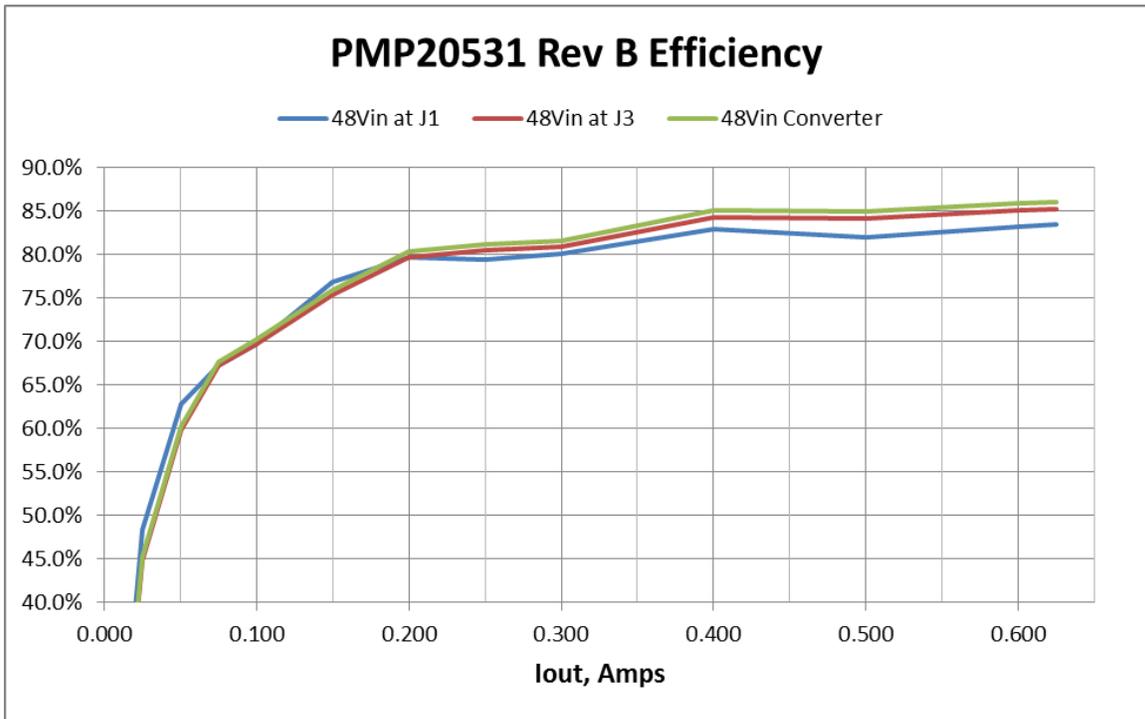


Testing performed with 48V input, 625mA load and 20MHz bandwidth unless noted.

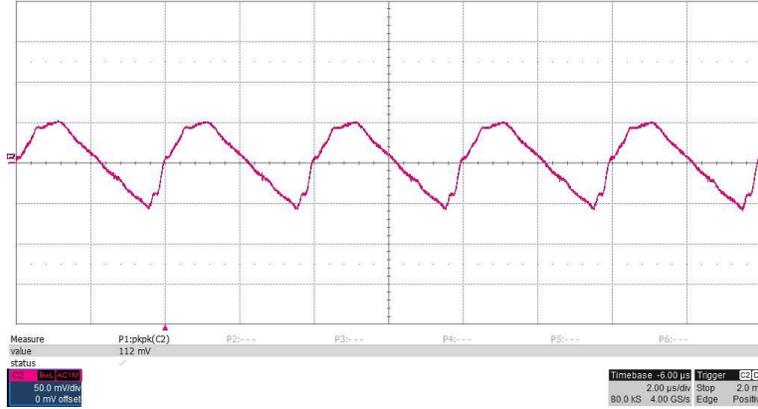
Efficiency

		J1	J1	J1	J3	J3	J3	D5-K	D5-K
I_{out}	V_{out}	I_{in}	V_{in}	Eff	I_{in}	V_{in}	Eff	V_{in}	Eff
0.000	12.050	0.003	48.00	0.0%	0.004	48.00	0.0%	47.72	0.0%
0.025	12.050	0.013	48.00	48.3%	0.014	48.00	44.8%	47.68	45.1%
0.050	12.049	0.020	48.00	62.8%	0.021	48.00	59.8%	47.67	60.2%
0.075	12.049	0.028	48.00	67.2%	0.028	48.00	67.2%	47.67	67.7%
0.100	12.049	0.036	48.00	69.7%	0.036	48.00	69.7%	47.64	70.3%
0.150	12.048	0.049	48.00	76.8%	0.050	48.00	75.3%	47.63	75.9%
0.200	12.048	0.063	48.00	79.7%	0.063	48.00	79.7%	47.62	80.3%
0.250	12.048	0.079	48.00	79.4%	0.078	48.00	80.4%	47.60	81.1%
0.300	12.048	0.094	48.00	80.1%	0.093	48.00	81.0%	47.60	81.6%
0.400	12.047	0.121	48.00	83.0%	0.119	48.00	84.4%	47.57	85.1%
0.500	12.046	0.153	48.00	82.0%	0.149	48.00	84.2%	47.55	85.0%
0.600	12.046	0.181	48.00	83.2%	0.177	48.00	85.1%	47.54	85.9%
0.625	12.045	0.188	48.00	83.4%	0.184	48.00	85.2%	47.52	86.1%



Ripple and Noise

Output ripple, 50mV/div, 2usec/div, measured 112mVpp:

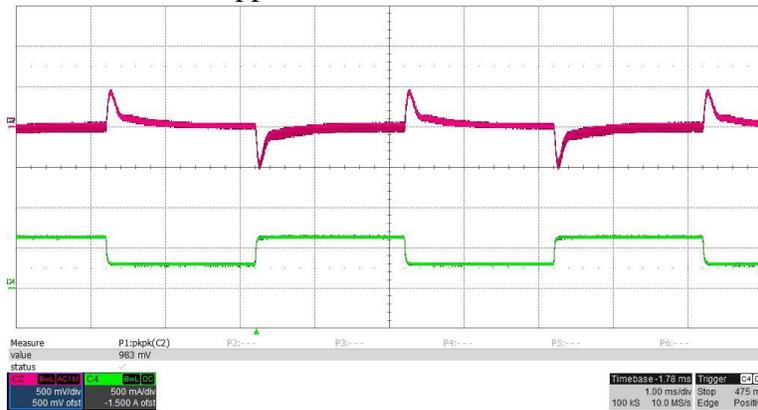


Input ripple, 20mV/div, 2usec/div, measured 34.7mVpp:



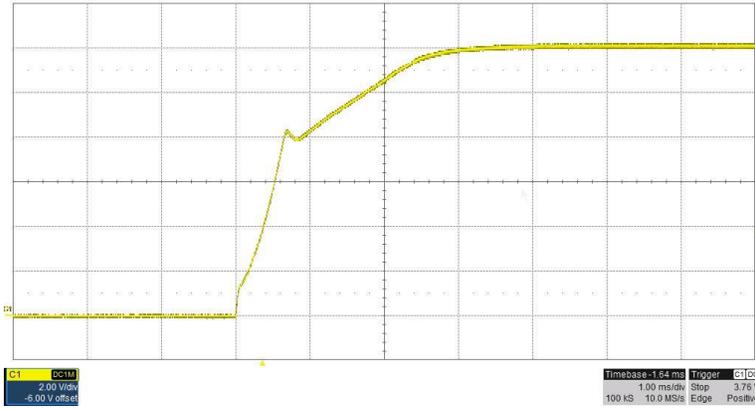
Dynamic Loading

Output load step response, 300mA to 625mA load step
200mV/div, 0.5A/div, 1msec/div, slew rate = 60mA/usec
Measured 983mVpp:

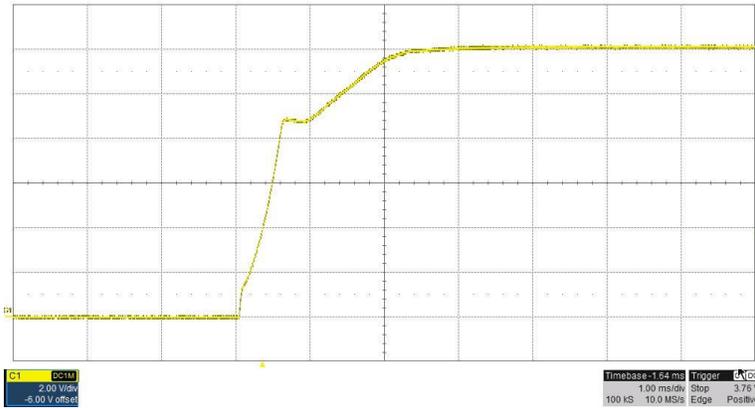


Turn On Response

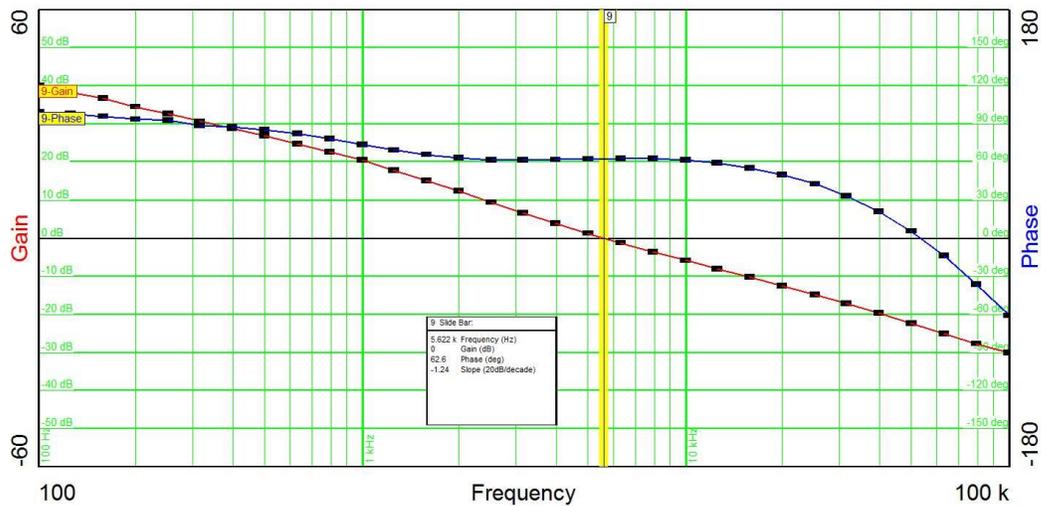
625mA load, 1msec/div, 2V/div:



0A load, 1msec/div, 2V/div:

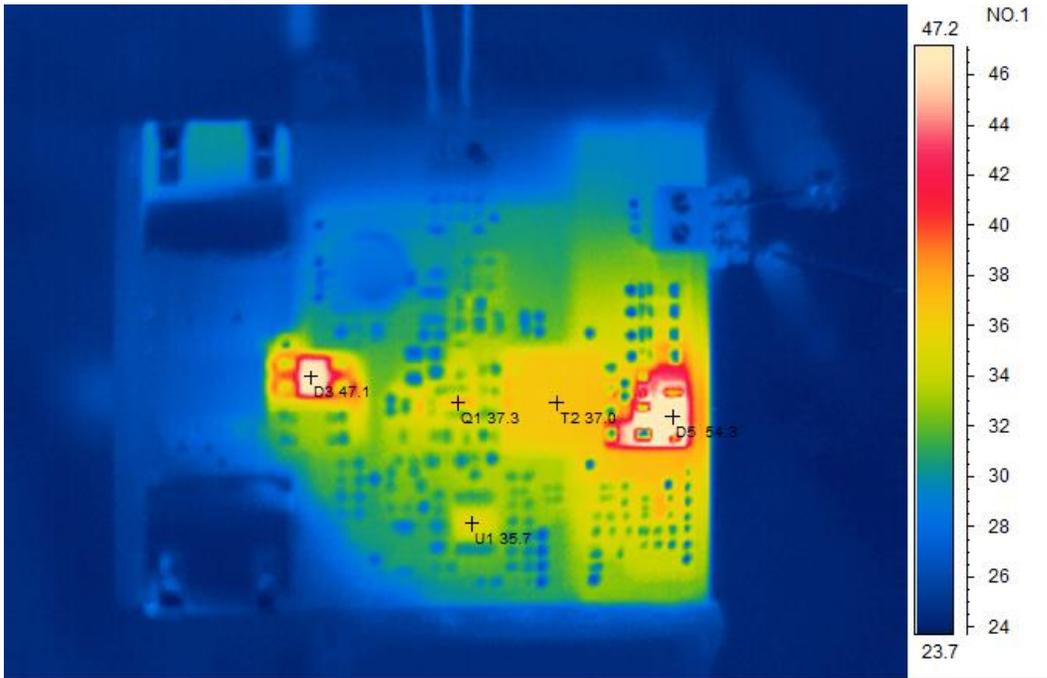


Loop Stability



Bandwidth= 5.6 kHz Phase Margin=62 degrees Gain Margin=23dB

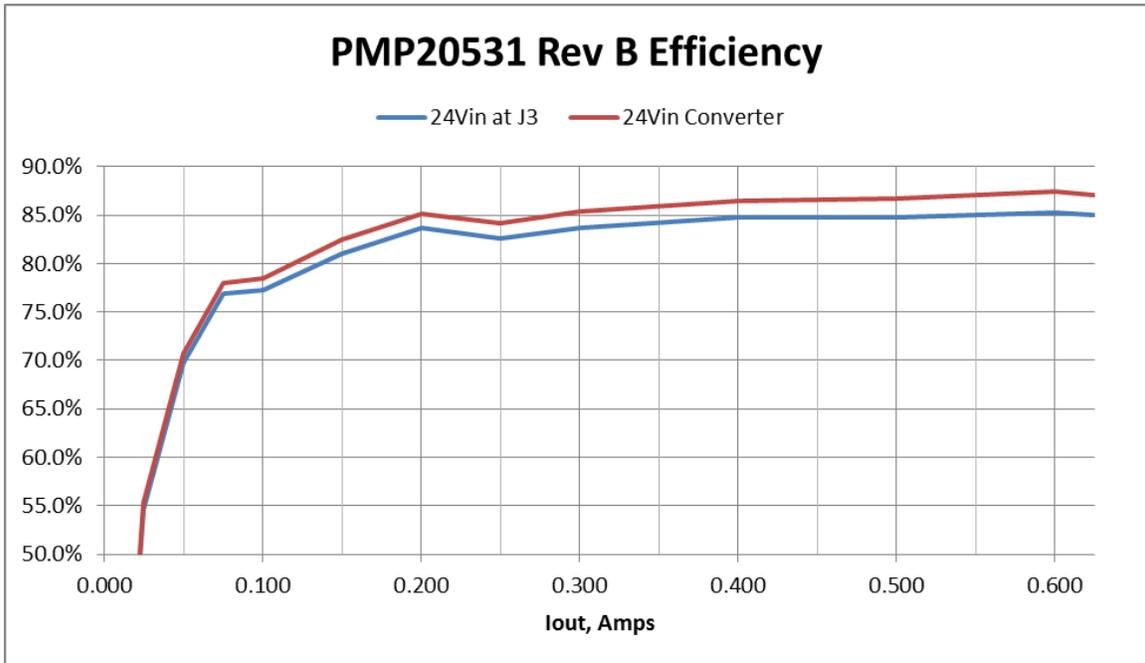
Thermal Plot



Testing performed with 24V input, 625mA load and 20MHz bandwidth unless noted.

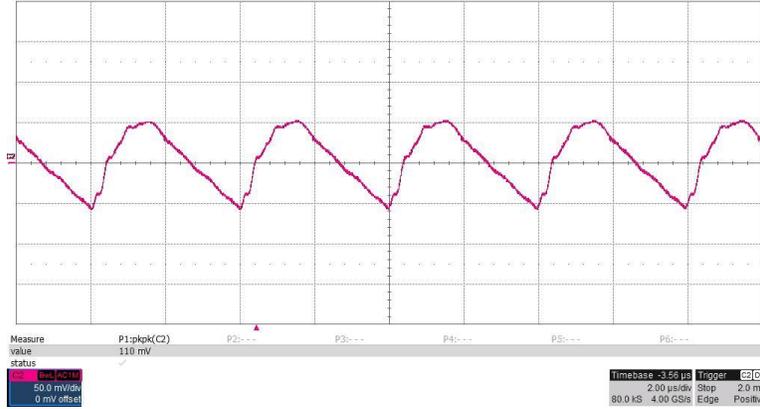
Efficiency

		J3	J3	J3	D5-K	D5-K
I_{out}	V_{out}	I_{in}	V_{in}	Eff	V_{in}	Eff
0.000	12.050	0.007	24.00	0.0%	23.69	0.0%
0.025	12.050	0.023	24.00	54.6%	23.67	55.3%
0.050	12.049	0.036	24.00	69.7%	23.65	70.8%
0.075	12.049	0.049	24.00	76.8%	23.63	78.0%
0.100	12.049	0.065	24.00	77.2%	23.61	78.5%
0.150	12.048	0.093	24.00	81.0%	23.58	82.4%
0.200	12.048	0.120	24.00	83.7%	23.57	85.2%
0.250	12.048	0.152	24.00	82.6%	23.54	84.2%
0.300	12.048	0.180	24.00	83.7%	23.52	85.4%
0.400	12.047	0.237	24.00	84.7%	23.50	86.5%
0.500	12.046	0.296	24.00	84.8%	23.46	86.7%
0.600	12.046	0.353	24.00	85.3%	23.43	87.4%
0.625	12.045	0.369	24.00	85.0%	23.43	87.1%



Ripple and Noise

Output ripple, 50mV/div, 2usec/div, measured 110mVpp:

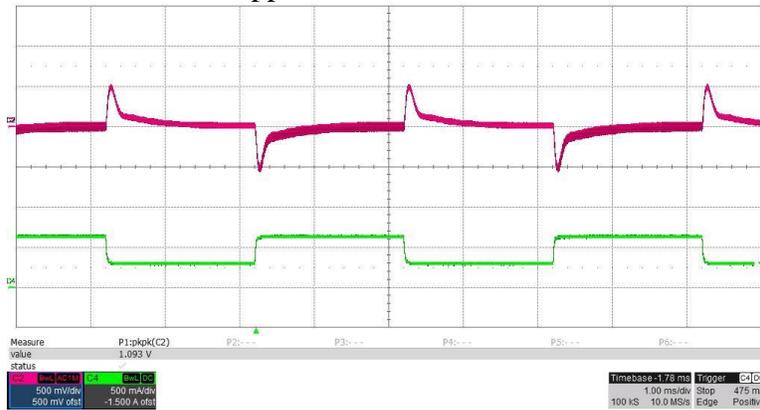


Input ripple, 20mV/div, 2usec/div, measured 26.0mVpp:



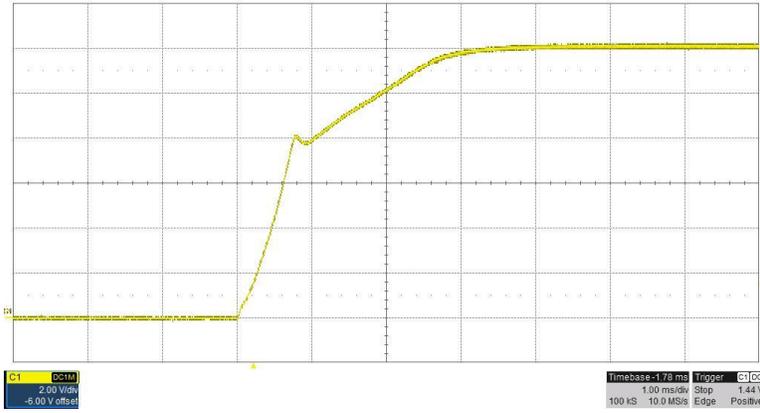
Dynamic Loading

Output load step response, 300mA to 625mA load step
200mV/div, 0.5A/div, 1msec/div, slew rate = 60mA/usec
Measured 1093mVpp:

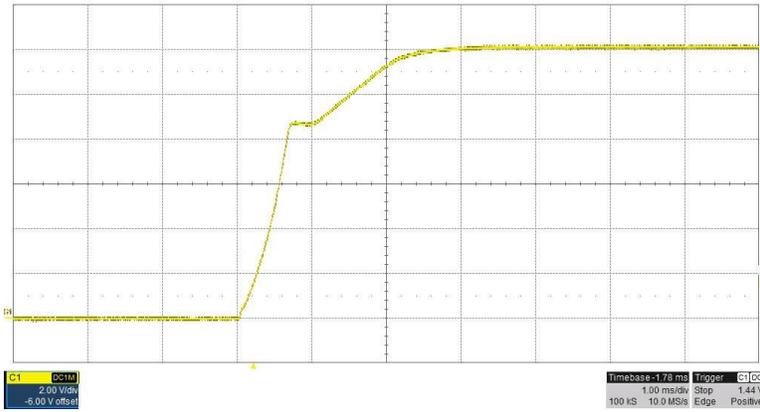


Turn On Response

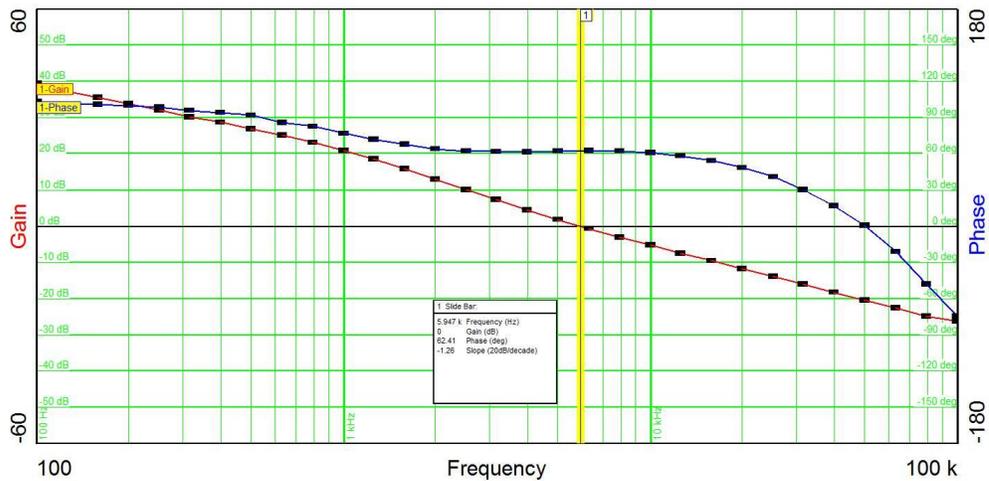
625mA load, 1msec/div, 2V/div:



0A load, 1msec/div, 2V/div:

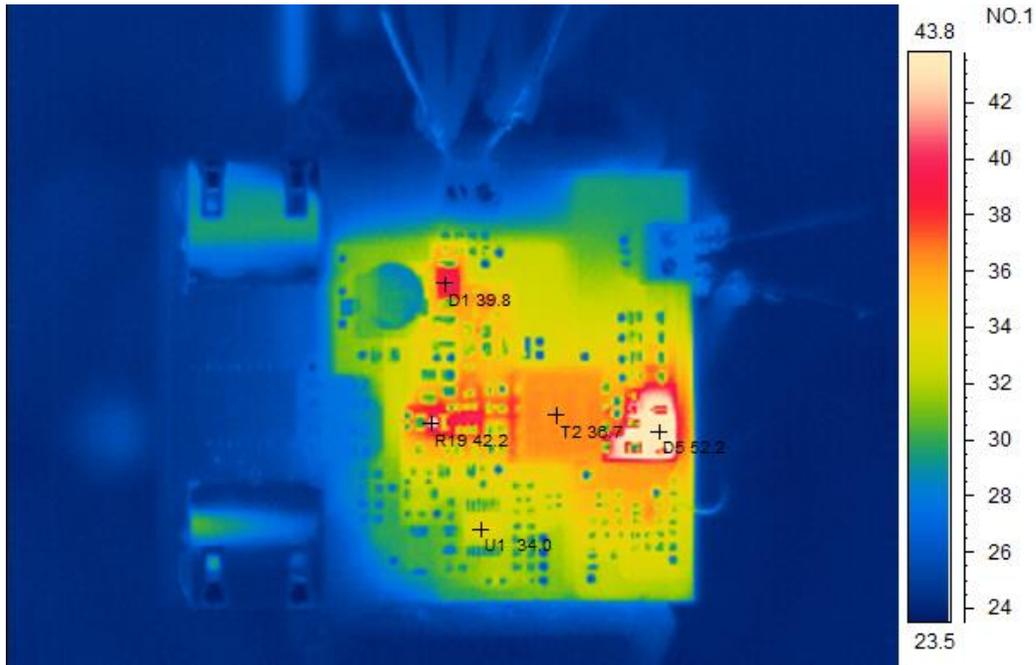


Loop Stability

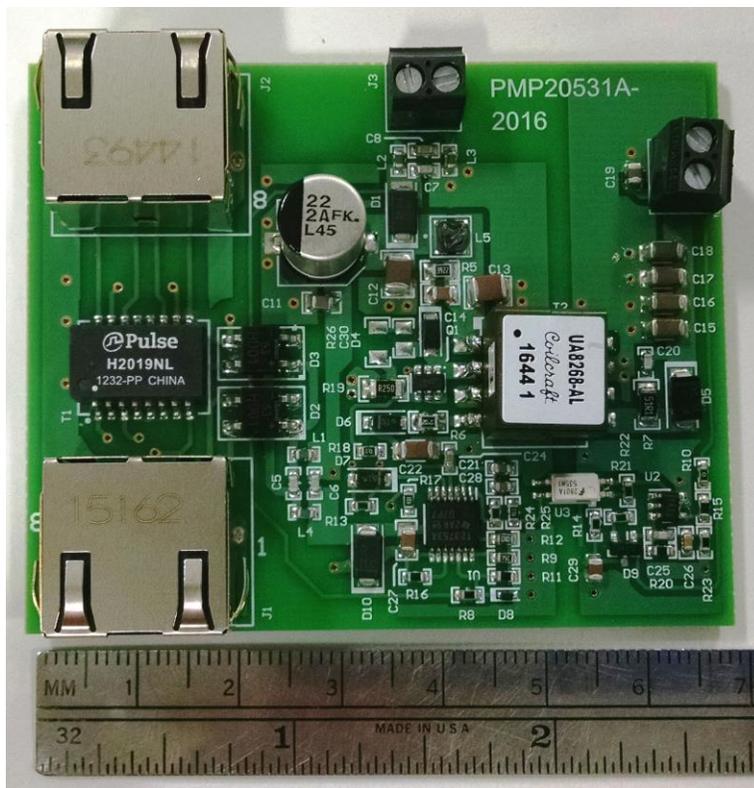


Bandwidth= 5.9 kHz Phase Margin=62 degrees Gain Margin=20dB

Thermal Plot

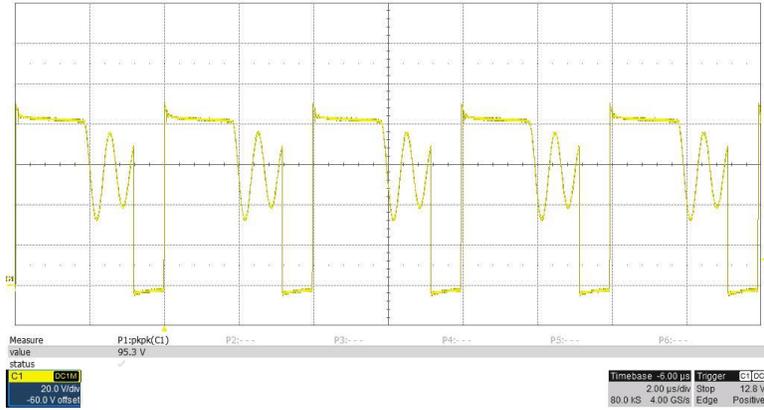


Photo

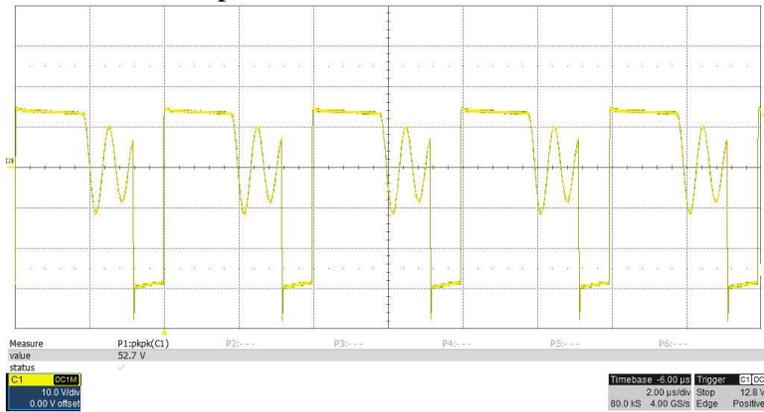


Waveforms

Vds, Q1, 20V/div, 2usec/div, 57Vdc input, 750MHz bandwidth
Measured 95.3Vpeak:



Vanode-GND, D5, 10V/div, 2usec/div, 57Vdc input, 750MHz bandwidth
Measured 52.7Vpeak



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