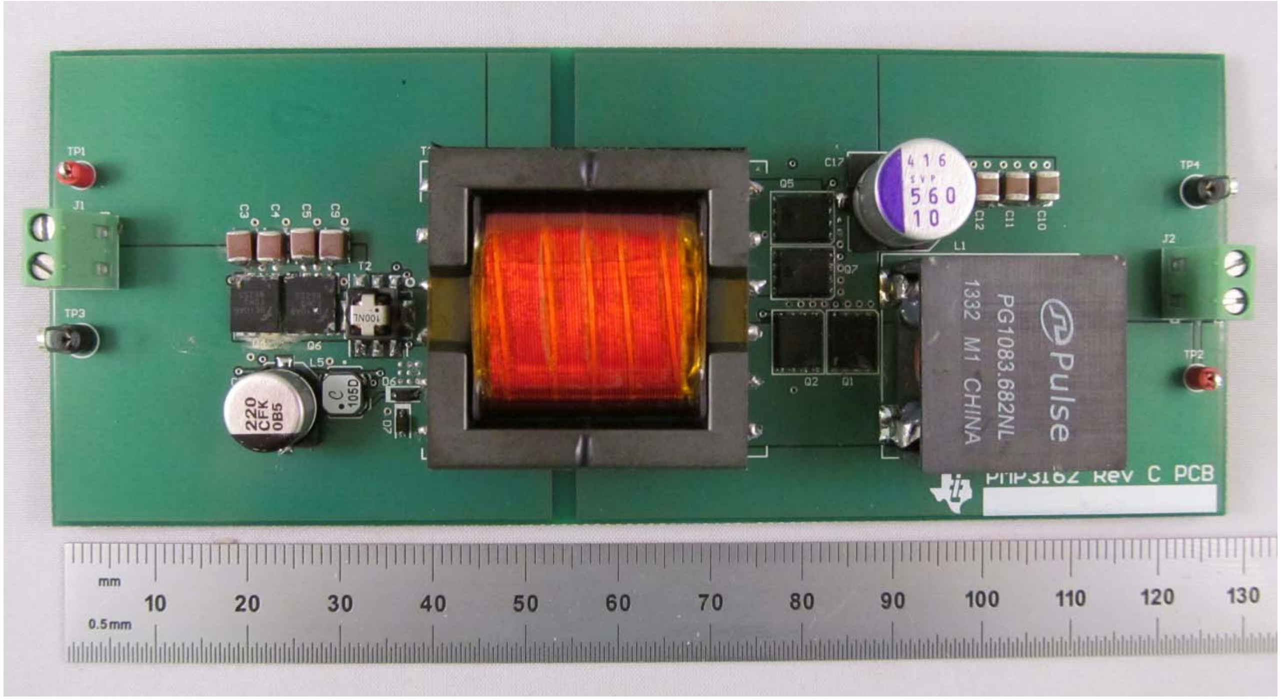
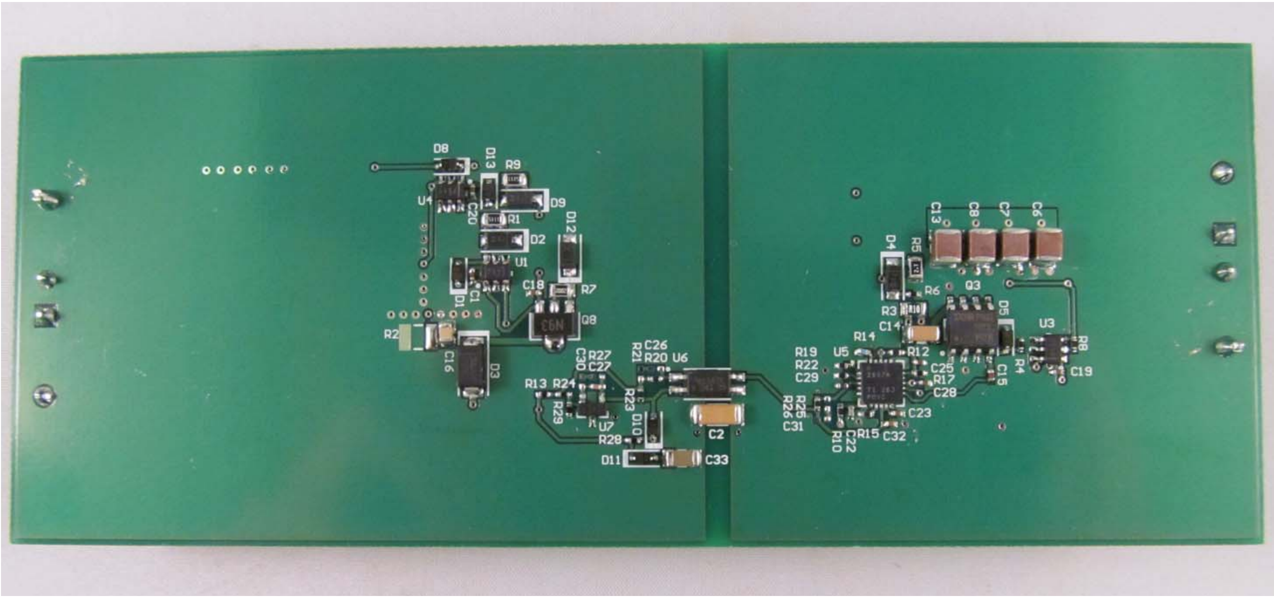
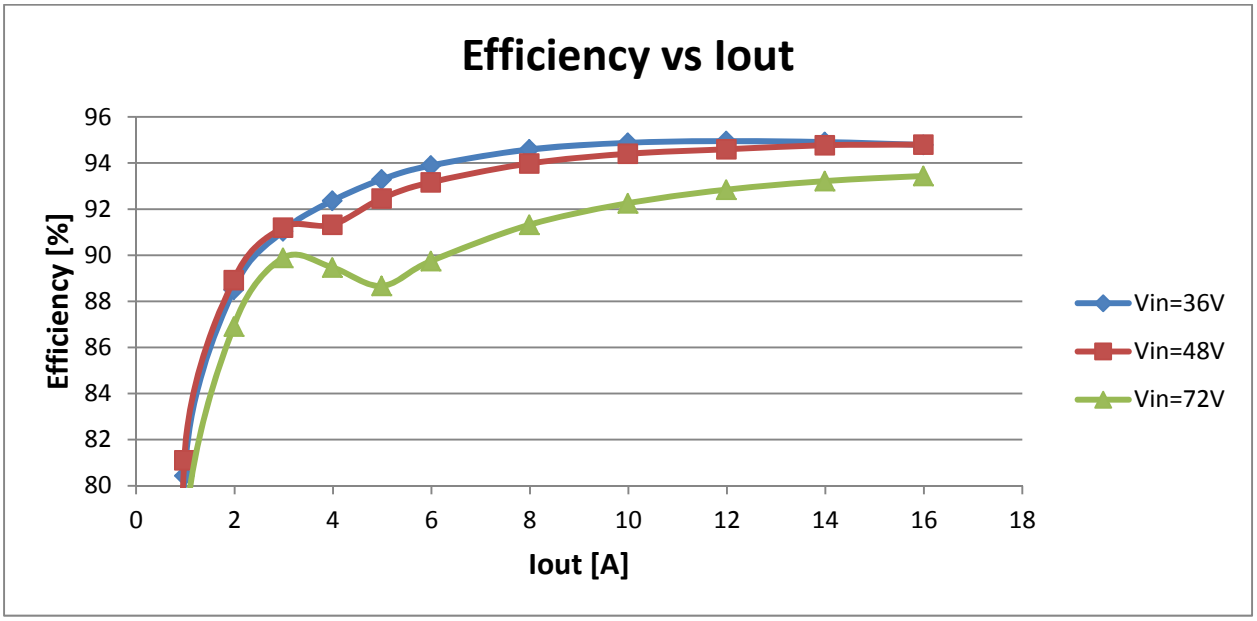
1 Photos


PMP3162 Rev C PCB
Pulse
PG1083.682NL
1332 M1 CHINA
TP1
TP2
TP3
TP4
J1
J2
mm
0.5mm
10
20
30
40
50
60
70
80
90
100
110
120
130


C2
C33
D11
U6
U5
U3
Q3
Q8

2 Efficiency



Vin=36V

Vin	Iin	Vout	Iout	Pin	Pout	Losses	Eff%
35.998775	0.079271	12.02083	0.003487	2.853676	0.041917	2.81176	1.468865
35.998702	0.406735	12.02087	0.979661	14.64194	11.77638	2.865569	80.42904
35.998568	0.747708	12.02073	1.981547	26.91642	23.81965	3.096773	88.49485
35.998422	1.093468	12.02037	2.981251	39.3631	35.83575	3.527359	91.03892
35.998264	1.440082	12.01999	3.983325	51.84045	47.87951	3.960936	92.35937
35.998154	1.783665	12.0197	4.983143	64.20864	59.89589	4.312747	93.28323
35.997874	2.127475	12.01942	5.982357	76.58457	71.90444	4.680131	93.88894
35.997692	2.817115	12.01855	7.981088	101.4097	95.92108	5.488574	94.58772
35.997497	3.512784	12.01801	9.982629	126.4514	119.9714	6.48007	94.87545
35.997363	4.213319	12.01753	11.98369	151.6684	144.0144	7.653993	94.95347
35.997034	4.919169	12.01754	13.98491	177.0755	168.0642	9.011276	94.91105
35.996779	5.631189	12.01767	15.98772	202.7047	192.135	10.56965	94.78569

PMP3162 Rev C Test Results

Vin=48V

Vin	Iin	Vout	Iout	Pin	Pout	Losses	Eff%
47.996754	0.056368	12.03148	0.003349	2.7055	0.040293	2.665207	1.489316
47.996693	0.302049	12.03045	0.977329	14.49735	11.75771	2.739639	81.10249
47.996584	0.558494	12.02935	1.981484	26.80578	23.83596	2.969821	88.92097
47.996523	0.819455	12.02813	2.981979	39.33099	35.86764	3.463355	91.19434
47.996365	1.092991	12.02718	3.983187	52.45958	47.90649	4.553089	91.32077
47.996389	1.350267	12.02627	4.98239	64.80793	59.91957	4.888361	92.45716
47.996328	1.608875	12.02572	5.982132	77.2201	71.93946	5.280636	93.16158
47.996365	2.127903	12.02463	7.982179	102.1316	95.98276	6.148829	93.9795
47.996511	2.649294	12.02376	9.983457	127.1569	120.0387	7.118167	94.40206
47.996864	3.173511	12.02328	11.98442	152.3186	144.092	8.226566	94.5991
47.99729	3.69654	12.02314	13.98512	177.4239	168.1451	9.278802	94.77026
47.997825	4.224443	12.02315	15.98748	202.7641	192.2199	10.54416	94.79979

Vin=72V

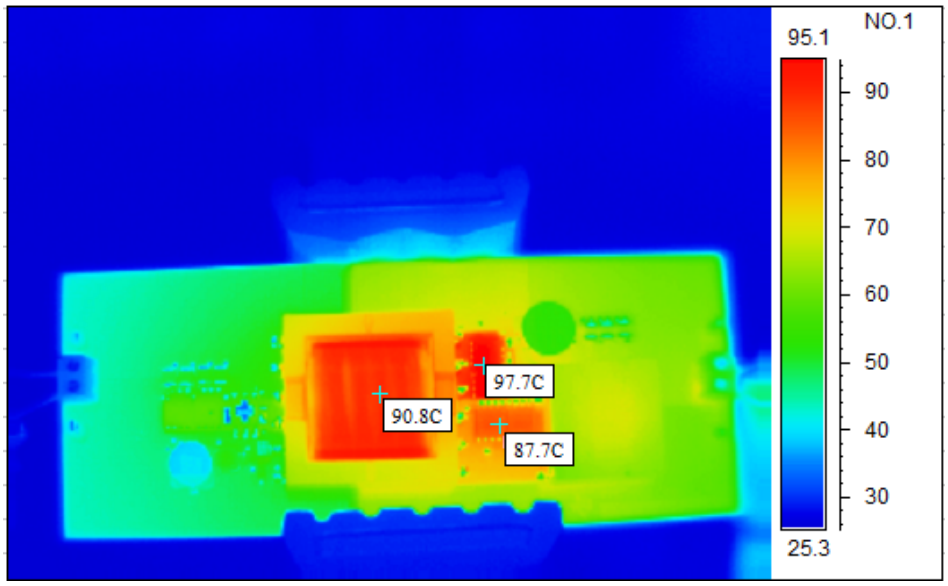
Vin	Iin	Vout	Iout	Pin	Pout	Losses	Eff%
71.997919	0.049015	12.03744	0.003349	3.528992	0.040313	3.488679	1.142349
71.997809	0.211335	12.0361	0.978457	15.21567	11.77681	3.438861	77.39921
71.997651	0.381284	12.03487	1.982349	27.45154	23.85732	3.594222	86.90703
71.99759	0.554533	12.03353	2.982205	39.92502	35.88646	4.038558	89.88464
71.997627	0.74409	12.03218	3.983638	53.5727	47.93185	5.640849	89.47066
71.997456	0.939086	12.03122	4.982816	67.61182	59.94938	7.662445	88.667
71.997517	1.114048	12.03075	5.983072	80.2087	71.98086	8.22784	89.74196
71.997748	1.46054	12.02971	7.982405	105.1556	96.02601	9.129568	91.31804
71.998053	1.808156	12.02918	9.983958	130.1837	120.0988	10.08497	92.25328
71.998503	2.156588	12.02916	11.98407	155.2711	144.1583	11.11279	92.84297
71.999112	2.506369	12.02919	13.98412	180.4563	168.2176	12.23871	93.21791
71.999659	2.858557	12.0296	15.98656	205.8151	192.3119	13.50321	93.43915

3 Thermal

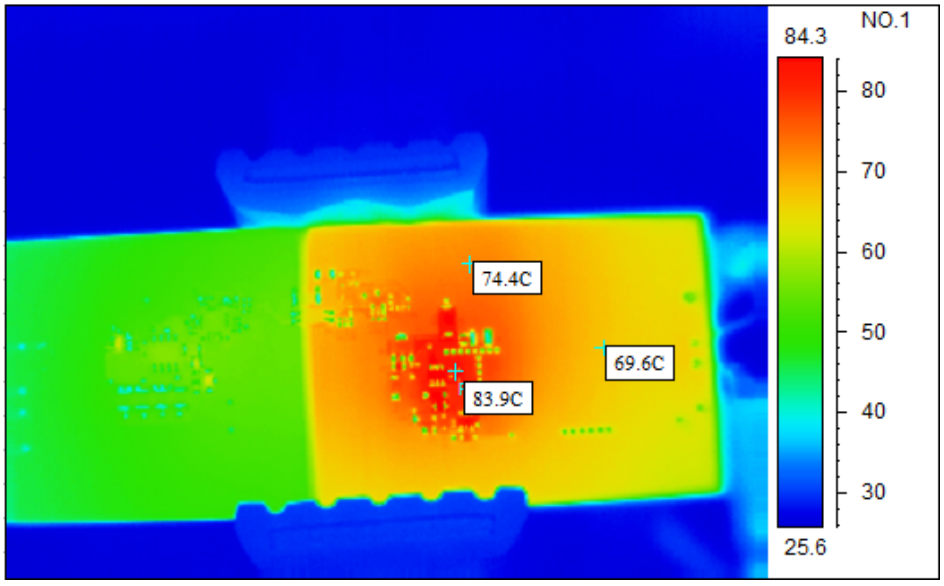
The thermal images below show the circuit board with a 16A load.

3.1 36V Input

Front:

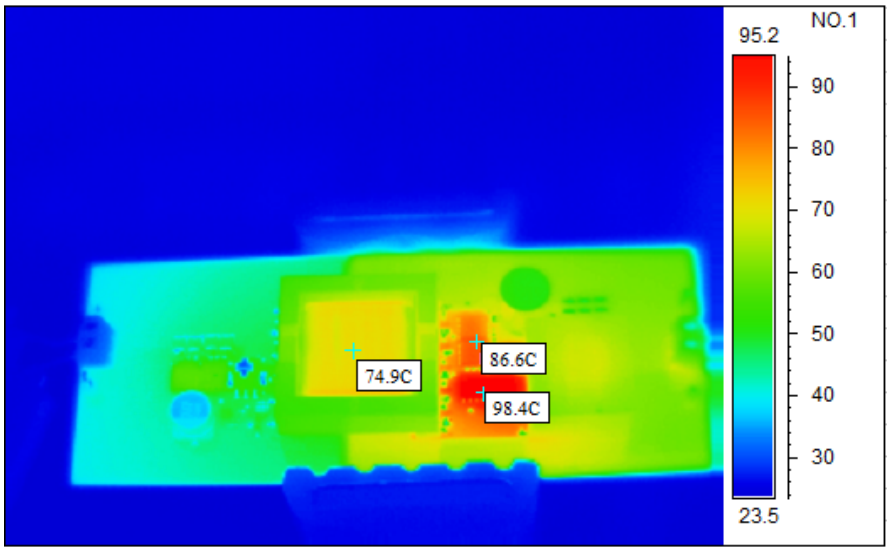


Back:

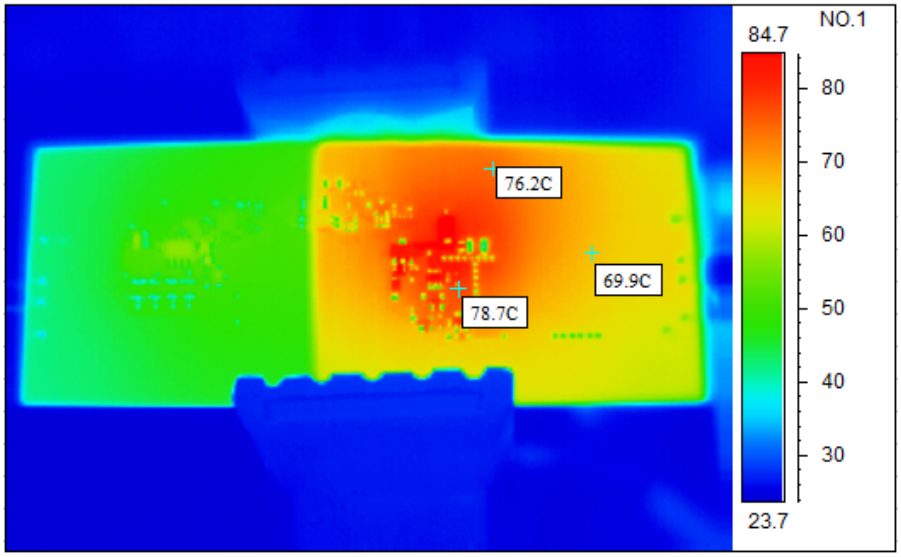


3.2 72V Input

Front:

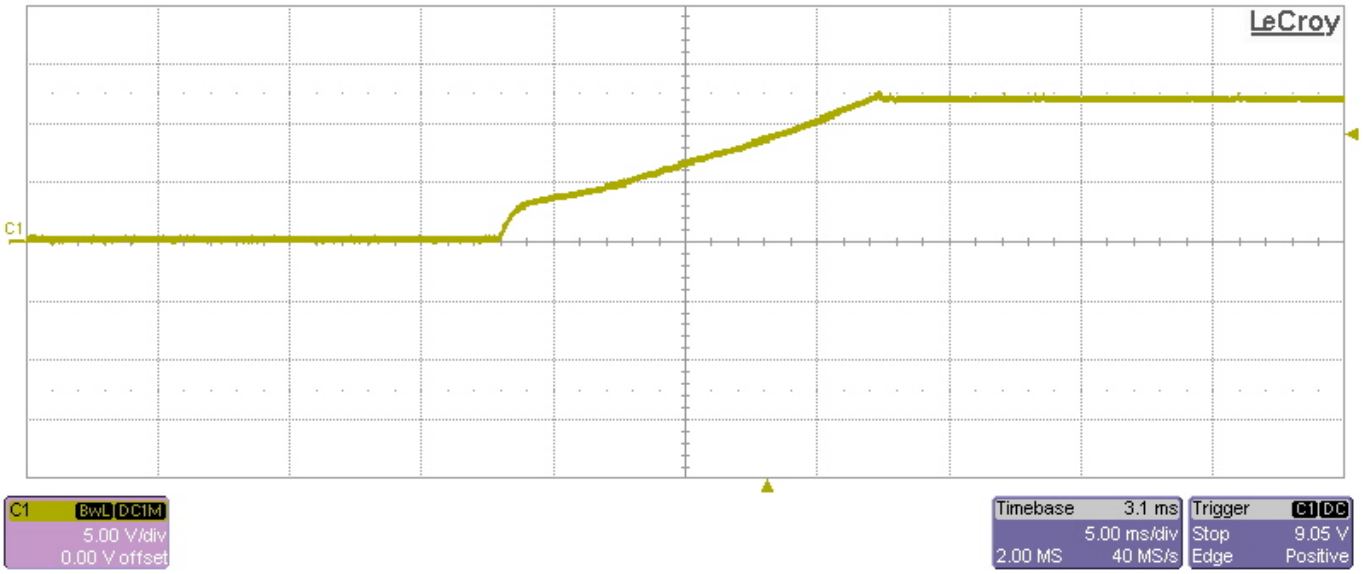


Back:

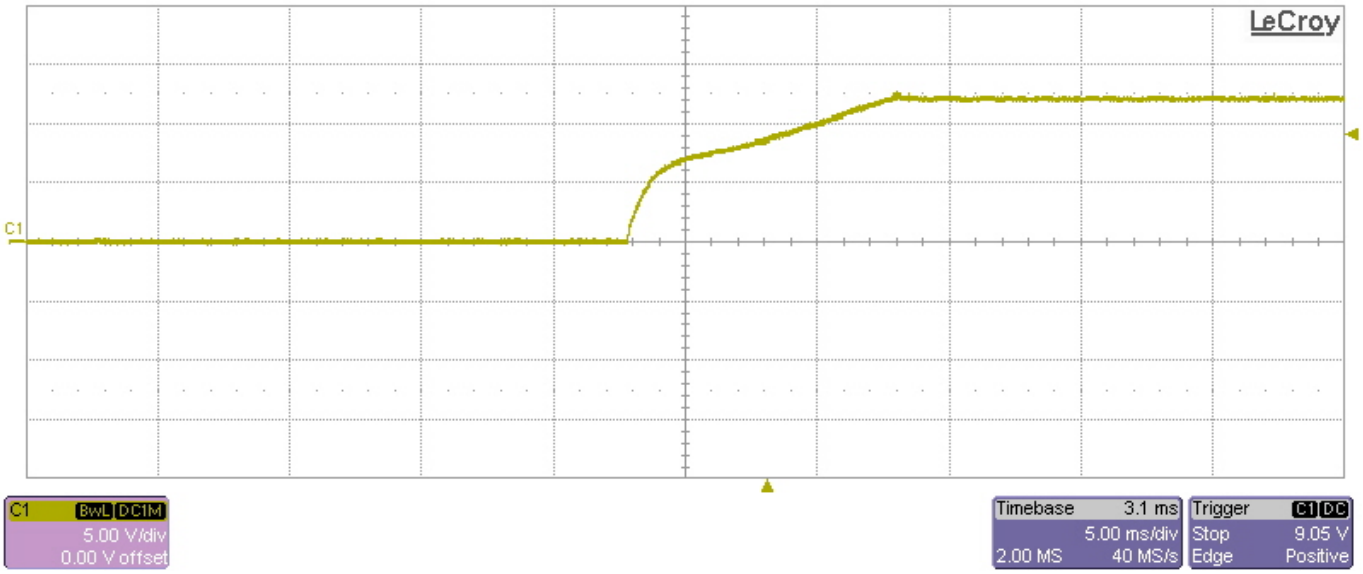


4 Startup

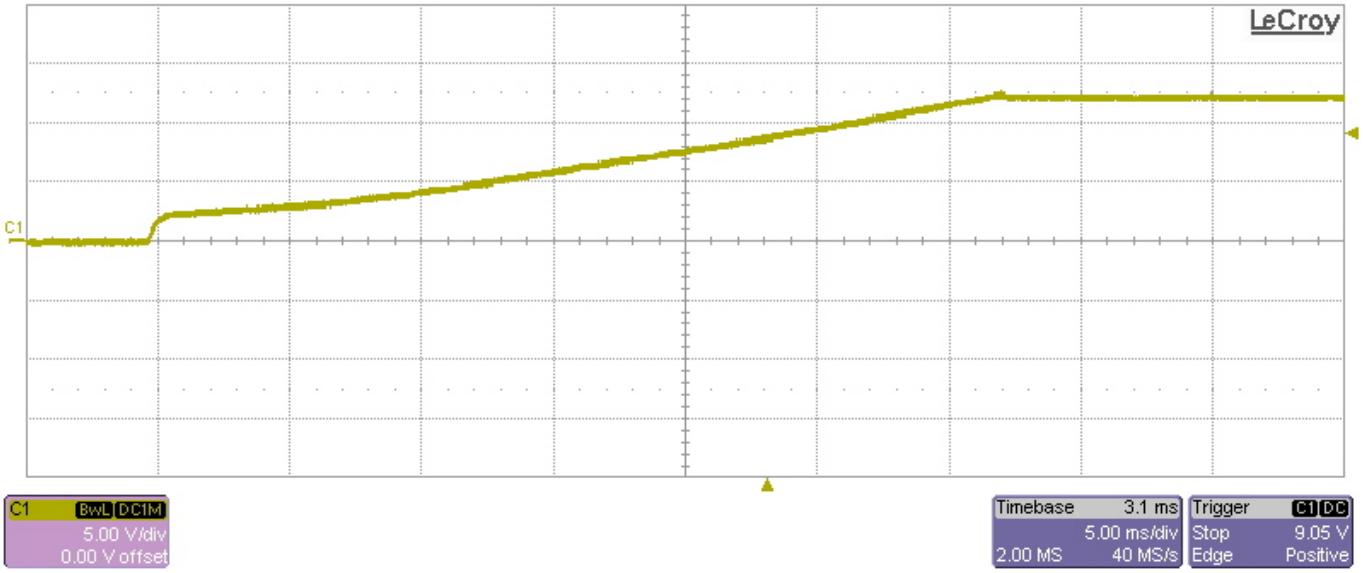
4.1 36V Input, No Load



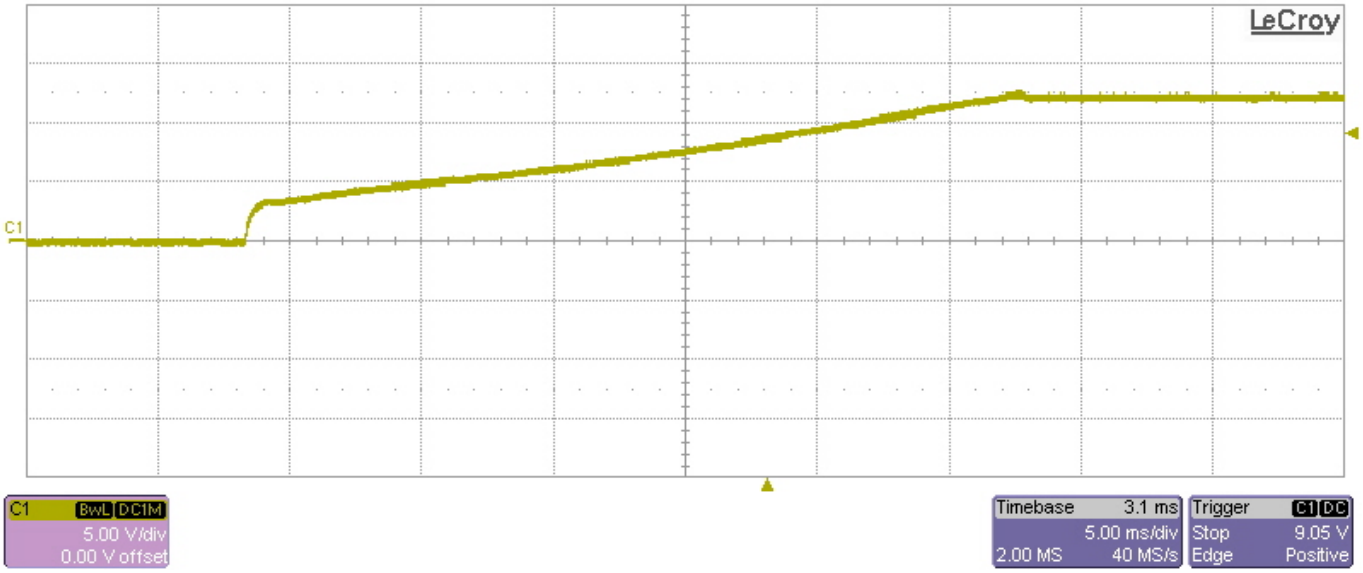
4.2 72V Input, No Load



4.3 36V Input, 1Ω Load

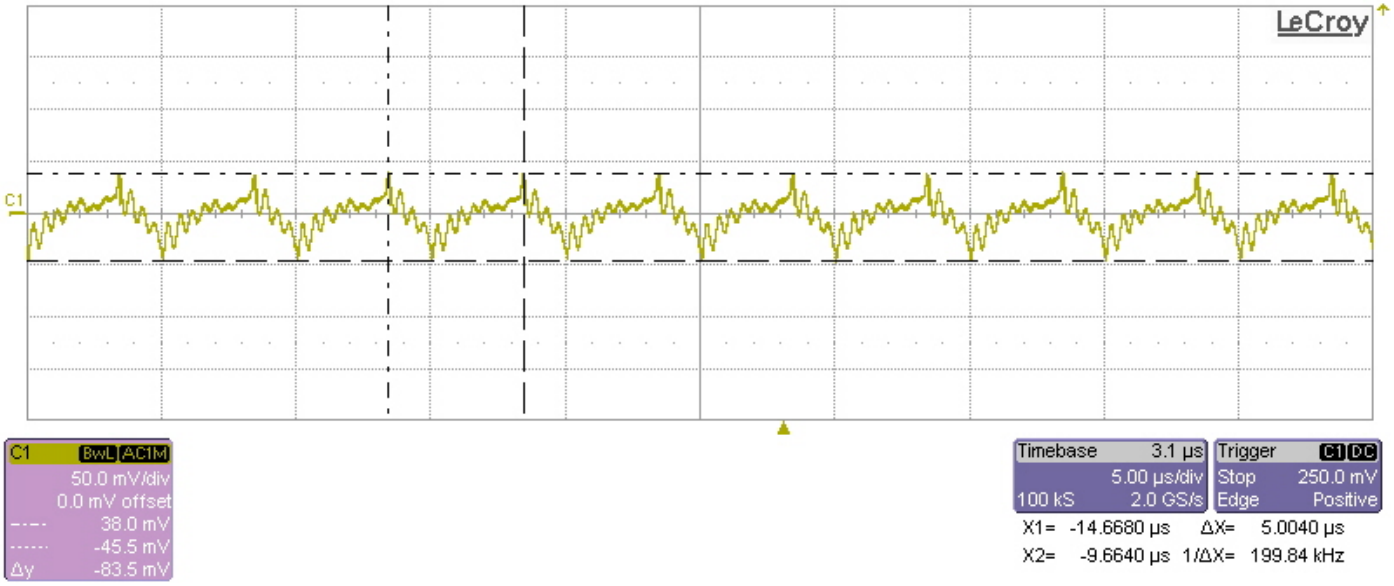


4.4 72V Input, 1Ω Load

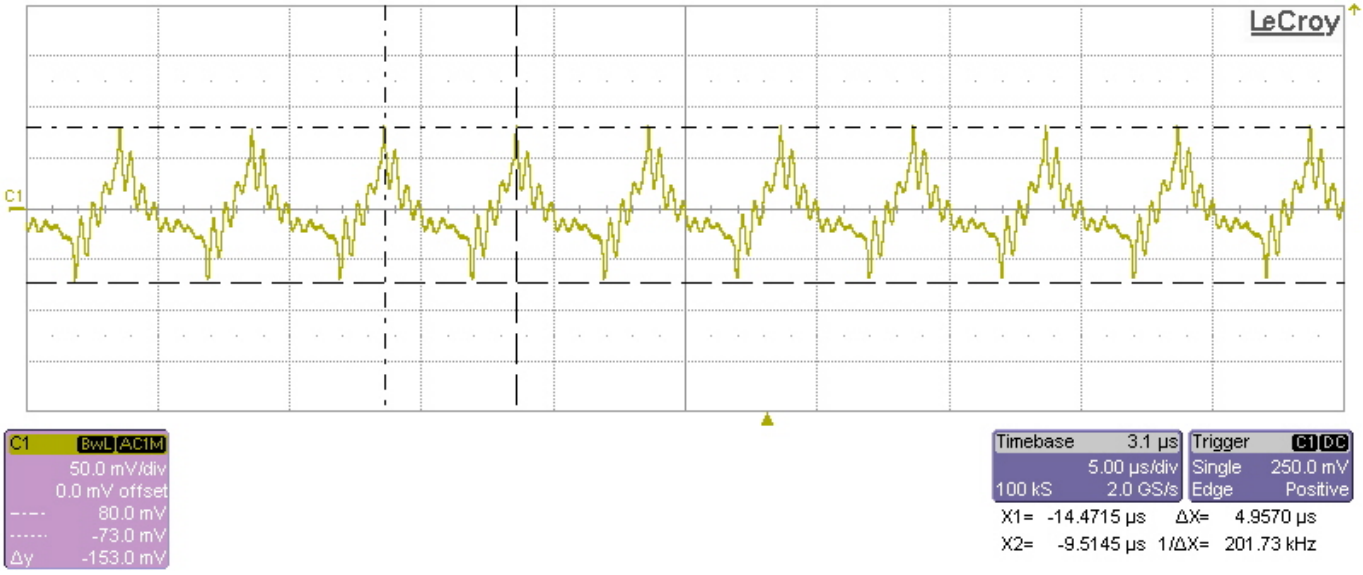


5 Output Ripple Voltage

5.1 36V Input, 16A Load

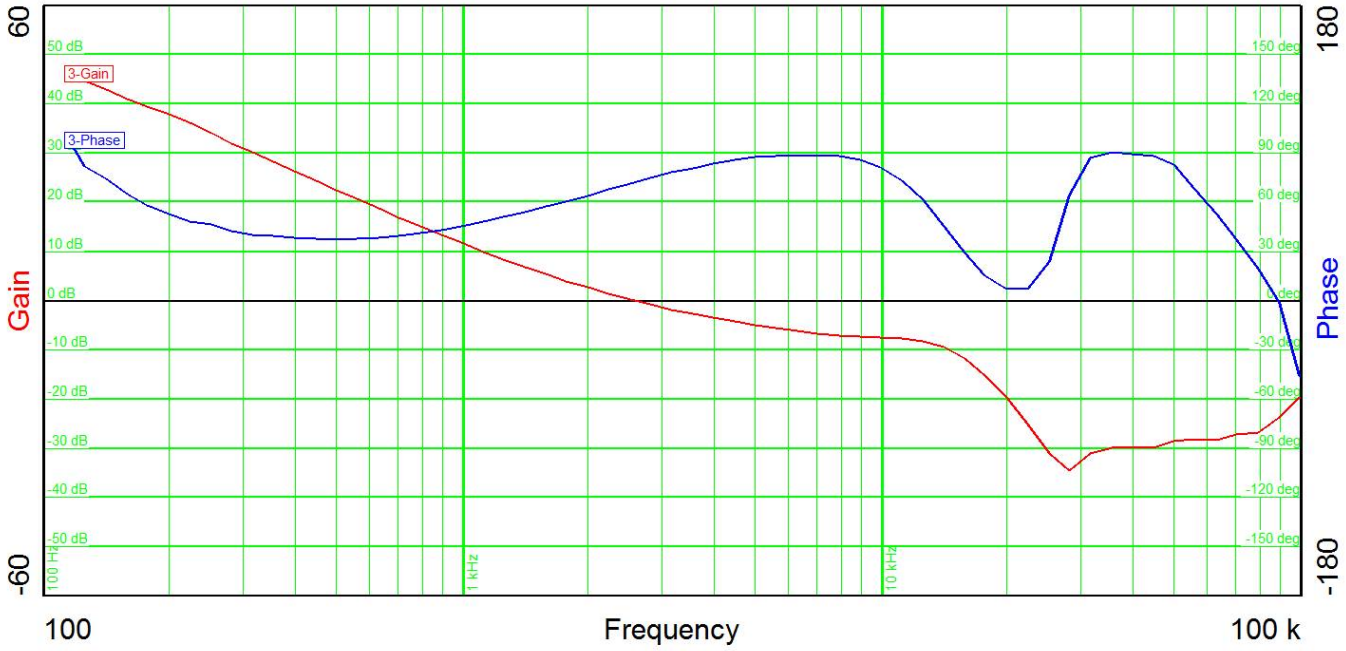


5.2 72V Input, 16A Load

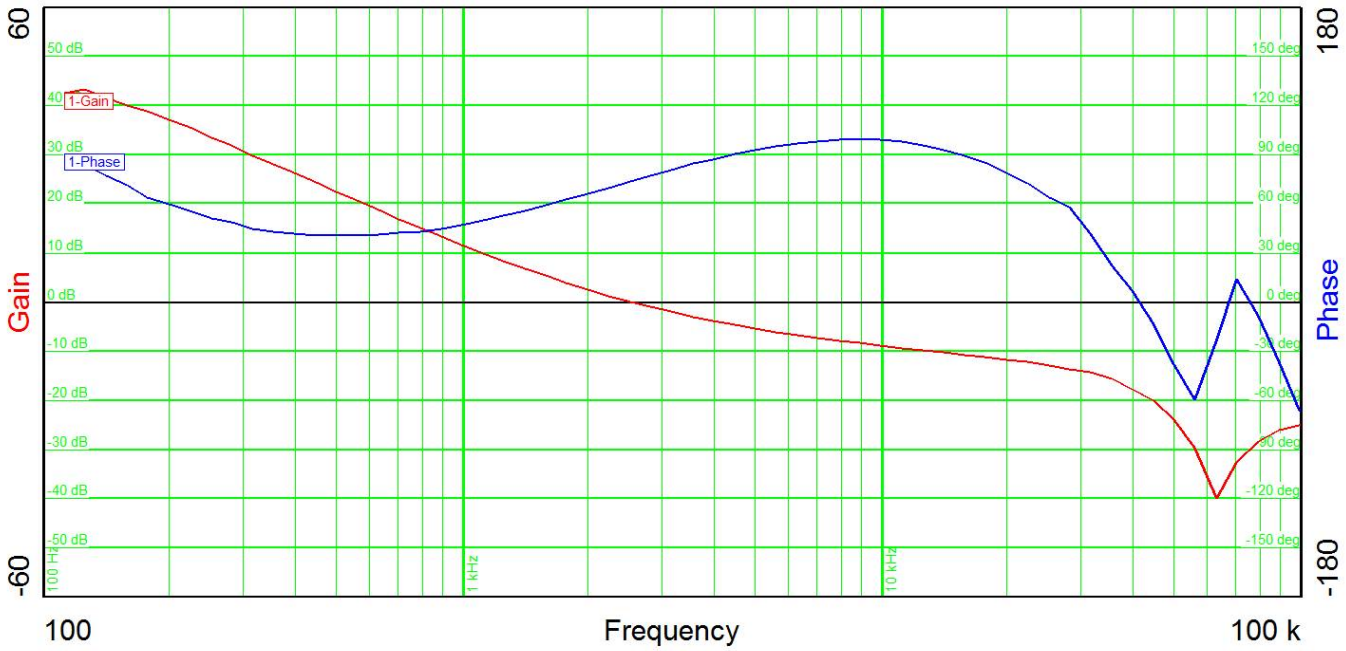


6 Frequency Response

6.1 36V Input

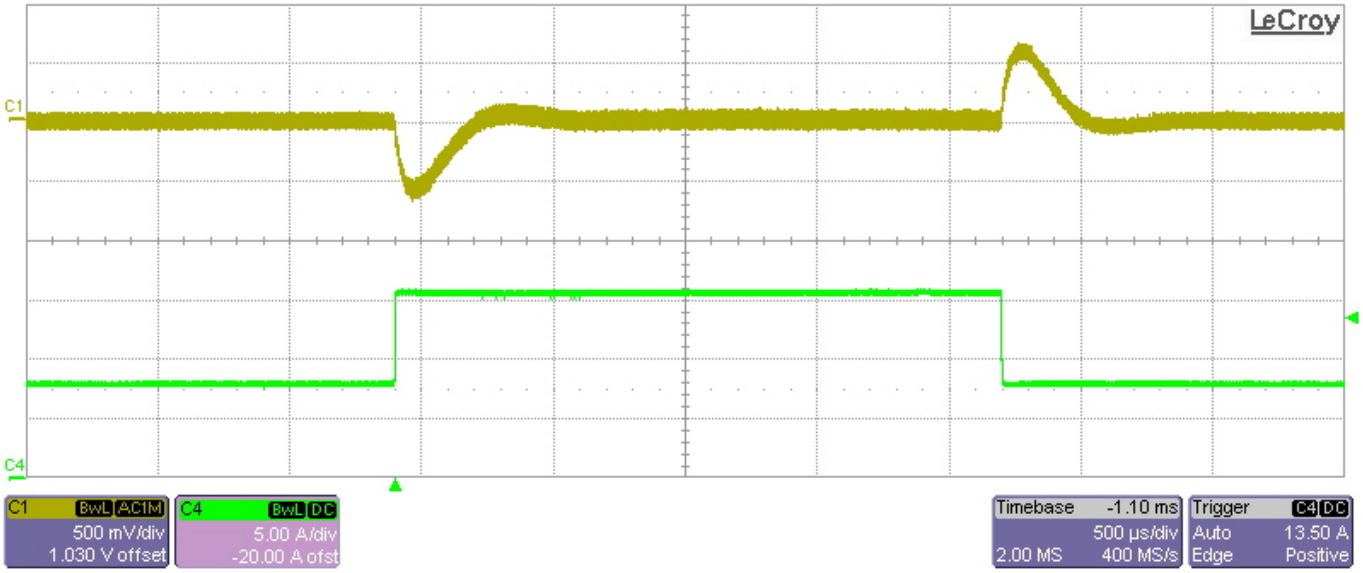


6.2 72V Input

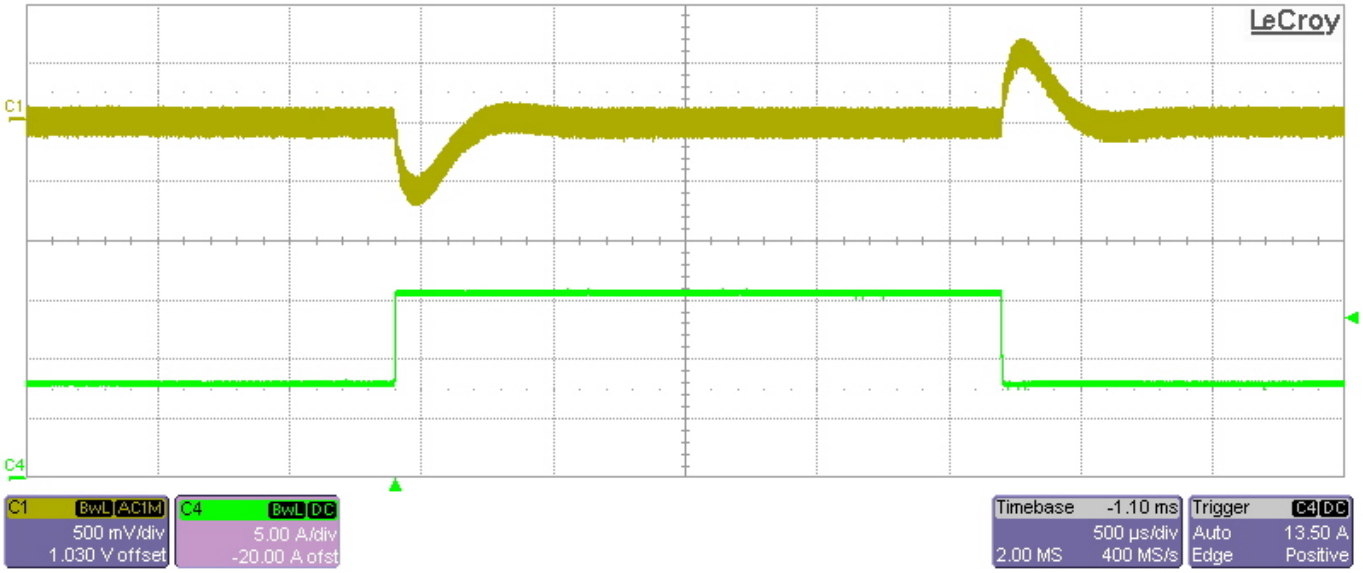


7 Load Transients

7.1 36V Input



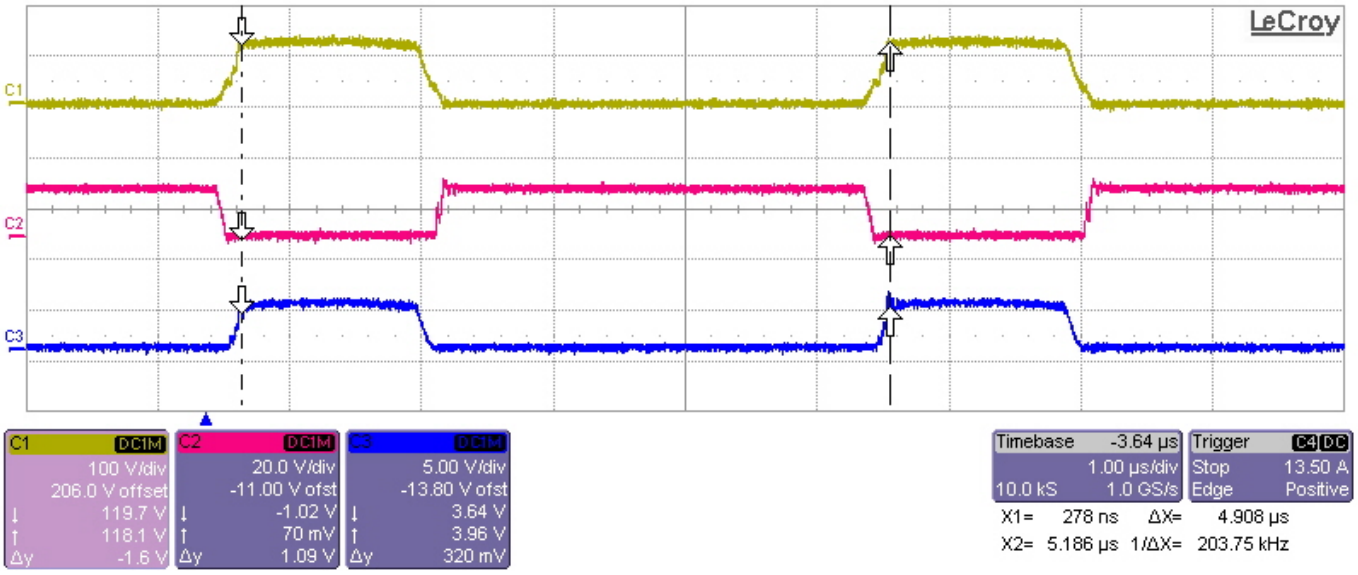
7.2 72V Input



8 Switching Waveforms

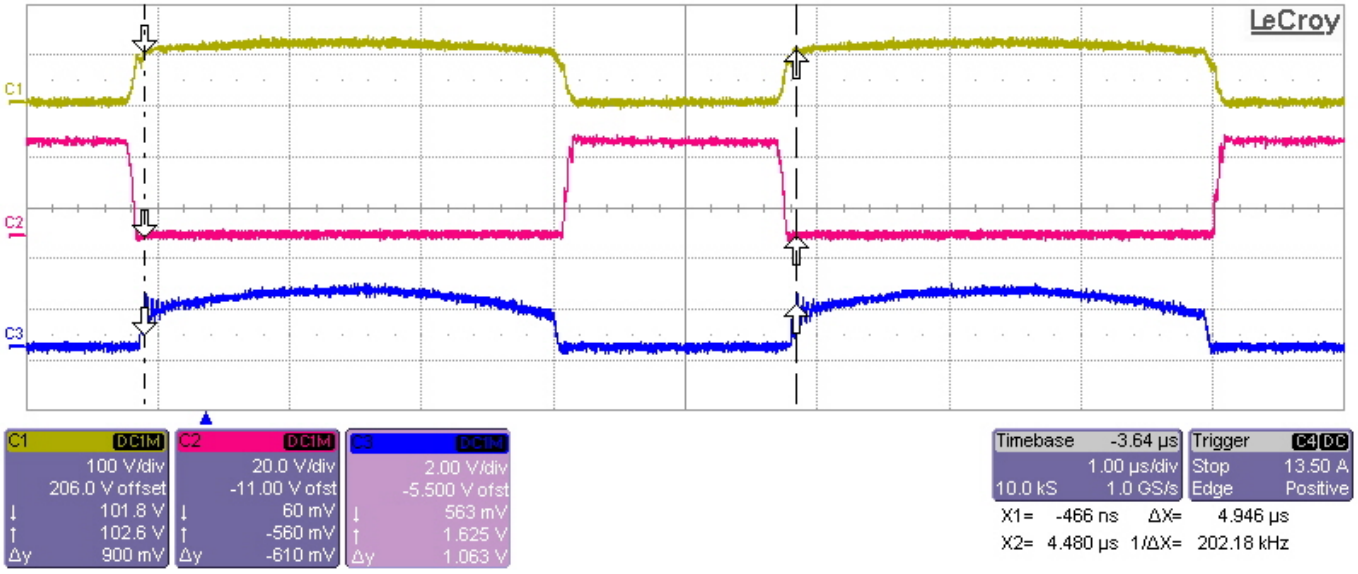
8.1 36Vin, 16A Load

Yellow: Primary FET Vds (Q4 & Q6)
Pink: Sync FET Vds (Q1 & Q2)
Blue: Sync FETs Vds (Q5 & Q7)



8.2 72Vin, 16A Load

Yellow: Primary FET Vds (Q4 & Q6)
Pink: Sync FET Vds (Q1 & Q2)
Blue: Sync FETs Vds (Q5 & Q7)



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