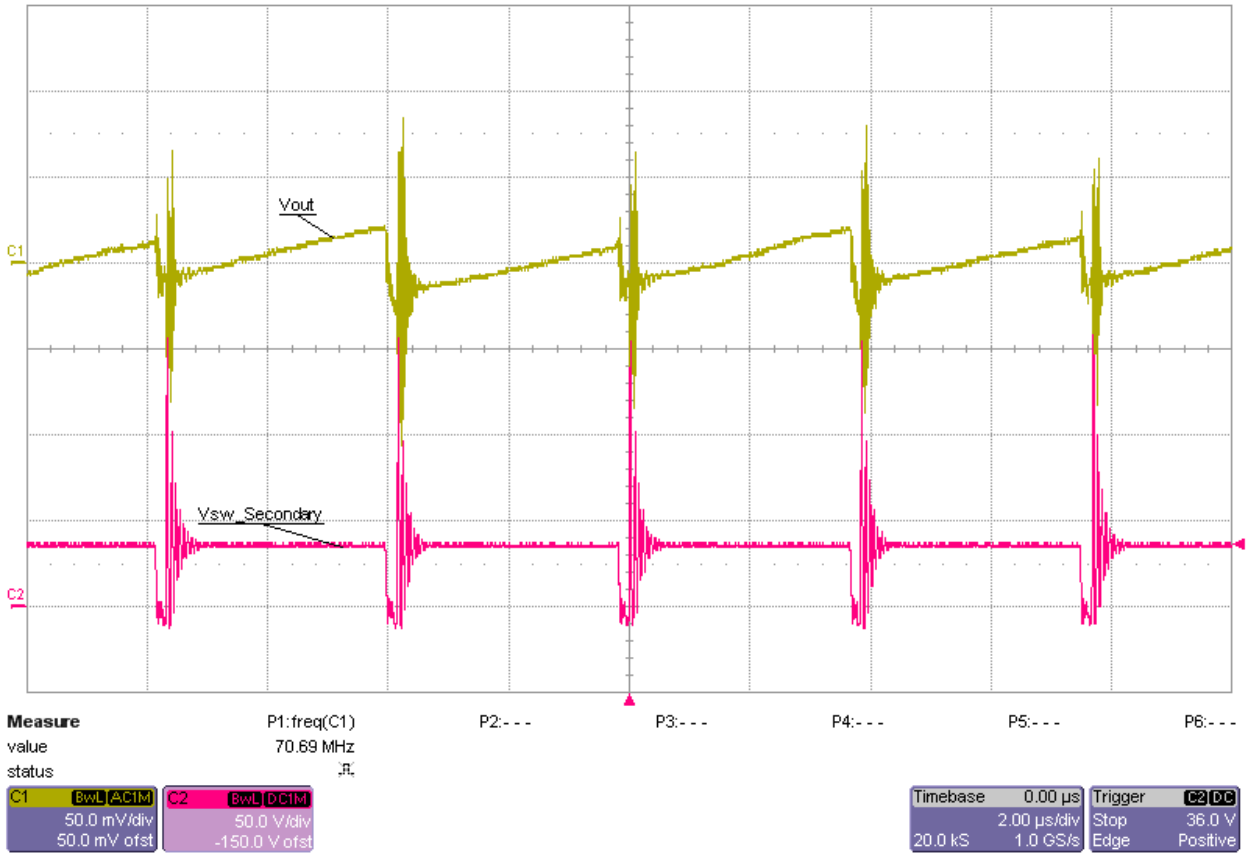


Primary-Side Switch Voltage at 35Vin and 7.6Aout

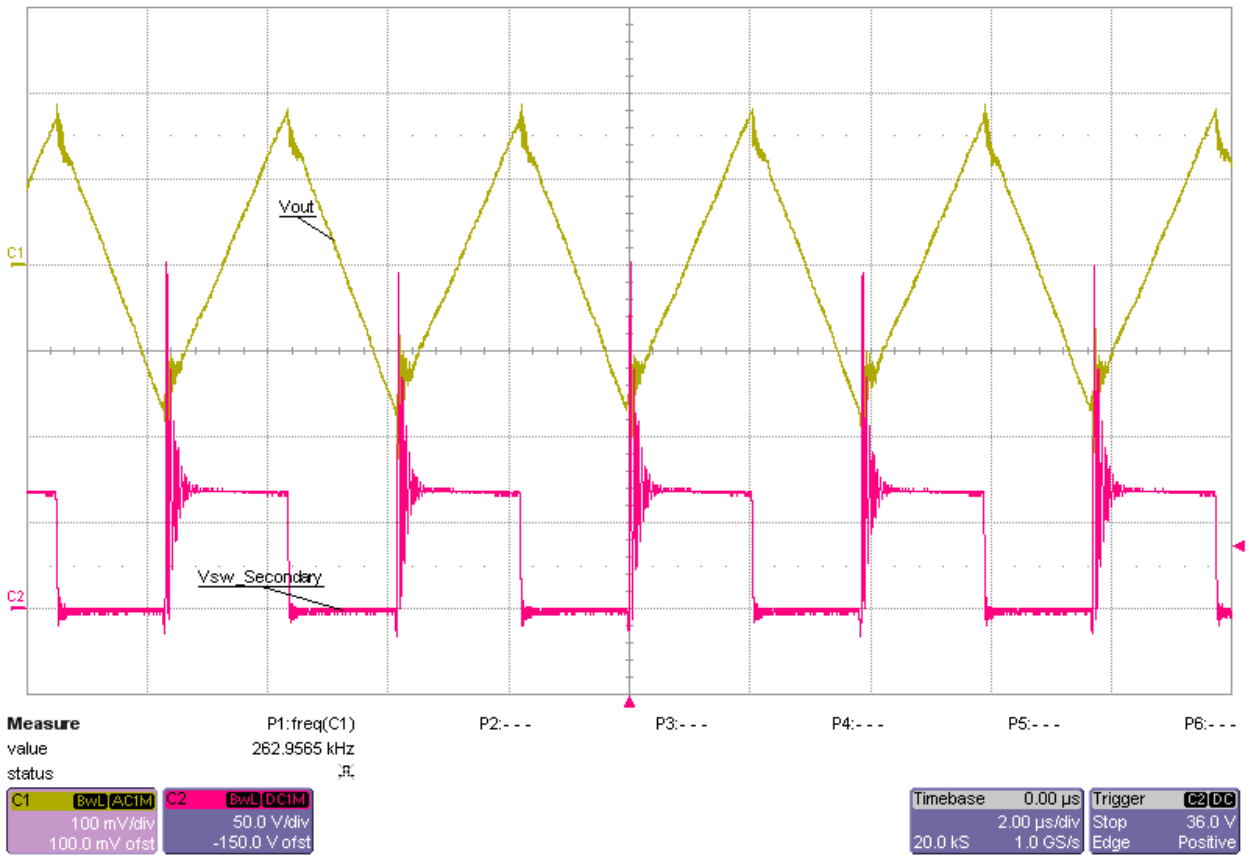


Primary-Side Switch Voltage at 50Vin and 7.6Aout

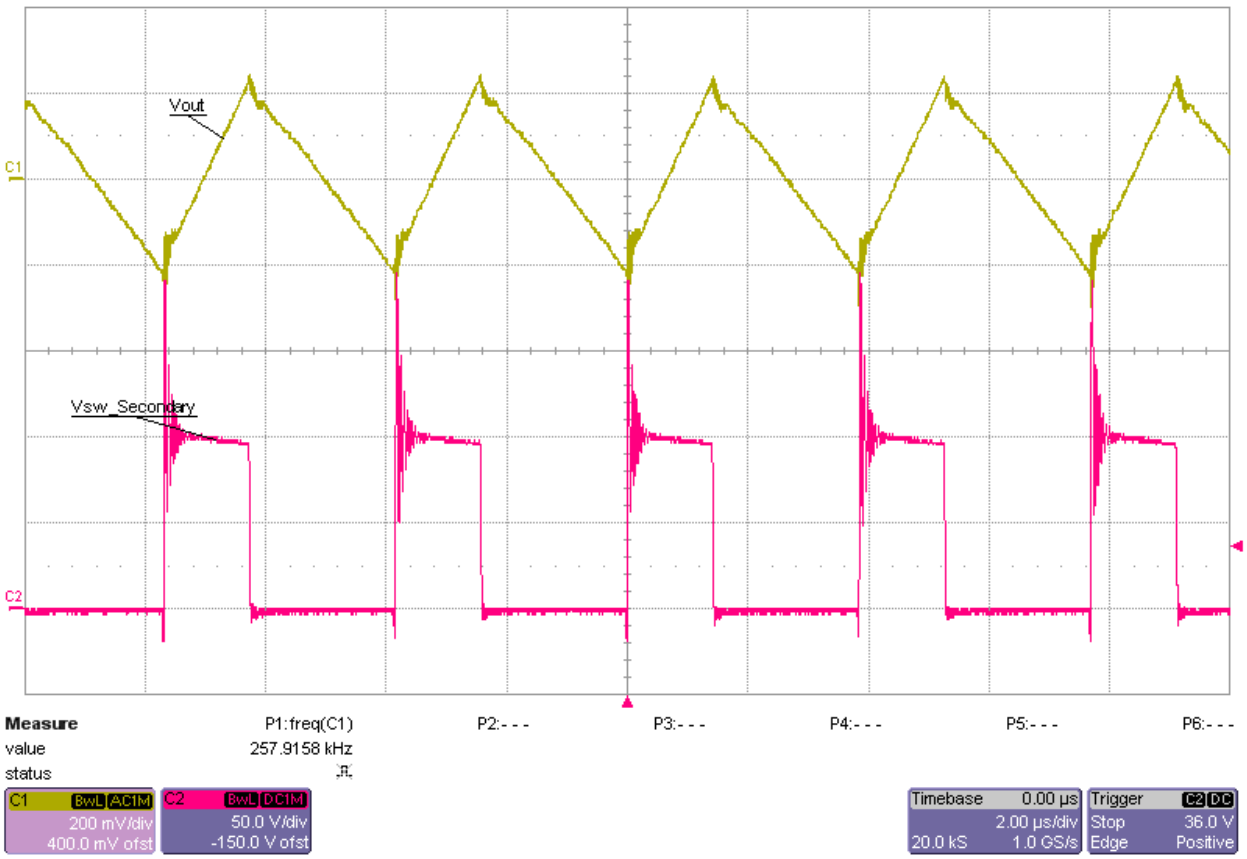
Output Voltage Ripple and Secondary-Side Switch Node



Output Voltage Ripple and Secondary-Side Switch Node at 20Vin 7.6A load (Vripple ≈ 35mVp-p)

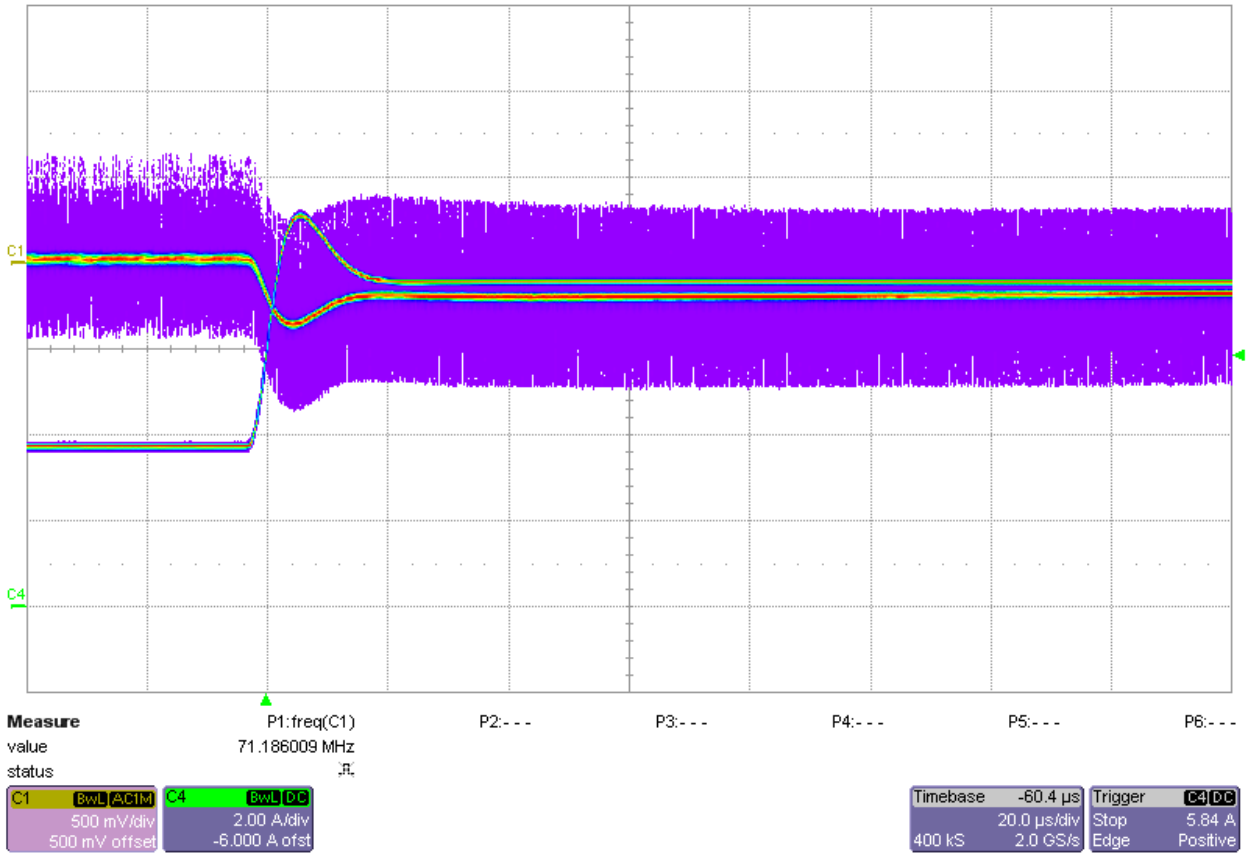


Output Voltage Ripple and Secondary-Side Switch Node at 35Vin and 7.6A load (Vripple ≈ 340mVp-p)

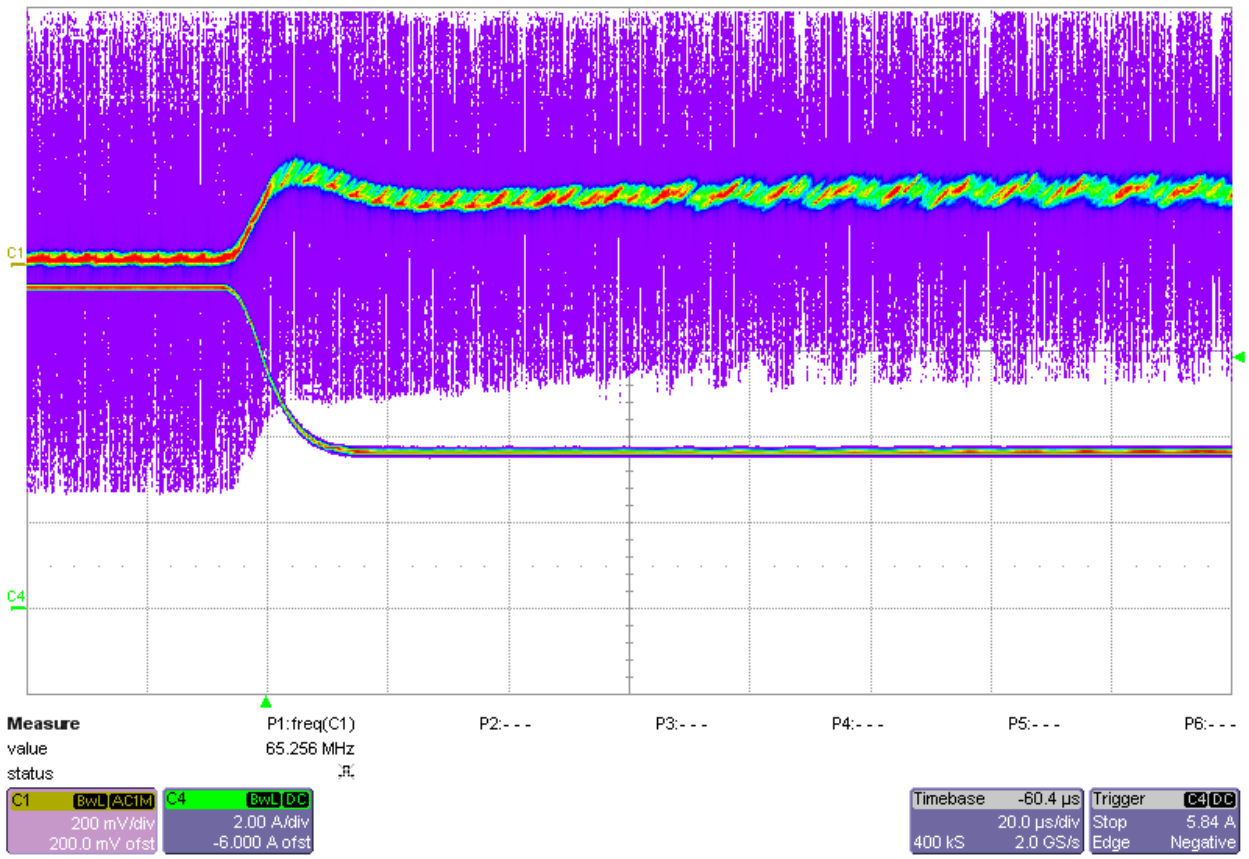


Output Voltage Ripple and Secondary-Side Switch Node at 50Vin and 7.6A load (Vripple ≈ 480mVp-p)

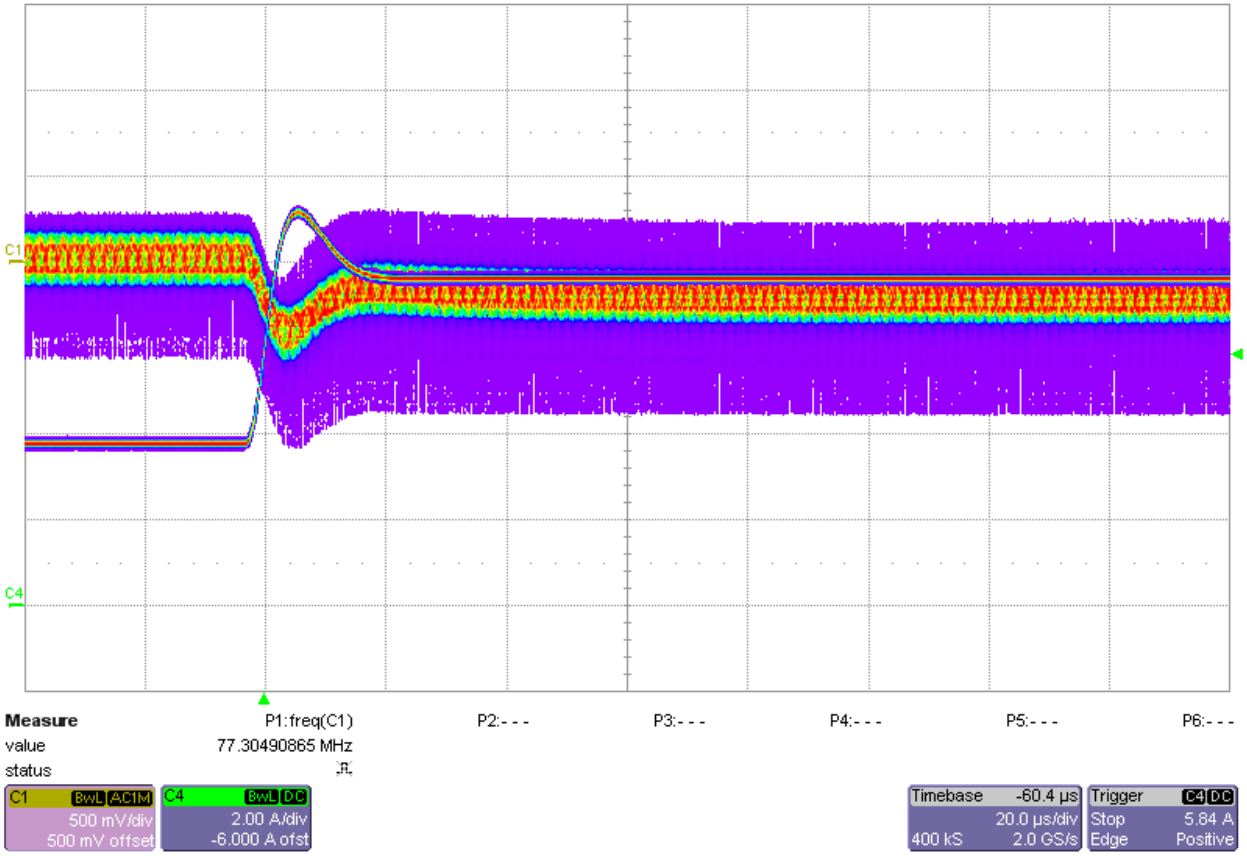
Load Transient Response



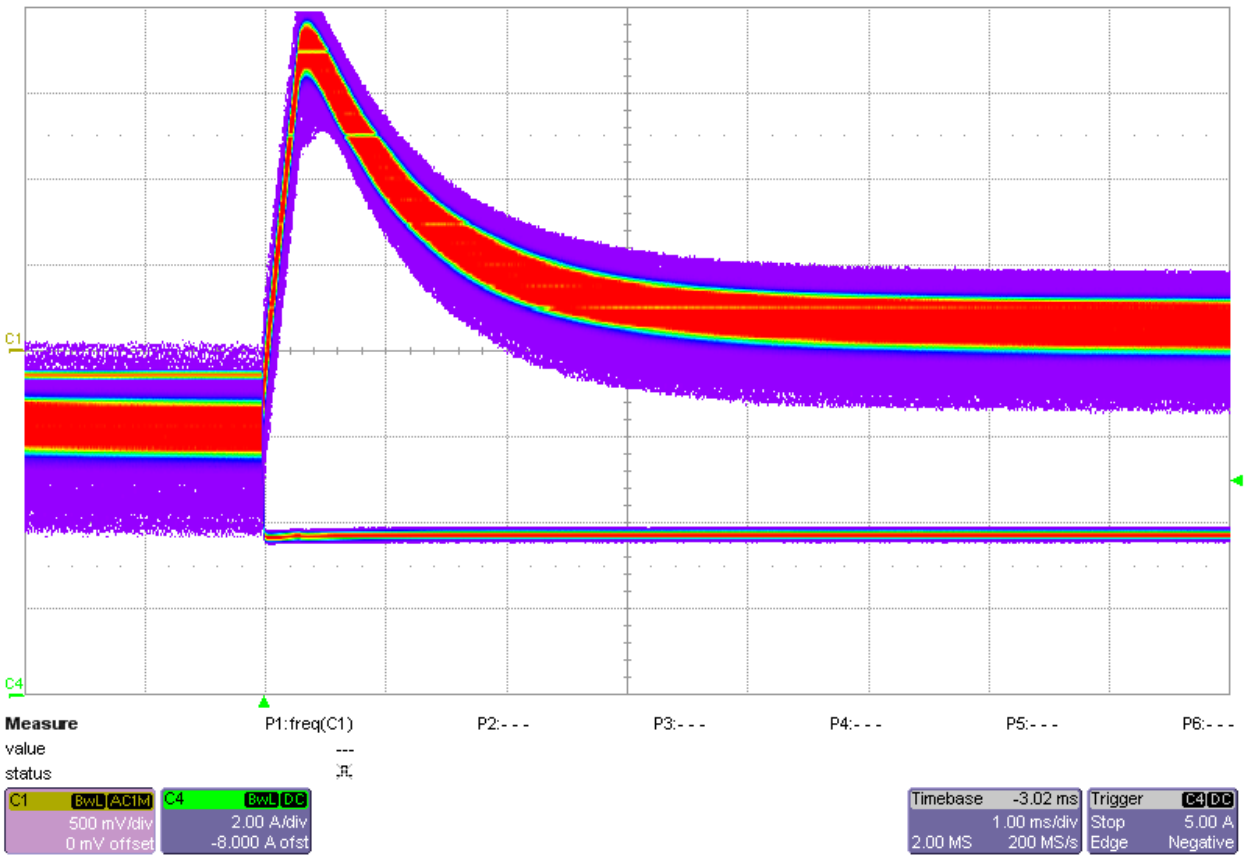
Undershoot at 20Vin 50%-to-100% Load Step (3.8A-to-7.6A)



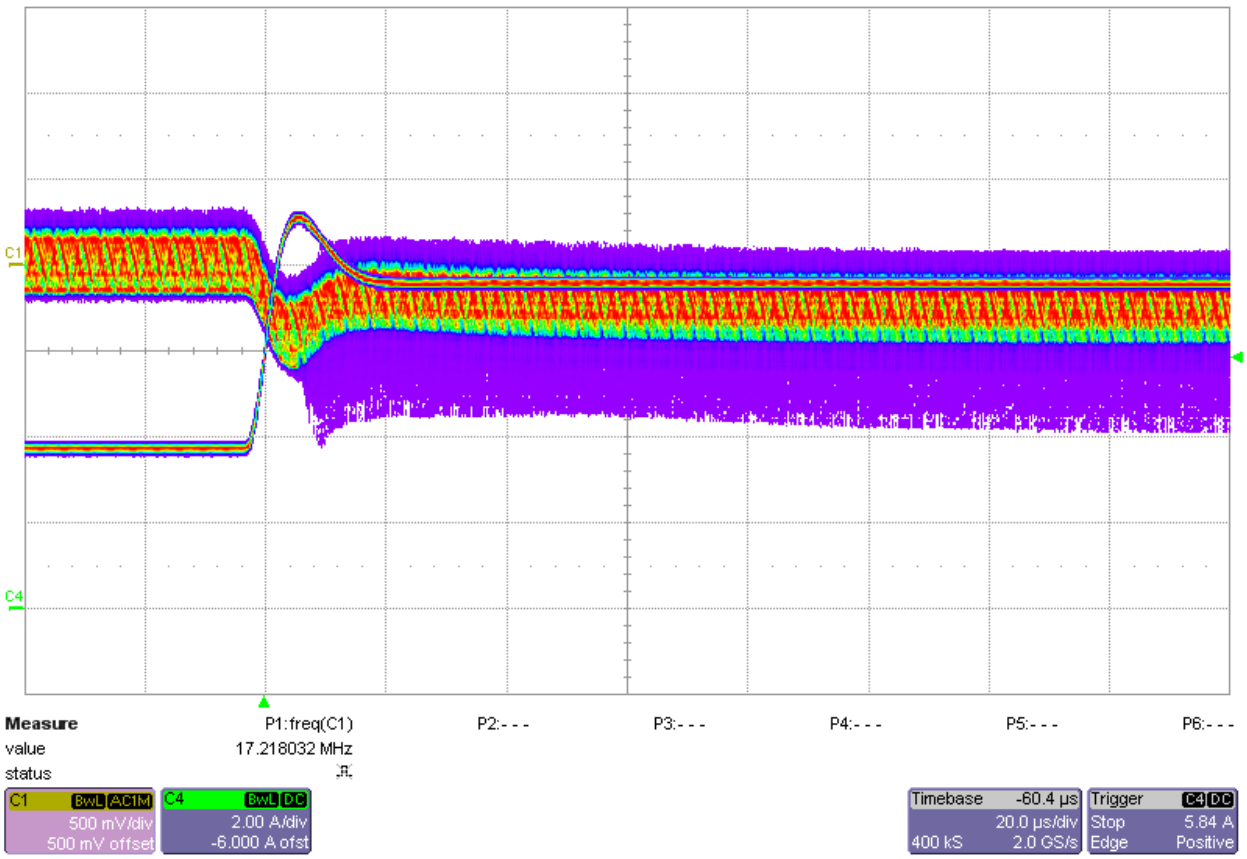
Overshoot at 20Vin 50%-to-100% Load Step (3.8A-to-7.6A)



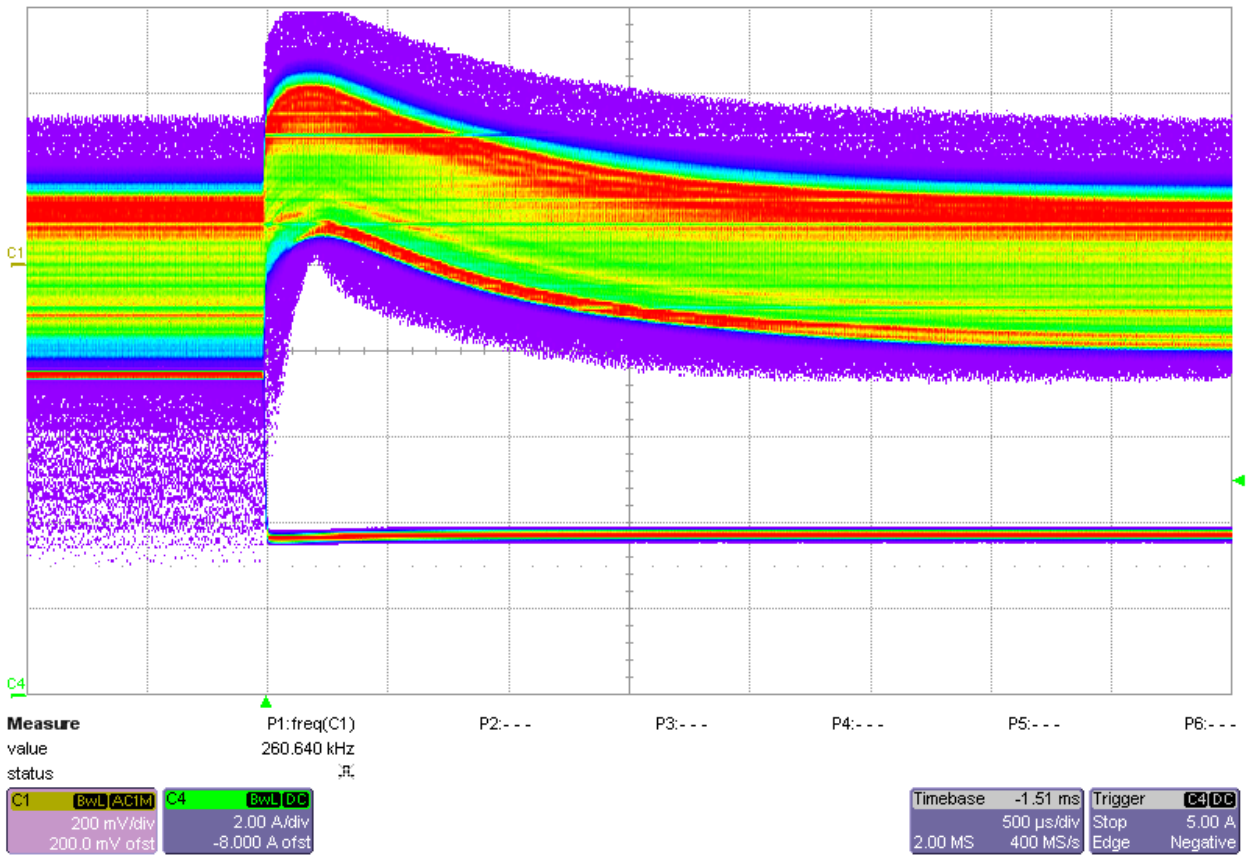
Undershoot at 35Vin 50%-to-100% Load Step (3.8A-to-7.6A)



Overshoot at 35Vin 50%-to-100% Load Step (3.8A-to-7.6A)

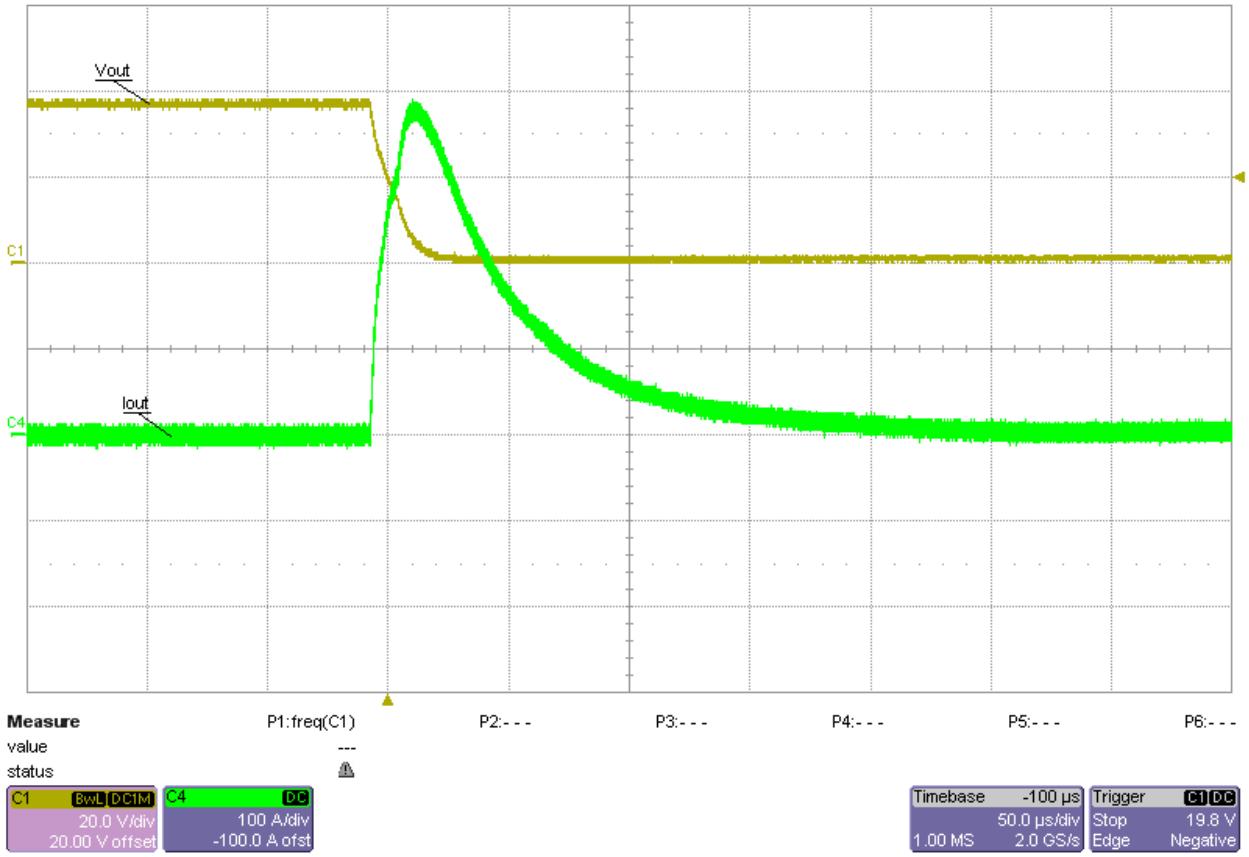


Undershoot at 50Vin 50%-to-100% Load Step (3.8A-to-7.6A)

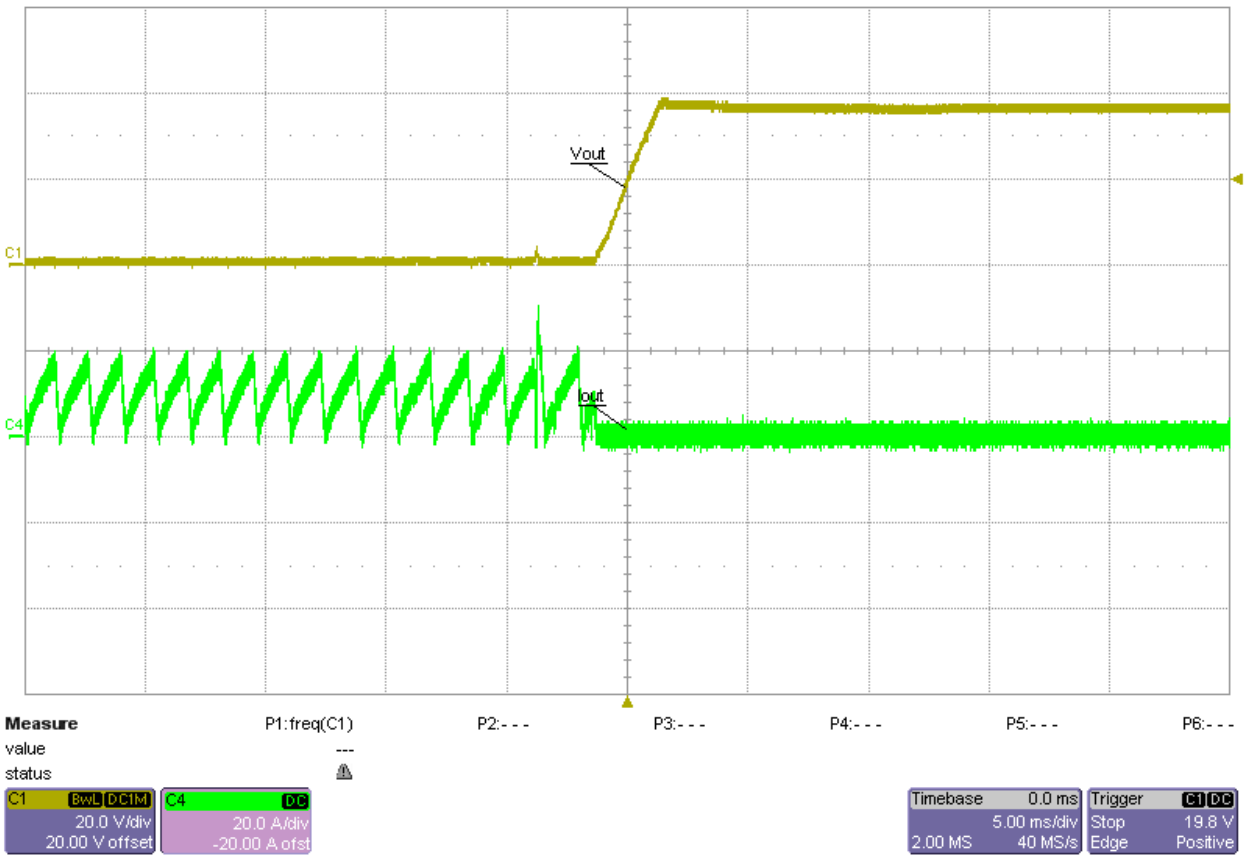


Overshoot at 50Vin 50%-to-100% Load Step (3.8A-to-7.6A)

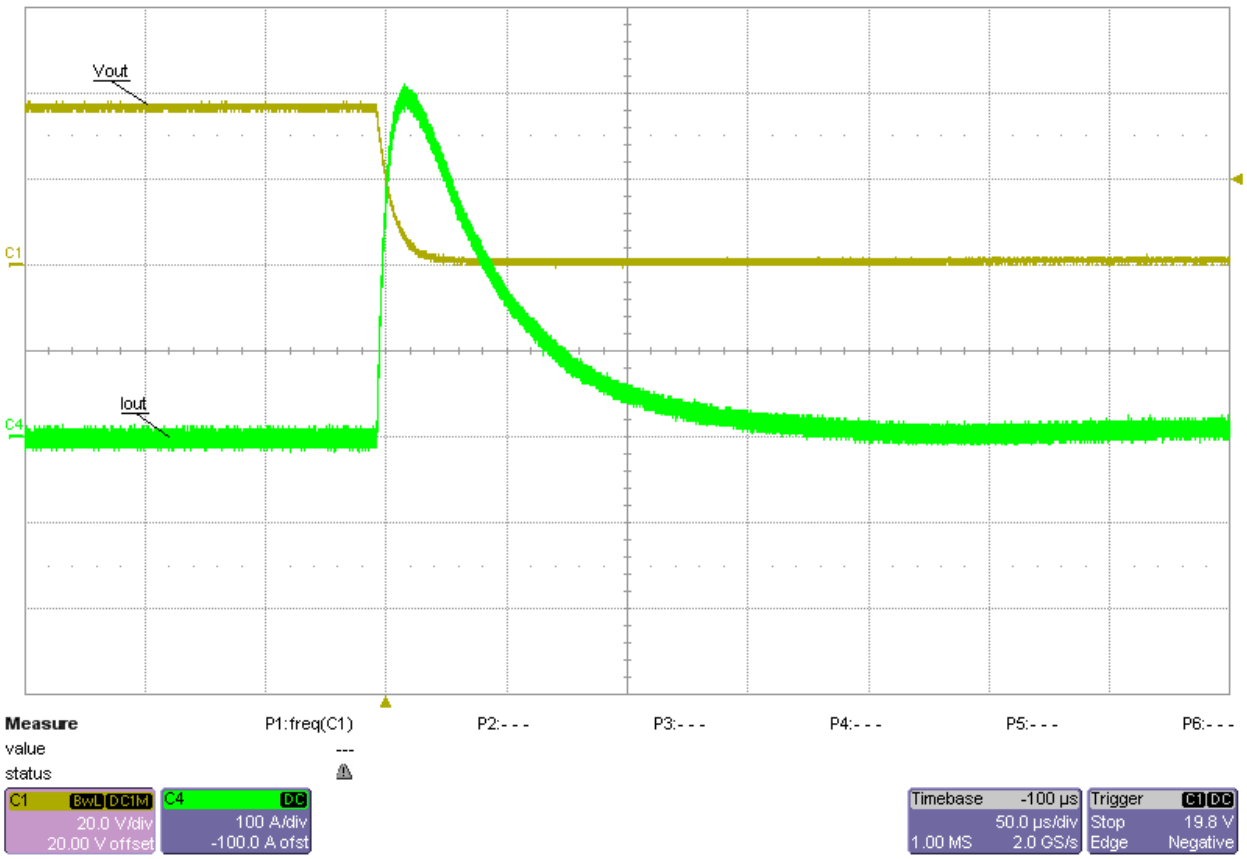
Short Circuit Test



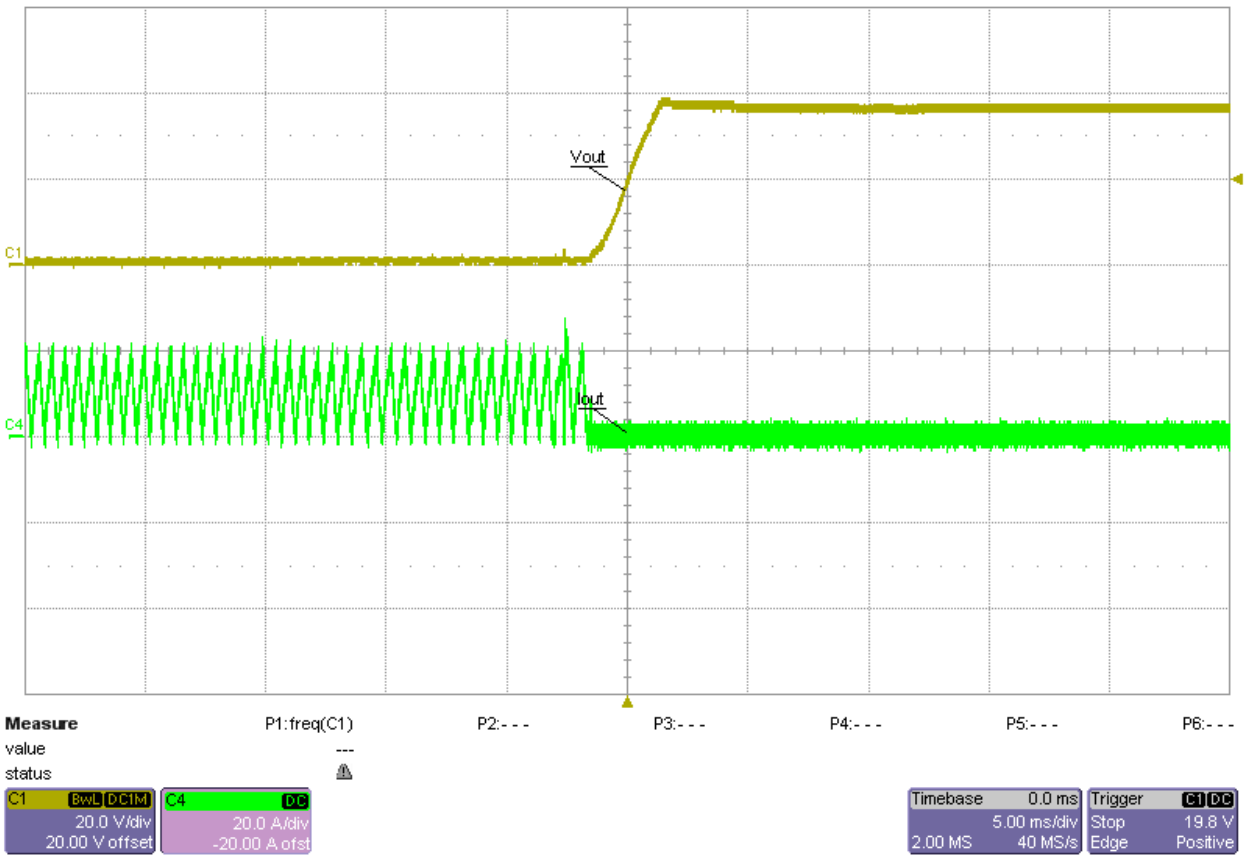
20Vin Short Circuit



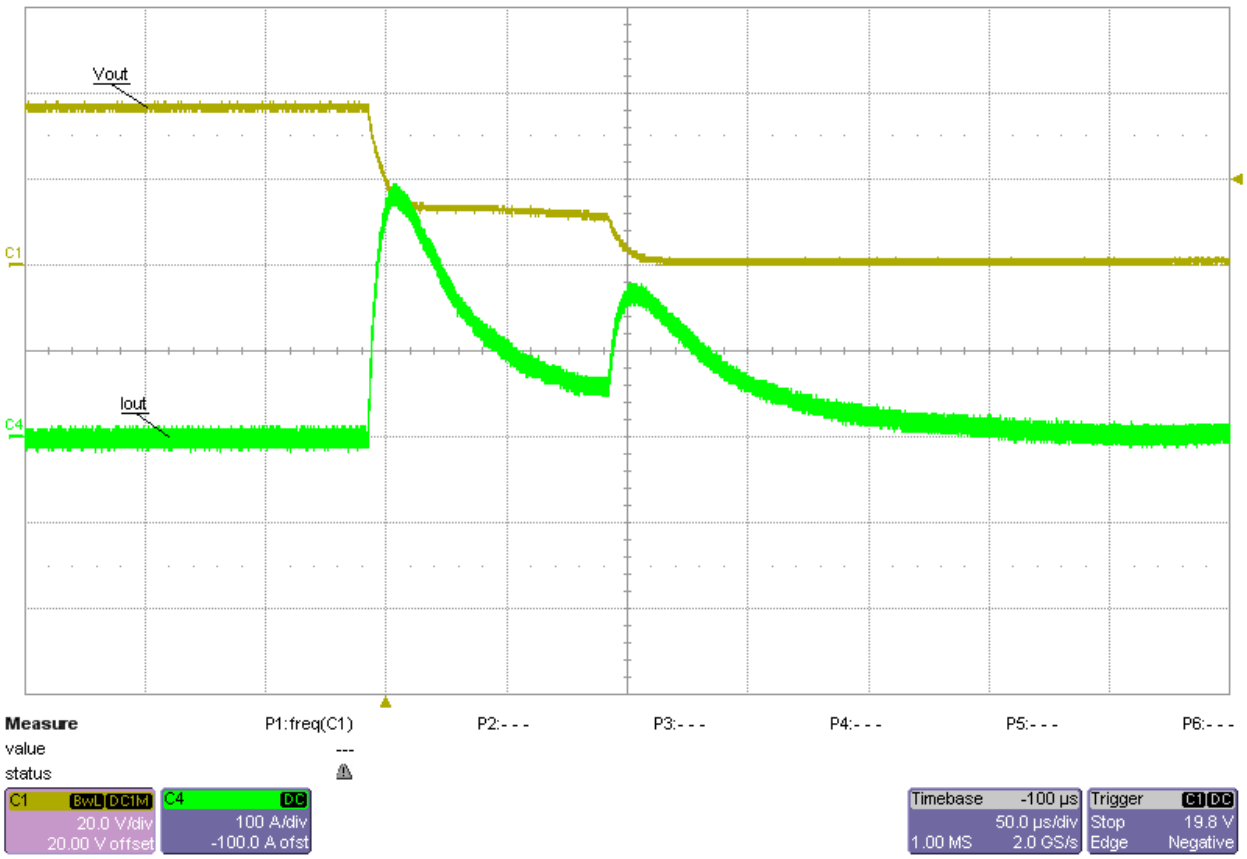
20Vin Short Circuit Recovery



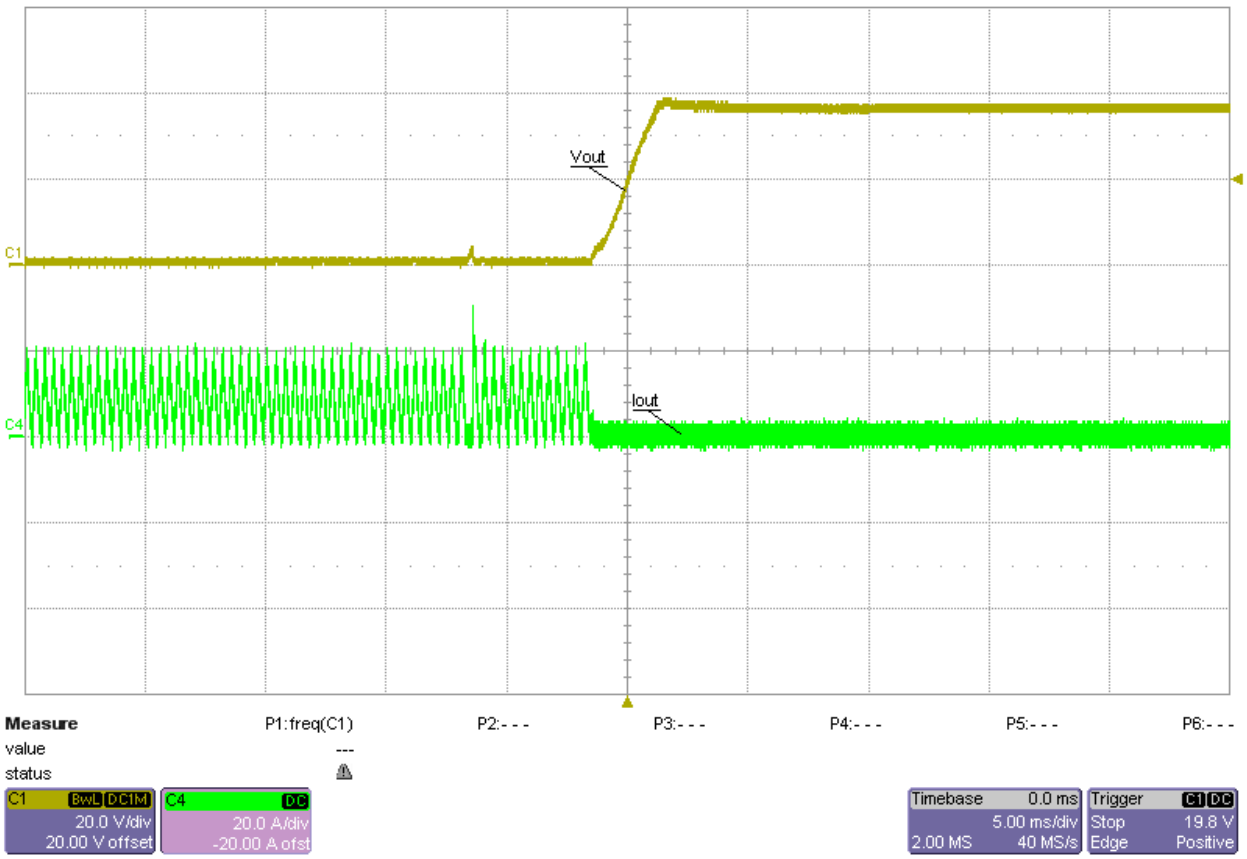
35Vin Short Circuit



35Vin Short Circuit Recovery

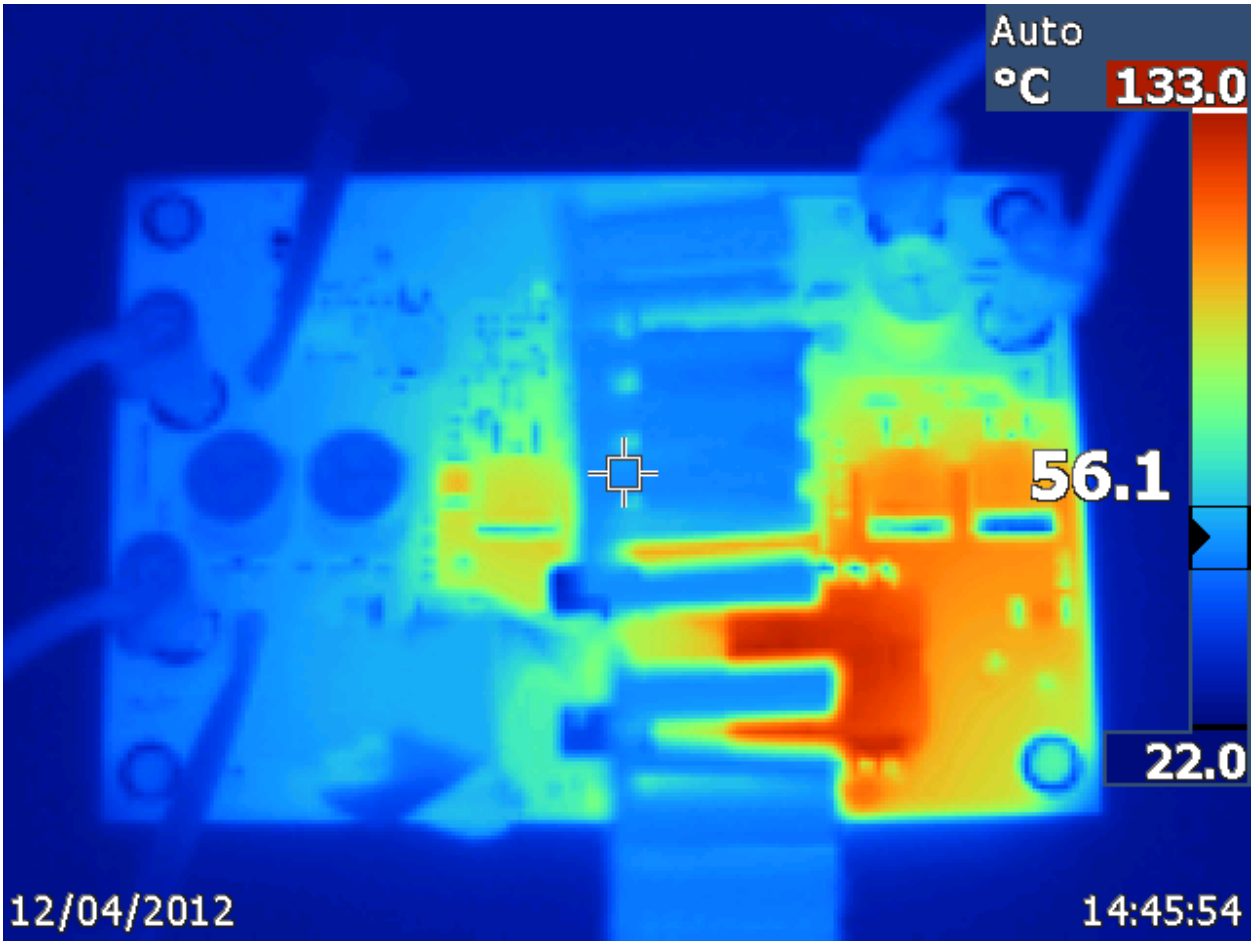


50Vin Short Circuit



50Vin Short Circuit Recovery

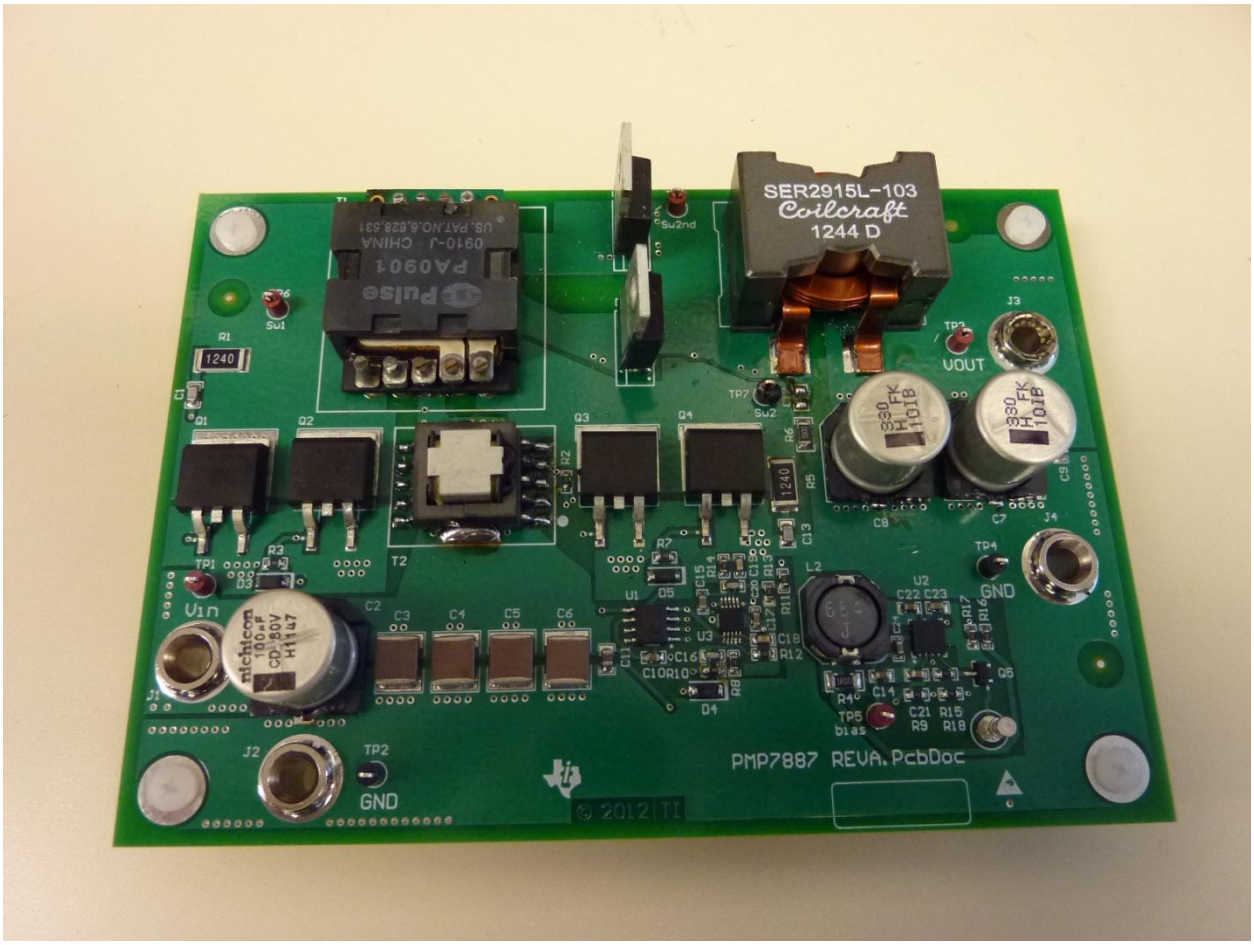
Thermal Data



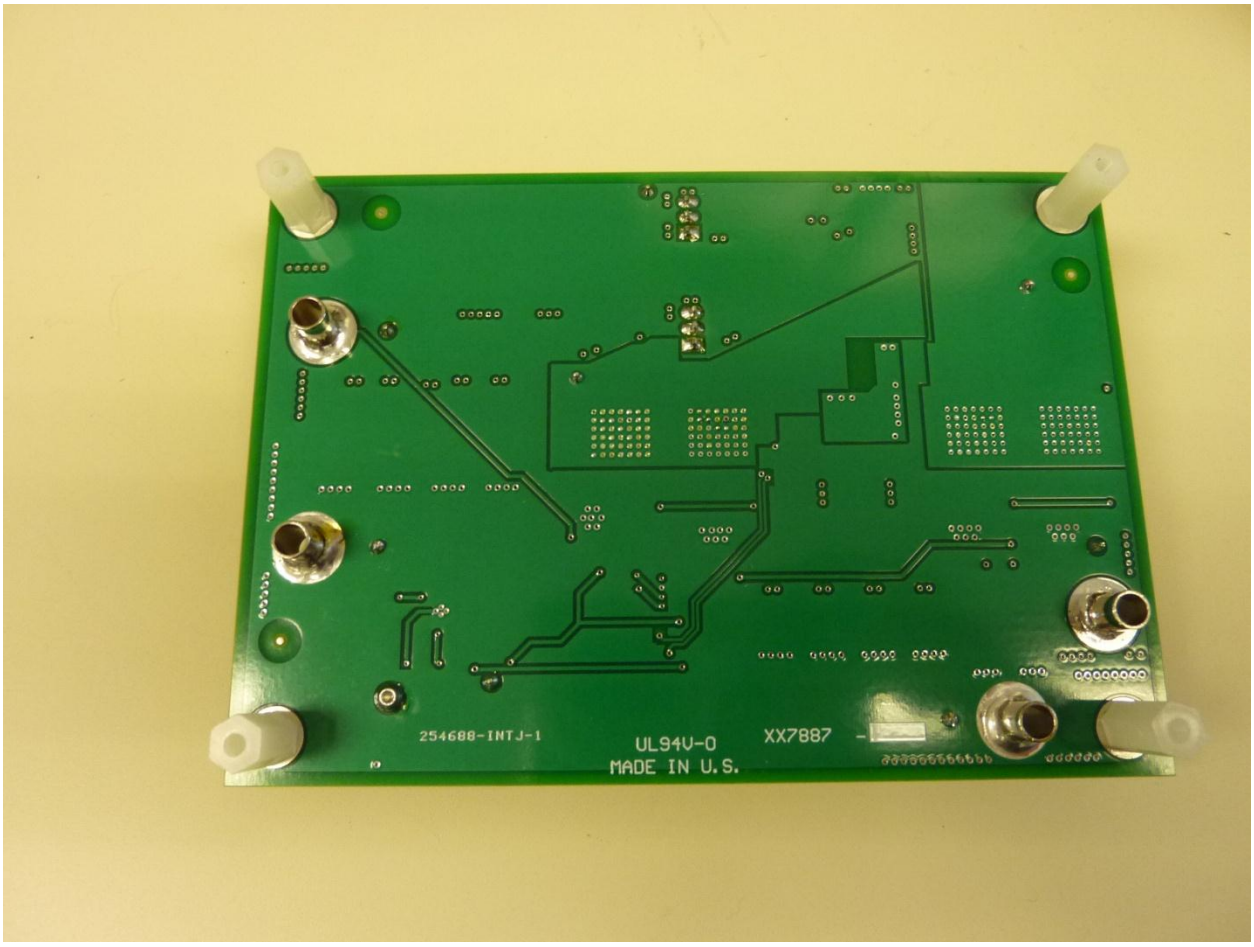
IR Thermal Image taken after running at 7.6A load for 8 minutes

FABRICATION

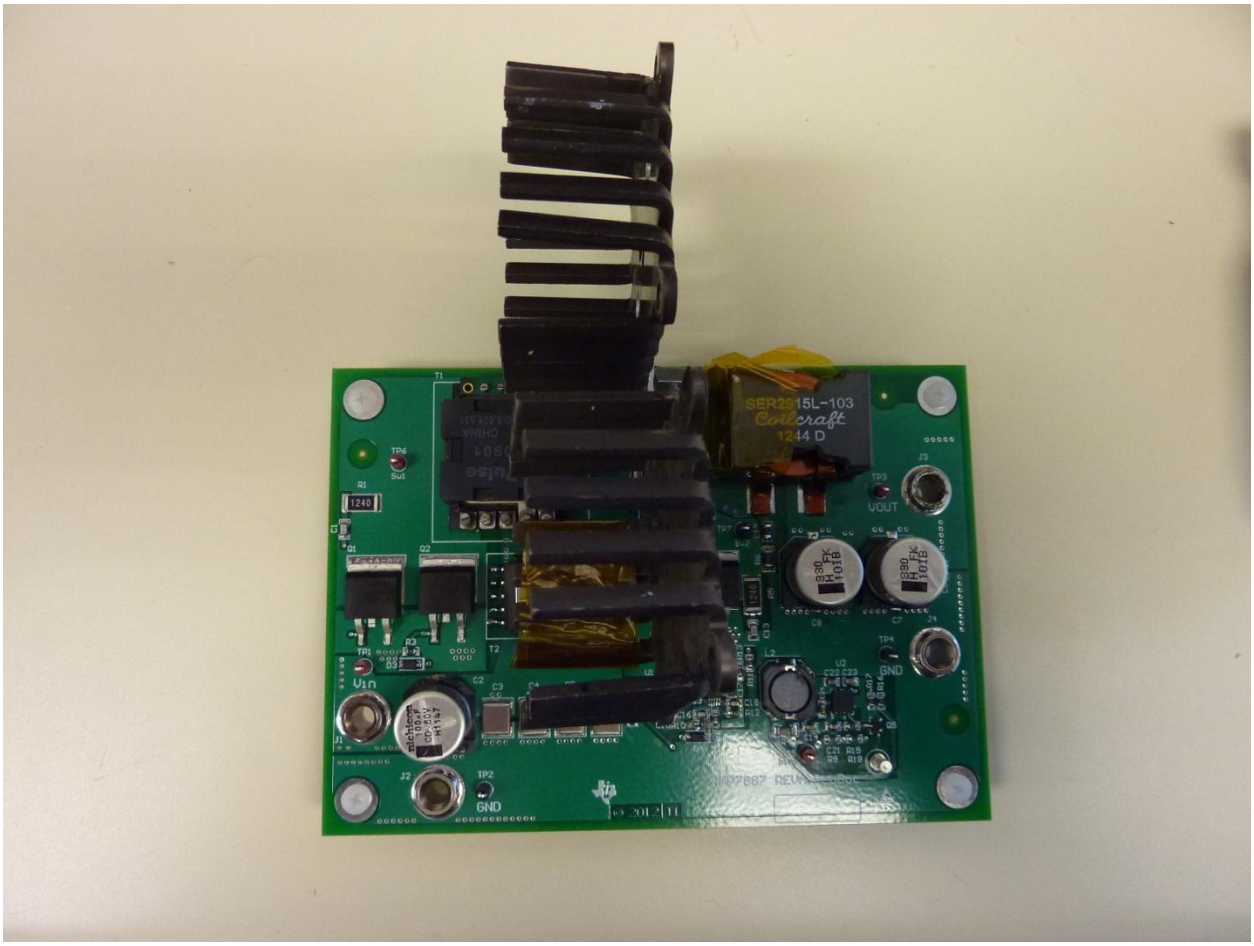
Board Dimensions: 5” x 3.5”



Top Side



Bottom Side



Board Top with Heatsinks on D1 and D2 (during thermal testing)

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