

All testing performed with 48VIN, max loads, and 20MHz BW unless otherwise noted.

Efficiency and Regulation

PoE Input:

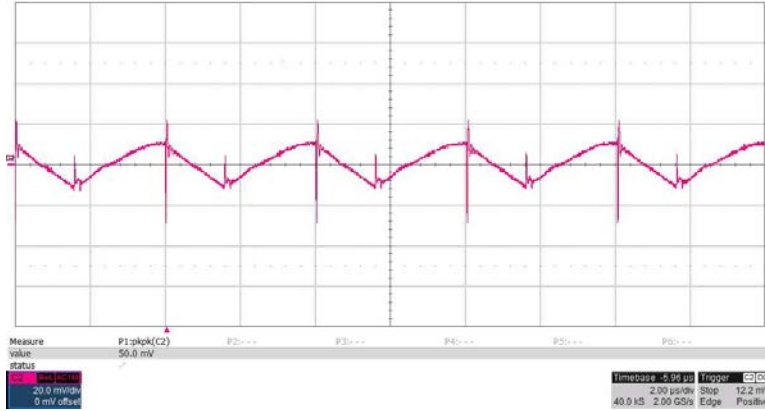
3.3V	3.3V	5V	5V	J1	J1	J1
<u>Iout</u>	<u>Vout</u>	<u>Iout</u>	<u>Vout</u>	<u>Iin</u>	<u>Vin</u>	<u>Eff</u>
0.000	3.334	0.000	5.016	0.013	48.00	0.0%
1.000	3.333	0.000	5.057	0.085	48.00	81.7%
0.000	3.334	1.000	4.985	0.122	48.00	85.1%
0.125	3.334	0.125	5.018	0.035	48.00	62.1%
0.250	3.334	0.250	5.019	0.057	48.00	76.3%
0.500	3.334	0.500	5.021	0.103	48.00	84.5%
0.750	3.333	0.750	5.024	0.150	48.00	87.1%
1.000	3.333	1.000	5.025	0.198	48.00	87.9%

AUX Input and Converter Only:

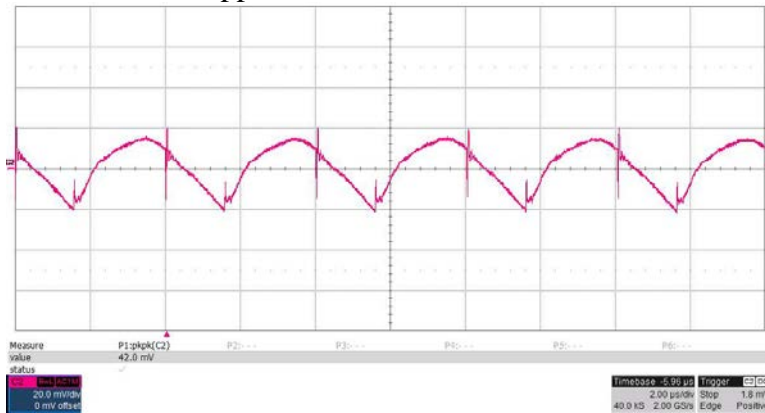
3.3V	3.3V	5V	5V	J3	J3	J3	Conv	Conv
<u>Iout</u>	<u>Vout</u>	<u>Iout</u>	<u>Vout</u>	<u>Iin</u>	<u>Vin</u>	<u>Eff</u>	<u>Vin</u>	<u>Eff</u>
0.000	3.335	0.000	5.018	0.013	48.00	0.0%	47.43	0.0%
1.000	3.334	0.000	5.059	0.084	48.00	82.7%	47.33	83.9%
0.000	3.335	1.000	4.987	0.120	48.00	86.6%	47.33	87.8%
0.125	3.335	0.125	5.019	0.035	48.00	62.2%	47.37	63.0%
0.250	3.335	0.250	5.021	0.057	48.00	76.4%	47.34	77.4%
0.500	3.334	0.500	5.023	0.102	48.00	85.3%	47.33	86.6%
0.750	3.334	0.750	5.025	0.148	48.00	88.2%	47.30	89.6%
1.000	3.334	1.000	5.027	0.194	48.00	89.8%	47.29	91.1%

Ripple and Noise

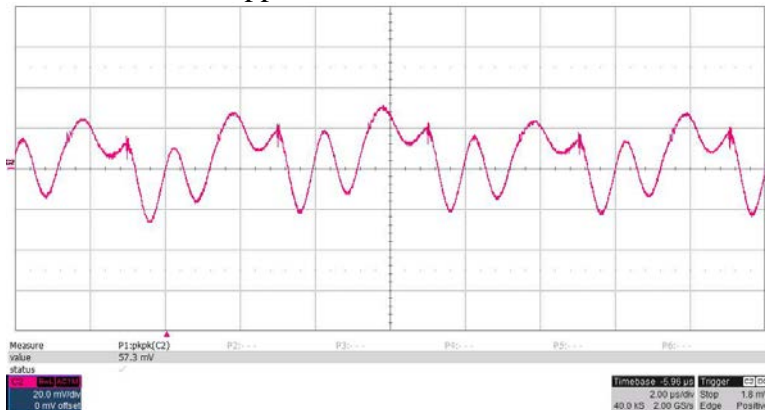
3.3V Ripple (C22)
20mV/div, 2usec/div
Measured 50mVpp:



5V Ripple (C12)
20mV/div, 2usec/div
Measured 42mVpp:



Input Ripple (C4)
20mV/div, 2usec/div
Measured 57.3mVpp:



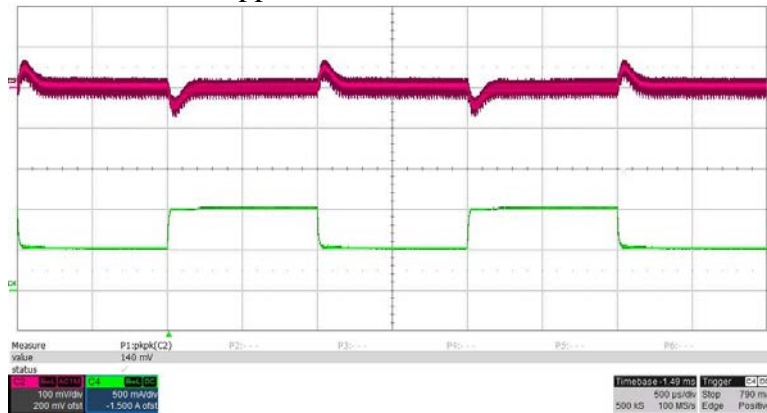
Dynamic Loading

3.3V load step, 3.3V response

0.5A to 1.0A load step

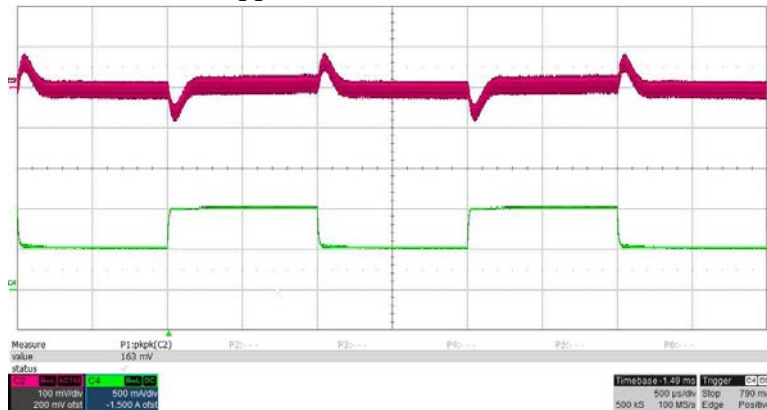
100mV/div, 0.5A/div, 500usec/div; Slew Rate = 100mA/usec

Measured 140mVpp across C22:



3.3V load step, 5V response

Measured 163mVpp across C12:

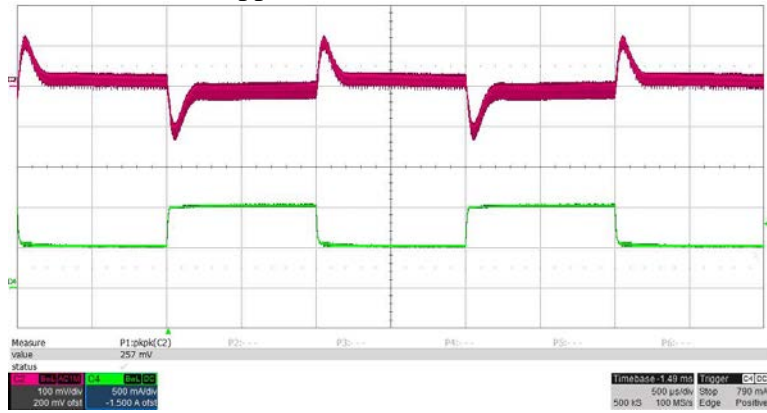


5V load step, 5V response

0.5A to 1.0A load step

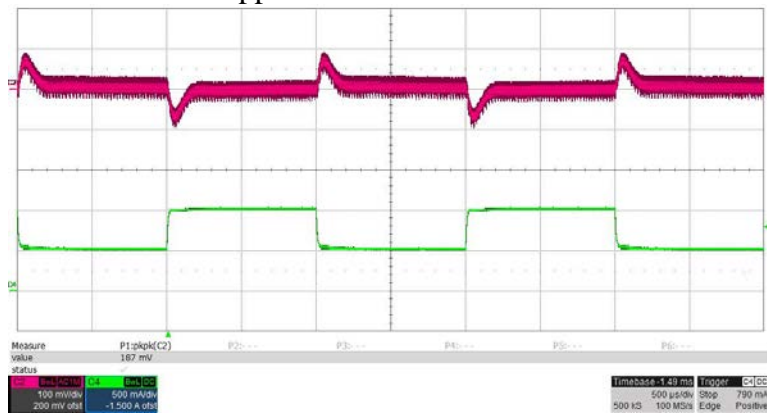
100mV/div, 1A/div, 500usec/div; Slew Rate = 100mA/usec

Measured 257mVpp across C12:



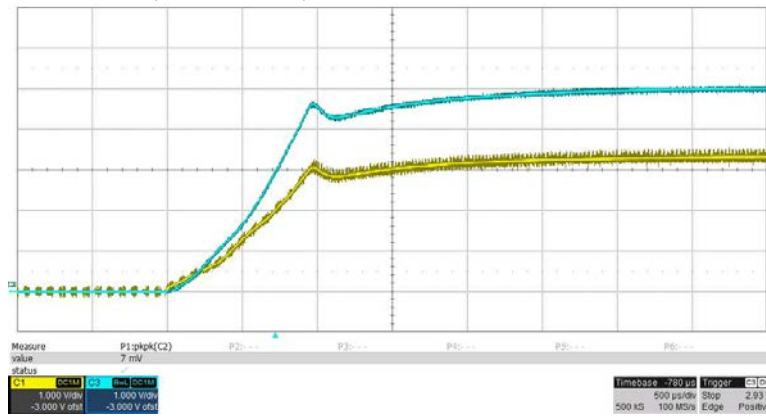
5V load step, 3.3V response

Measured 187mVpp across C22:

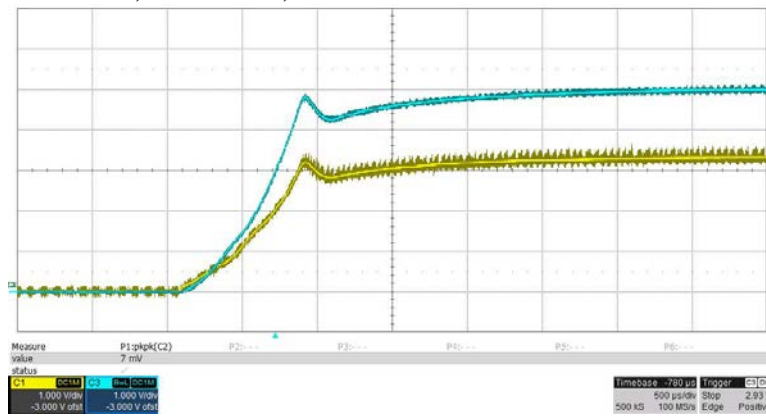


Turn On Response

Max Loads, 1msec/div, 1V/div:

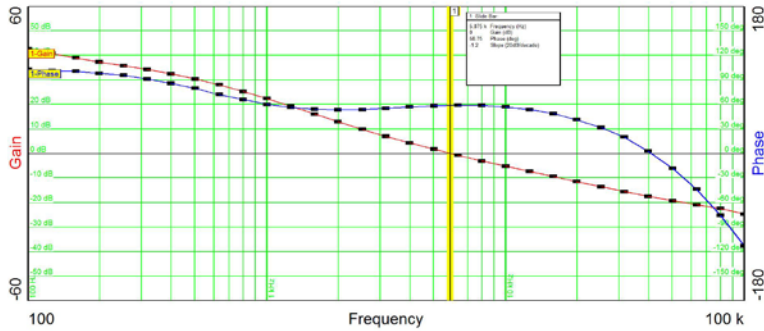


0A Loads, 1msec/div, 1V/div:



Loop Stability

Loop gain and phase measured with a 48V input and 1A load on each output.



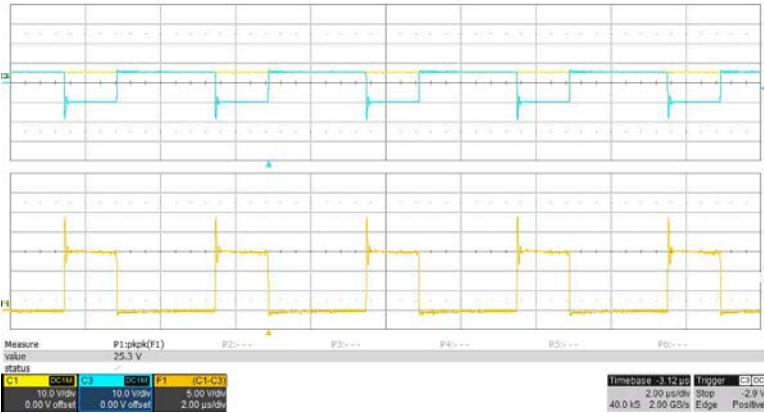
BW = 5.8KHz

PM = 58 degrees

GM = 18dB

Misc Waveforms

Q2 drain to source with 57V input 1A load, and 200MHz BWL
 Measured 25.3Vpeak:

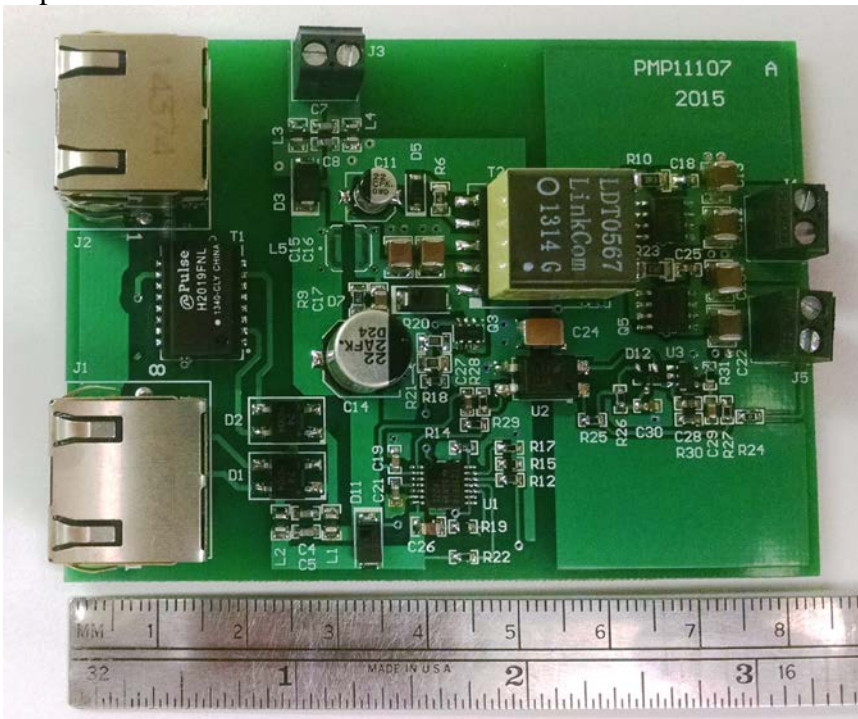


Q5 drain to source with 57V input, 1A load, and 200MHz BWL
 Measured 18.3Vpeak:

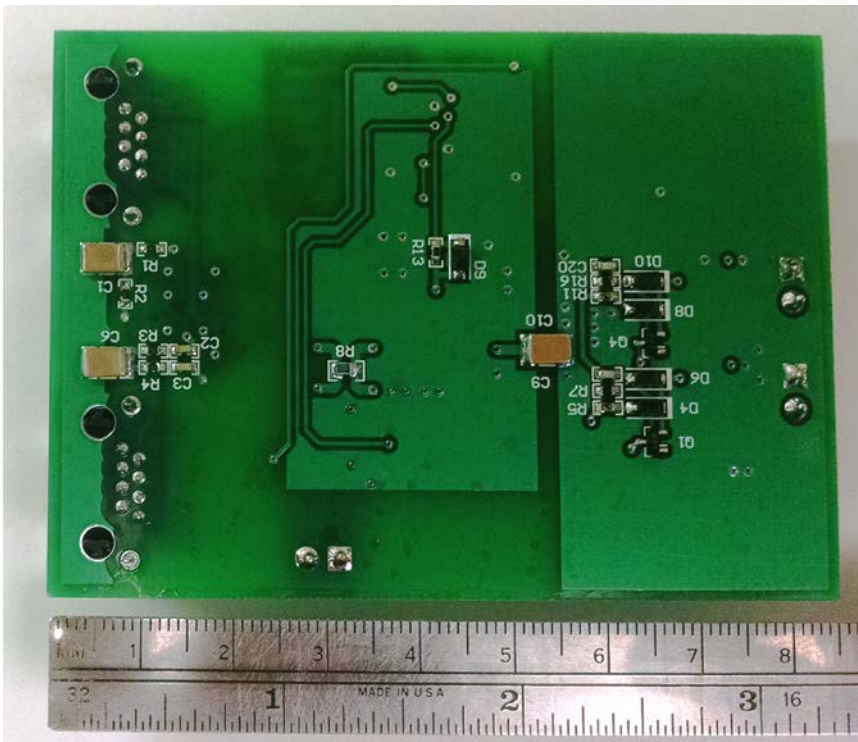


Photo

Top:



Bottom:



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